USDA

United States Department of Agriculture

AN INTERIM STUDY REPORT
United States Department of Agriculture (USDA)
Natural Resources Conservation Service (NRCS)
Plant Materials Center (PMC), Manhattan, Kansas

Fifty-Five Years of Miscellaneous Tree and Shrub Evaluations at the Plant Materials Center in Manhattan, Kansas: An Interim Study Report

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March 2019

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A 1963 picture of the Woody Observation Nursery at the USDA NRCS Plant Materials Center in Manhattan, Kansas. The rows are established in north-south direction (looking northwest).

Abstract

The USDA Natural Resources Conservation Service (NRCS) Plant Materials Center (PMC) in Manhattan, Kansas, established woody observational plantings as early as 1942 to compare tree and shrub survival and growth. The objective is to identify superior plant specimens which will solve conservation resource concerns. This report covers the period from 1961 through 2015. The effort involves partner USDA agencies, Cooperative Extension Service, foresters, and commercial nurseries, which donated woody plants for observation. In 1994, Congress initiated a major reorganization of the USDA and renamed the Soil Conservation Service (SCS) to NRCS to better reflect the broad scope of the agency's mission. Employees of SCS/NRCS planted these collections at the PMC. This report contains data on 515 accessions representing 230 species in 93 genera, including 79 named cultivars and 8 hybrids.

Plant performance data includes:

- survival
- height
- canopy
- diameter at breast height (DBH)
- observations

Introduction

Woody observational plantings at the Plant Materials Center (PMC) in Manhattan, Kansas, originate as early as 1942 with the establishment of the Swingle Tree Nursery, which still exists today. Some species of interest are black locust (*Robinia pseudoacacia*) and common hackberry (*Celtis occidentalis*). This project is a cooperative effort with the U.S. Forest Service, Kansas State University (KSU), and NRCS. Additional plantings and studies follow the geographic origin of green ash (*Fraxinus pennsylvanica*) and common hackberry (*Celtis occidentalis*), which involve new Great Plains Region partners. This report focuses on woody plant evaluations initiated in 1961 under Project No. 10-61 "Evaluation of Trees and Shrubs" which was renamed in 1980 to Project No. 20I010K "Evaluation of Miscellaneous Trees and Shrubs" and continues to the present day. The change resulted following a 1978 decision to use an assembly method for evaluating woody plants focusing on individual species rather than the "shotgun approach." Information encompassing the assembly and evaluation of individual woody species are available in various annual technical reports archived at the PMC and the National Agriculture Library. Additionally, many of the same accessions planted in the Tree and Shrub Study were included in a Wildlife Habitat Study at the PMC and provides additional plant performance data on selected species. The decision resulted in the removal or relocation of several miscellaneous accessions to make room for future assemblies. Entries were rogued which were not adaptable or died. New entries are included as they became available, oftentimes at the request of cooperating agencies desiring an adaptation test for plant materials of interest. The evaluation of woody plant materials has been a cooperative effort between the PMC in Manhattan, Kansas, and interested parties in the central Great Plains, including: KSU–Department of Horticulture and Forestry, the USDA Agricultural Research Service (ARS) Plant Introduction System NC-7 Trials, the U.S. Forest Service, State and Extension Foresters, NRCS staff foresters and biologists of

Oklahoma, Nebraska, Kansas, and Colorado, and the Great Plains Agricultural Council GP-13 Forestry Committee, which later became the Plains and Prairie Forestry Association. Sources of plant materials include both public and private nurseries.

Problem

Adapted tree and shrub selections are needed to provide:

1. Planting stock for windbreaks to provide protection for cropland, livestock, and farmsteads.
2. Multi-purpose use plantings for recreation areas, farmstead landscape plantings, and urban and rural beautification.
3. Food, nesting, and shelter for wildlife in the High Plains throughout a four-State area which includes Colorado, Kansas, Nebraska, and Oklahoma.

Objectives

1. Identify superior specimens of trees and shrubs having the potential to solve conservation problems.
2. Produce limited quantities of promising woody plants for field evaluation and field plantings.
3. Fulfill the Tree Improvement Committee's efforts to find and test superior specimens of woody plants of known provenance.
4. Find a suitable replacement for the Dutch Elm Disease-ravaged American elm and the less desirable alternative (Siberian elm) in Midwest urban conservation plantings.
5. Develop and cooperatively release the best adapted germplasm for multiple uses in the service area of the PMC in Manhattan, Kansas.

Procedure

Tree and shrub entries received for testing are either container or bareroot stock. Plant spacing for trees was 4.57 meters (15 feet) apart in rows spaced 4.88 meters (16 feet) apart with closer in row spacings for shrub species. In later years, most trees and shrubs were spaced 3.05 meters (10 feet) in rows. Supplemental drip irrigation is often used to aid in establishment, sometimes being required for several years. The site of this study is located primarily on a Belvue silt loam soil (coarse-silty, mixed, superactive, nonacid, mesic Fluventic Haplustept) in fields F and G.

Once established on-site, entries are evaluated for their adaptation to the site for a period of time (20 years or more for long lived species). Observations include plant growth such as height, diameter at breast height (DBH), and canopy cover as well as resistance to disease, insects, drought, and winter injury.

Maintenance consisted of sporadic disking or mowing. Plants received no fertilizer and no irrigation after bona fide establishment. Newly established woody entries had to be fenced to reduce browse and rub damage caused by deer. The fencing effort often met with limited success.

Note

In the number established (No. EST) column of the miscellaneous woody tables, a number in parentheses (n) may appear below the number established indicating the initial number of woody

plants planted. Percent survival (based on the number of plants established rather than the number planted) provides a fairer evaluation of a plant material. So, if a tree or shrub planted in a given year did not recover the following spring, it did not establish. In some cases, replanting may be desirable if replant stock is available. There may be a variety of reasons why the plant material failed to establish (such as unfavorable environmental conditions in the initial growing season, planting stock in poor condition, and predation). Such conditions may not have had any reflection on the plant material itself. It is possible that the plant material was simply not adapted to the site. However, in an initial evaluation, an attempt to reestablish the plant material should be made before declaring a plant material as not adapted to the site. The method used to determine percent survival in this report may change data previously reported. In cases where it is clear that herbicides killed the plant, the survival rate was adjusted to compensate for such an intervention. Plot location information changed in recent years to accommodate new plantings, resulting in slight changes in row number, which may differ from those found in previous reports.

"Variability exists within accessions and a single average numerical rating may not give the most accurate description of the accession. Some of the plant characteristics are expressed as an average and others as ranges, which indicate the highest and lowest expression for each individual trait" (USDA, SCS 1969). The preceding statement pertains to the years 1970 through 1974. In this report, the ranges were averaged resulting in the average height (for example, high or low) depending on the range. The situation is less than ideal; however, the ranges did not fit the template used in the tables.

A synonymy is included in this report, as reclassification of some species have resulted in changes to some of the genus and species names found in the records. This is useful to anyone who looks back on old reports or has not kept up with the changes in taxonomic classification of woody plant species. For example:

- Planted in 1968, the species name *Cotoneaster multiflora* has since been modified to C*ontoneaster multiflorus.*
- Planted in 1969, the plant Shrubby Cinquefoil (*Potentilla fruticose*), has been reclassified to the Genus *Dasiphora*, retaining the species name *fruticosa*.
- Consult the PLANTS Database regarding these and other changes at: https://plants.usda.gov/java/.

The data on 515 accessions (representing 230 species in 93 genera, 79 named cultivars, and 8 hybrids) are included in this report. The plant materials came from many sources, such as:

- Other PMCs
    - James E. "Bud" Smith PMC, Knox City, Texas (TXPMC)
    - Jimmy Carter PMC, Americus, Georgia (GAPMC)
    - Manhattan PMC, Manhattan, Kansas (KSPMC)
    - Norman A. Berg National PMC, Beltsville, Maryland (MDPMC)
    - Rose Lake PMC, East Lansing, Michigan (MIPMC)
    - Elsberry PMC, Elsberry, Missouri (MOPMC)
    - Bismarck PMC, Bismarck, North Dakota (NDPMC)
- NRCS field collections

- ARS collections:
    - High Plains Horticulture Research Station (HPHRS), Cheyenne, Wyoming
    - Southern Plains Range Research Station (SPRRS), Woodward, Oklahoma
    - North Central Regional Plant Introduction Station (NCRPIS), Ames, Iowa
    - U.S. Forest Service's Rocky Mountain Research Station (RMRS), formerly Rocky Mountain Forest and Range Experiment Station (RMFRS), Fort Collins, Colorado
    - Charles R. Bessey Nursery (CBN), University of Nebraska–Lincoln (UNL), Lincoln, Nebraska

The accuracy of the data in Table 1 (starting on page 16 of this publication) is subject to:

- Passport data for entries represents the information supplied at the time the PMC received the plant materials.
- Newer information is as it becomes available.

A thumbnail sketch of many of the current entries in this study appear in this report. See the historical and current maps of the woody blocks at the end of this report for reference.

Synonymy

The purpose of the synonymy is to link the usage of scientific names appearing in previous reports and literature with those in current usage. This report uses currently accepted scientific names as they appear in the PLANTS (Plant List of Accepted Nomenclature, Taxonomy, and Symbols) database (USDA, NRCS 2015), where practical.

Current Usage		**Past Usage**	
Genus	**Species**	**Genus**	**Species**
Photinia	*pyrifolia*	*Aronia*	*arbutifolia*
Cornus	*sericea* ssp. *sericea*	*Cornus*	*stolonifera* var. *coloradensis*
Cotoneaster	*multiflorus*	*Cotoneaster*	*multiflora*
Cotoneaster	*obovatus*	*Cotoneaster*	*obtuata*
Cotoneaster	*racemiflorus*	*Cotoneaster*	*racemiflora*
Cotoneaster	*lucidus*	*Cotoneaster*	*lucida*
Cotoneaster	*racemiflorus*	*Cotoneaster*	*racemiflora*
Dasiphora	*fruticosa*	*Potentilla*	*fruticosa*
Fontanesia	*phillyreoides*	*Fontanesia*	*fortunei*
Forestiera	*pubescens*	*Forestiera*	*neomexicana*
Lonicera	*x bella*	*Lonicera*	*bella albida*
Malus	*mandshurica*	*Malus*	*bacata* ssp. *mandshurica*
Malus	*toringo*	*Malus*	*seiboldii*
Paxistima	*canbyi*	*Pachistima*	*canbyi*
Pinus	*strobiformis*	*Pinus*	*flexilis var. reflexa*
Platycladus	*orientalis*	*Thuja*	*orientalis*
Prunus	*pumila*	*Prunus*	*besseyi*
Rosa	*ferruiginea*	*Rosa*	*rubrifolia*
Rosa	*setigera* var. *setigera*	*Rosa*	*setigera* var. *serna*
Syringa	*josiflexa*	*Syringa*	*x josiflexa*
Ulmus	*procera*	*Ulmus*	*carpinifolia*

A Thumbnail Sketch of Woody Plant Performance for Certain Tree and Shrub Entries

Format: Scientific name, Common name, Accession or Plant Introduction number, Observations

Entries tested under naturally occurring non-ameliorated conditions may perform differently in a landscape where fertility and supplemental irrigation are available. What may seem like harsh criticism in some comments below, both need consideration. For example, the importance of a homeowner in being happy with the plant in their landscape may be of less importance in a conservation planting. The incidence of disease and insects recorded for each entry, horticulturally speaking, and foliage made unattractive by disease and insects is unacceptable in landscape plantings. In forestry and conservation plantings, only severe cases become an issue when insects, disease, and herbivory impact plant survival. Plant uniformity is important to horticulturists and landscapers. In order to adequately and fairly rate uniformity, uniform planting stock is required, however, such stock is rarely provided or available.

Damage to a Douglas fir (*Pseudotsuga menziesii*), caused by rubbing and browsing by deer, is an example of what would warrant a rating of severe.

Trees

Aesculus parviflora (bottlebrush buckeye), 9050659. The leaves are droopy and subject to scorch and leaf spot. The plants are struggling. This is not adapted to the site.

Betula nigra (river birch), 9034682. These are well established 44-year-old trees, with dieback on scattered branches. The outer trees in row are flourishing, but the inner trees are in decline with top breakage. There is some leaf spot and minor issues.

Betula papyrifera (paper birch), 9050478. The foliage is unattractive due to leaf scorch and senescence in late summer. One (1) surviving plant struggles, with poor vigor.

Carpinus betulus (European hornbeam), two entries: 9050479 and 9050480. These entries have finally taken off after struggling the first five (5) years. There is decent appearing foliage early,

usually subject to scorch, disease, sunburn, and wind damage. They are lacking in uniformity. On 9050479, there is scorch, leaf spot, and moderate insect damage. On 9050480, there is scorch, necrosis, leaf spot, and moderate to severe insect damage, which detracts from foliage.

Carya illinoinensis (pecan), 9050605. The plants have shown improvement over the past years with new growth. Some foliage issues have led to an unattractive appearance, including leaf spot, chlorosis, necrosis, diseases, and insects on some plants.

Celtis laevigata (sugarberry), 9050263. There is slight leaf spot and insect damage, with moderate to heavy fruiting on 67% of the plants.

Celtis laevigata var. *reticulata* (netleaf hackberry), 2 entries. Number 9050519 was planted in 2007 and 9066615 (previously identified as *Celtis occidentalis*) was planted in 2006 in a location separate from accession 9050519. Regarding accession 9050519, distractions include insect damage, foliage yellowing, leaf mosaic, and severe leaf spot. The foliage is very unattractive by late June, with poor plant uniformity and deer browse. This is not adapted to the site. Regarding accession 9066615, the leaves are small and glossy, but there are slight incidences of nipple gall and blister gall makers. Other issues include leaf spot, leaf curl on younger foliage, and leaves rolled inward by late summer, which contributes to an unattractive appearance. There is an open canopy and plants lack uniformity.

Celtis occidentalis (common hackberry), 9050497. The leaves are large and pale. There is a slight incidence of hackberry nipple gall maker on some leaves. The plants lack uniformity. The larger trees have the best appearance.

Cercis canadensis (red bud), 2 entries: 9050520 and 9050521. These are not superior to local red bud sources. Regarding 9050520, the foliage is not clean all season. Distractions are insects (including webworm) and foliar diseases (moderate leaf spot). The plants lack uniformity and there are few flowers and fruits. Regarding 9050521, the foliage is unattractive due to moderate leaf spot, anthracnose, cupped leaves, slight scorch, and insect damage (including webworm). The plants are fairly uniform in height.

Cupressus bakeri (Modoc cypress), 9050504. The foliage looks good overall, but there are some red-brown patches on interior foliage, which is worsening on one (1) plant due to Peridium canker that usually occurs when the plants are stressed. They are sometimes attacked by bagworms (as in 2012) and the damage is severe on two (2) plants (50% of surviving plants). The form is poor due to damage to growing points, which makes small gains in growth. The plants responded well to drought conditions (experienced in 2012), and evidence shows that the species prefers a dryer climate. The remaining plants appear to have established and are putting on growth, however slow. Peridium canker reappeared in 2015, as wetter conditions returned.

Diospyros virginiana (common persimmon), two entries. Regarding 9050011, there are colorful, dark green leaves above with some insect damage and yellow-orange foliage in the fall. Fruiting is not reliable. Regarding 9050606, a flush of growth was noted in 2014. The foliage is attractive most of the season, with appearance on the decline in the late summer. Some disease (slight leaf spot), necrosis, insect damage, and fall webworm are present. The plants lack uniformity.

Ginkgo biloba (Ginkgo), 9050582. There is dieback and the foliage is yellowing. There is slight leaf spot and scorch, even though the plants are less stressed than in the past. There is quite a contrast, as the taller individual trees looked good during most of the growing season with green leaves and few foliar issues. The onset of scorch in mid-July is only on the smaller trees. The plants lack uniformity.

Gymnocladus dioicus (Kentucky coffee tree), 3 entries. Regarding 9050577, there is clean foliage overall, but the plants are subject to leaf spot. There is insect damage to leaflets and a couple of trees with red petioles. This entry is starting to take off and grow, as it is the most vigorous of coffee tree entries. Regarding 9050580, there is leaf spot, leaves are yellow by mid-summer, and senesces in early September. There is insect damage, as well. Regarding 9050661, there is leaf spot, leaves are yellowing, and typically senescing in early August (except for one [1] year, when leaves remained green longer and trees retained their leaves longer). There is deer browse on all three (3) entries.

Juniperus virginiana 'Burkii' (eastern red cedar), 9050662. There is good, clean foliage and it is insect free. The stems are sprawling and arching, with vigorous growth. Four (4) plants produced a few fruits for the first time, on supposedly male trees.

Liriodendron tulipifera (tulip tree), 9050658. There is leaf spot, which becomes severe by late summer. Yellowing and scorching are occurring. Plants are somewhat uniform. Insects attack leaf petioles, which cause leaves to turn brown and dry up.

Picea meyeri (Meyer spruce), 5094411. The plants are small and are struggling. They lack uniformity.

Pinus sylvestris var. *mongolica* (Mongolian pine), 2 entries: 9076718 and 9076719. Overall, there is good, clean foliage all season long. They are beginning to put on growth. Although there is a slight yellowing of needles during the winter months, the needles typically retain their dark green color in the spring. Regarding 9076718, there is poor form due to previous deer damage. It is more vigorous than 9050719 and overall looks better in appearance. Regarding 9076719, the older needles are yellow and turning brown (needle cast) and shows symptoms of needle cast by summer. There is budworm activity on some candles. The plants lack uniformity.

Platanus occidentalis var. *glabrata* (smooth sycamore), 9050583. This is fairly attractive overall, despite leaf scorch some summers. There is necrosis, leaf spot, senescence of scorched leaves mid-summer, and insect activity (such as leaf miner and large holes in leaves), which suggests tussock moths. This detracts from foliage appearance. The plants are similar in height but not quite uniform. There are a few fruits.

Populus tremuloides (quaking aspen), 9050535. There are insects, including aspen leaf miner and grasshoppers. Diseases include leaf spot. There is deer damage that detracts from the plant's appearance. Uniformity is lacking in part, due to severe deer damage. The trees lack vigor and are suckering. This is an excellent browse species.

Ptelea trifoliata (common hoptree), 9050523. The foliage is unattractive due to a heavy infestation of sucking insect feeders, which discolors the leaves and gives a light green appearance. The leaves are senescing by mid-September and there are attractive large fruits. The plants lack uniformity and are subject to windthrow. This is a host plant for the giant

swallowtail butterfly. Many seedlings of this plant are cropping up in adjacent and distant entries.

Pyrus ussuriensis, 'McDermand' (Ussurian pear), 478004 (9006095). This tree has persisted at the PMC for 48 years, surviving a wide range of weather conditions (from severe cold, heat, and drought) during that time. With profuse flowering early and a range of colors from white to pink, they are a welcome sign of spring. Most of the trees have lost large limbs in severe storms affecting their appearance, yet they continue to produce large quantities of small fruits in favorable years. The rotting fruit under the trees in the fall is an attractant for a wide variety of butterflies.

Pyrus sp., (pear), 9050599. There is slight leaf spot, but good, green foliage overall. Fire blight was noted in 2014. There is moderate deer browse. The plants are putting on growth. A large wound on a main stem of one (1) tree is due to mechanical damage.

Quercus acutissima (sawtooth oak), 9034673. There are glossy green leaves with few insects. There is no disease and it is acorn bearing.

Quercus alba (white oak), 9050532. There is good, clean foliage overall, with slight sucking insect activity that detracts from the foliage appearance on scattered leaves (an issue variable among plants as activity increases and as growing season progresses). The foliage is otherwise attractive and bright red in the fall. The plants lack uniformity.

Quercus bicolor (swamp white oak), 2 entries. There are bright green leaves at beginning of the growing season. There is moderate to severe leaf spot varied among plants. Regarding 9050607, grasshoppers cause the main insect issues. It is lacking in uniformity. Regarding 9050608, it is fairly uniform in height and the plants are more vigorous than accession 9050607. The leaves have many tiny yellow spots due to severe damage done by *Phylloxera glabra*. There is also damage from grasshoppers, leaf skeletonizers, and a few bagworms that detract from the foliage.

Quercus palustris (pin oak), 9001069. These are 48-year-old trees. There are a few dead branches and one (1) tree is in decline. A severe leaf vein gall attack occurred in 2015 and this detracted from foliage appearance. There has been reliable acorn production over the years.

Quercus prinoides (dwarf chinkapin oak), two entries. Regarding 9050664, there is slight leaf scorch, leaf spot, moderate insect damage, and a slight incidence of oak leaf gall. Attractive foliage was present until insects began attacking the plants. The plants lack uniformity. Regarding 9050416, there is heavy insect damage due to a longhorn beetle (*Anelaphus* sp.), also known as a twig girdler. There is leaf sucking insect activity, which is variable among plants. There is also oak gall and the first incidence of flower galls were noted in 2015. Web worm, leaf spot, and mildew are also present. There is mechanical damage to this plant. The acorn production is variable (light-to-moderate-to-heavy). These are slow growing trees and they lack uniformity.

Quercus gambelii (Gambel oak), 9050663. There is heavy leaf spot, mildew, galls, and moderate damage from grasshoppers and leaf skeletonizers (moths). The older foliage is unsightly and the plants lack uniformity.

Quercus rubra (Red oak), 9050660. Insect chewing (especially grasshoppers and leaf cutter bees) has detracted from foliage appearance and reduced photosynthetic area. Also, chlorosis and leaf spot contributes to unattractive foliage in summer.

Quercus shumardii (Shumard oak), 9050611. Insects (including grasshoppers and a few bagworms) are present and there is leaf spot on older interior leaves. The foliage is fairly clean most of summer, with dieback on a few stems due to insect attacks. The plants lack uniformity.

Sorbus aucuparia (Mountain ash), 9050429. There is good foliage appearance early. By late summer, the leaflets are curled and there is leaf scorch. Leaf spot is severe by late summer. There was a severe attack of periodic cicada slitting the bark of stems, which contributed to an unsightly appearance. Tree No. 2 has severe mechanical damage. The plants lack uniformity.

Sorbus torminalis (Wild service tree), 2 entries: 9050430 and 9050432. The plants have clean, dark green foliage in early August. Moderate to severe leaf scorch and leaf spot makes for less attractive foliage as summer progresses. The older interior leaves are yellow by late July and early August, more so on 9050430, which senesced by late summer. However, the yellow-to-orange fall foliage makes up for it. There are insignificant insect problems, with leaf sucking insects on the lower leaves of 9050432. There is moderate disease, scorch, and necrosis which contributes to less attractiveness of 9050430. The plants are somewhat columnar but plant growth is not uniform. There is severe mechanical damage to the trunk of several plants. Regarding 9050430, leaf scorch was a big detractor to the foliage appearance in drought years. These are columnar plants, yet the growth is not uniform.

Taxodium distichum (Bald cypress), 9050542. The foliage is clean and attractive overall. There is some variation in density among plants. Bagworms and a slight browsing by insects (perhaps grasshoppers) is present. The plants have vigorous growth but lack uniformity.

Tetradium sp. (Bee-bee tree), 9050584. The plants are unattractive all season long due to leaves yellowing in summer. Foliar diseases, leaf spot, and necrosis contribute to an unsightly appearance. The foliage is red in the fall. The tallest tree flowered in 2014. Four (4) plants flowered in 2015, at age 5. However, it was the first time that fruit was produced. Seeds were collected to check viability at a later date.

Tilia cordata (Littleleaf linden), 9050481. The foliage is unattractive, especially late in the season due to leaf spot, slight leaf scorch, leaf curl and cupping, as well as some insect issues. The growth is steady.

Ulmus parvifolia (‘Dynasty’ lacebark elm), 486339. These are attractive plants with good, clean foliage and reddish colored fruits. It has an exfoliating bark. These are fairly uniform in height, but the plants vary in width and main stem diameter.

Ulmus thomasii (Rock elm), 9050503. There is dieback, slight scorch to foliage, leaf spot, and yellowing in summer. This is unattractive all season long due to disease. The plants lack vigor and have poor uniformity. They are heavily browsed and are struggling. They may be suffering from plant competition in the adjacent row. This plant is not adapted to the site.

Ulmus hybrid (‘Patriot’ hybrid elm), 566597. The foliage is fairly clean, but there is tubercularia canker on several limbs, resulting in branch dieback affecting all five (5) plants. There is insect

chewing and fall webworm. Several plants are multi-stem, one (1) with a sucker. There is a decent foliage appearance overall, during most years.

Ulmus sp. ('Sapporo Autumn Gold'), 9004462. These 39-year-old multi-stem trees are of a uniform height, but the width is variable. Foliage is golden in the fall. There are small holes in leaves and some chewing insect damage.

Shrubs

Alnus maritime subsp. *oklahomensis* (Seaside Alder), 9050518. There is dieback, but decent appearing foliage early. This plant was stressed in 2014, and 60% of older leaves senesced by late July, giving an open appearance. The leaves are glossy. Scorch has detracted from the foliage appearance and some yellowing (lightening) of older foliage has occurred. The plants are fairly uniform, with attractive cones.

Aronia mitschurinii ('McKenzie' black chokeberry), 323957. The interior leaves turn orange-red during mid-summer and senesce by mid-September, giving an open appearance. There is a decline in appearance with disease arriving in late summer. The plants are fairly uniform in growth. They have good flowering activity and moderate fruit production. The large fruits are blue-black in late July.

Caragana microphylla ('Mongolian Silver Spires' littleleaf peashrub), 9050581. The foliage is attractive and clean overall. There is slight insect damage or response to drought. Armed with prickles and silver-colored leaves, it is a good contrast plant. The plant is lacking uniformity. It is tall, lanky, and subject to windthrow, even with openness of the foliage. Profuse flowering and fruiting occurs in mature plants.

Carpinus caroliniana (American hornbeam), 9050501. The foliage is attractive early but deteriorates as heat and drought of typical summer conditions progress. There is severe leaf scorch, insect damage (leafcutter bee), leaf spot, which all effect the appearance. This shrub is unsightly by late summer. Two (2) plants flowered and produced mature seeds, three (3) plants are fairly uniform, and two (2) are struggling.

Chilopsis linearis (Desert Willow), 9050543. This shrub has slight disease and insect issues in late summer. The foliage is very clean and plants are moderately uniform. There is good plant vigor, with a few large, attractive flowers and fruits atypical of past years. This shrub is attractive to pollinators. The most winter dieback to date occurred in 2014 and previous year's pods (from 2013) hang on to contribute to open, scraggly-looking plants. Improved conditions in 2015 resulted in increased flowering and fruiting.

Cornus mas ('Redstone' Cornelian Cherry Dogwood), 9055585. This was established in 1989 and these plants have performed well with attractive foliage and fruits. The drought has stressed the plants in recent years, as leaf scorch and shriveled fruits were a problem. This species would perform better in partial shade. Please see the picture on the next page.

"Redstone" Cornelian Cherry Dogwood shown with abundant fruit in a good year with ample precipitation.

Cornus sanguinea (Blood-twigged dogwood), 2 entries. This species has had problems with damage to twigs that break off and are unsightly. It was diagnosed with dusky birch sawfly (*Croesus latitarsus*). Regarding 9050425, there is severe dieback and the foliage is unattractive all season due to leaf scorch, leaf spot, and insects. It degrades further by late summer. The edges of the leaves are cupping (or curling) and the plants are declining. There are many fruits. Regarding 9050426, the foliage is unsightly all season due to leaf rolling, leaf spot, and severe insect chewing. Only one (1) plant remains. It is in decline but producing fruit. Based on performance at the PMC, these two (2) accessions are not recommended for the general area.

Corylus americana (American Hazelnut), 9083247. This shrub is showing improved foliage appearance all season long. In absence of previous drought-stressed years, there is a slight to moderate leaf scorch (severe on some stems) across the ten (10) shrubs in this planting. Leaf rolling and older leaves yellowing (in some cases browning) is occurring, yet there is colorful fall foliage. The plants are fairly uniform, if the three (3) western most plants are excluded (the problem may be a soil issue or smaller planting stock). Fruit production is on the increase.

Cotinus coggygria (Common Smokebush), 9050427. The foliage looks good overall. It is not dense and has some leaf spot, but it is not overwhelming. There is a leggy appearance on stems that make for unattractive specimens. One (1) plant is stunted, yet it has more compact growth than the plot mates. One (1) individual plant is troubled with leaf spot and insect issues, which detracts from the overall appearance of the accession. The plant uniformity is average.

Crataegus chrysocarpa (Fireberry hawthorn), 9076686. The foliage appearance is variable and unsightly due to diseases (such as leaf spot, rust, necrosis, and scorch). It has insect issues all summer long, with slow growth and little to no progress. The plants lack uniformity and vigor. The plants are heavily browsed and performance is poor. It is not adapted to this site.

Elaeagnus x 'Jefmorg' (Silverscape® Olive), 9050524. The foliage is clean most of the summer but begins to deteriorate by late summer. There is slight leaf spot and insect damage. There are

entire branches flagged and cankers are found. The exact cause is unknown without fruiting bodies present. There is a past history of producing non-viable fruits. No fruits have been found since 2012. Suckering has been noted where tillage equipment has disturbed plant roots.

Forestiera pubescens var. *pubescens* (Stretchberry), 9050502. The plants looked good early. Necrosis on leaf tips, leaf spot, and disease detracts from the foliage appearance, which is softened by small leaf size (with leaves yellowing by fall). The plants are tall with a narrow growth habit and are subject to windthrow. The uniformity is lacking. Breakage on older main stems about 13 centimeters above the ground is a concern. The plant is unattractive by late fall. See the picture and caption below.

The stretchberry is greatly affected by windthrow, causing the plant to lean dramatically. It is undesirable in the landscape and becomes a maintenance problem.

Hydrangea arborescens radiata (Silverleaf hydrangea), 9050498. There is dieback and heat stress. The older foliage is unattractive due to disease and heat stress, which caused leaves to shed over the course of the summer and then are later replaced with clean foliage. The plants are stunted and on the decline. Two (2) plants survive but are not adapted to the site. The plants lack uniformity.

Ligustrum obtusifolium (Border privet), 477010. There is considerable dieback and scorch. The foliage is distracting due to the firing of leaf tips and insect damage. The scorched leaves senesced by late summer. There is heavy encroachment by bristly locust.

Photinia melanocarpa (Black chokeberry), 9050500. This has not performed well, as only one (1) plant survives. There is leaf scorch and the leaves begin to turn during the first of August. It is unattractive due to insects and disease. This plant is declining. It has very small fruit.

Philadelphus microphyllus (‘June Bride’™ littleleaf mock orange), 9050530. There is dieback and small plants are becoming decadent. This shrub is not suited to this site.

Photinia pyrifolia (Red chokeberry), 658641. The clean foliage turned pale by late summer on the south side of plants. The north side is greener. There is a slight incidence of insect (grasshoppers) and disease (leaf spot). The plants lack uniformity. There are suckers from the base of the plants and heavy browsing by deer.

Physocarpus opulifolius (Common ninebark), 2 entries. Regarding 9050522, the foliage is unsightly due to leaf scorch, severe leaf spot, and insects as growing season progressed. The plants are uniform. Regarding 9050531, there is dieback and leaf scorch. The colorful foliage degrades late in the season as foliar diseases appear (leaf spot is visible on the underside of the leaves), but it is masked by dark purple foliage. The plants lack uniformity, which may be due to soils or the site location.

Rhus copallinum (Shining sumac), 9050537. This has an attractive appearance overall. Late season foliar diseases and bronzing appear late in the growing season. Leaf spot is more visible on the faded south side leaves while the north side leaves are still green and have a clean appearance in late summer. There is some leaf senescence in late June. A rash of suckers (30 or more) was first reported in 2014. With vigorous growth in recent years, there is an appearance of mother plants in an adjacent area and some in adjacent rows with other plants were noted in 2014, due to a change in plot maintenance practices.

Ribes americanum (American black currant), 9082687. The foliage is unsightly due to leaf spot, bronzing, necrosis, and scorch. The plants have a shriveled appearance. The three (3) original plants had fairly uniform growth but poor vigor. Only two (2) plants are surviving.

Shepherdia argentea (Silver buffaloberry), 9050431. There is slight insect damage, but it is barely noticeable. There is some leaf yellowing and the cause is undetermined. There is slight leaf drop in late July. There is little (if any) disease noted and good, clean foliage overall. There has been increased growth observed in recent years. Mechanical damage has caused the plant to lean.

Sideroxylon lanuginosum (Gum bully), 9050578. This shrub was grown from seed. The plants that were set out (2-0 stock) were quite small and are slowly growing. A few individuals are starting to put on some growth. There is leaf scorch and the only disease noted is leaf spot.

Spiraea flexuosa (Spiraea), 9050417. There was dieback and severe leaf scorch in 2014. The scorched leaves senesced and were replaced with clean foliage. Secondary flowering is few. There is severe plant competition on several plants. They are slow growing. Remarkably, the plants show increased growth over the past years, when they appeared to not be adapted to this site.

Viburnum mongolicum (Mongolian viburnum), 9050609. There is leaf spot on older foliage, which is heavy by late summer when the leaves turn color. These are unattractive plants. There is slight insect activity and the plants are not uniform. While showing improvement, this entry is not well adapted.

Viburnum rufidulum (Southern black haw). The glossy, green foliage begins to deteriorate in appearance by late July, as plants start showing the stresses of summer and foliar diseases start to appear. There are two (2) entries. Regarding 9050482, the leaves turn red and begin to fall in September, revealing a slight disease presence. This is a less early leaf senescence than 9050483. There is moderate fruit production. The plants lack uniformity. Regarding 9050483, an early senescence on upper portions of plants is due to long dry spells in July and early August. It has an attractive fall foliage. It is loaded with fruit, which turn pink by mid-September and

blue-black by October. This shrub retains fruit longer than 9050482. The plants are fairly uniform in size and shape. This entry is preferred over 9050482.

Xanthoceras sorbifolium (Yellowhorn), 9050418. As these plants reached maturity, they have been reliable bloomers and the flowers and fruits are attractive. It produces seed with recruitment noted in 2012. In the canopy of the five (5) plants (spaced 10 feet apart), 20 seedlings were found growing. In adjacent rows, 14 seedlings were found. These seedlings are struggling in the canopy and do not appear to be an issue at this time. Prolific fruiting occurs most years. Leaf scorch and anthracnose detracts from foliage appearance as the season progresses. This varies among the plants. The plants show uniformity in two (2) groups (three [3] plants in the first group and two [2] plants in the other group). The plants show good growth.

Legend for Miscellaneous Tree and Shrub Evaluations

Plot Location Designation: Field number, row number, and plot (numbered spaces in the row)

E.g., B3 1 9-14 =	Field	Row	Plot numbers
	B3	1	9-14

Data Element Designations

CAN COV:	Crown width or ground cover as measured in meters
DI:	Disease Resistance, rating 1-9
IN:	Insect Resistance, rating 1-9
NO. EST:	Number Established
NO. SRV:	Number Surviving
PCT SRV:	Percent Survival
PLT DBH:	Diameter at Breast Height in centimeters, measured at 137 centimeters above the ground
PLT HGT:	Plant height, as measured in meters
PLT SYM:	Plant Symbol
V:	Plant Vigor, rating 1-9
YR PLT:	Year Planted
YR REC:	Year of Record

Plot Remarks: Frequently Used Abbreviations

BW:	Bagworms	LCB:	Leaf Cutter Bee
Comp.:	Competition	MD:	Mechanical Damage
DB:	Deer Browse	PS:	Produced Seed
DD:	Deer Damage	PW:	Pine Wilt
EOS:	End of Season	WC:	Weed Competition
GH:	Grasshoppers	WD:	Wind Damage
HD:	Herbicide Damage	WI:	Winter Injury
IN:	Insects		

Other Abbreviations Used in this Report

ACM:	Agriculture Canada Morden
GP:	Germplasm

* May not agree with current plot number designations.

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V I	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
G3 21 1-8	ACCA5	399308	*Acer campestre*	77	77	8	7	87	5			0.1	0.3		
			hedge maple		78		8	100	5			0.3	0.5		
			/NCRPIS		79		8	100	5			0.6	0.7		
					80		8	100	5			0.9	1.0		
					81		8	100	3			1.1	1.3		Very uneven growth
					83		8	100	3	4	2	1.9	2.3		Many seedlings
					85		7	87	6	1	4	2.0	1.5		
					93		5	63					4.4		
					01		4	67	5	2		6.1	6.2		Discontinued
C1 21 G-I	ACGI	PM-K-209	*Acer ginnala*	62	70	3	2	67	5			3.6	3.5	3.8	
			Amur maple		73		2	67							
			/USDA/SCS/KSPMC		74										Entry removed 4/26/74
G1 15 I-J	ACGI	PM-K-209	*Acer ginnala*	63	70	2	2	100	3			3.7	3.3		
			Amur maple		74		2	100	3			4.9	4.1		
			/USDA/SCS/KSPMC												
G1 16 I-J	ACGI	PM-K-209	*Acer ginnala*	63	70	1	1	100	5			2.4	2.5		
			Amur maple		74		1	100	5			3.0	3.4		
			/USDA/SCS/KSPMC		78										Entry removed 3/78
F1 23 1-7	ACGI	420830 (ND-3810)	*Acer ginnala*	82	83	8	8	100	5	3	5	0.4	0.5		
			Amur maple		93	(10)	4	50					2.6		
			/NDPMC												
F2 22 1-10	ACGRG	9004229	*Acer grandidentatum* var.	78	78	10	10	100	5			0.4	0.4		
			grandidentatum		79		10	100	3			0.9	0.9		
			bigtooth maple		80		10	100	1			1.4	1.5		
			/USFS Provo, UT		82		10	100	1	3	3	3.5	2.8		
			/NCRPIS		93		10	100					4.8		
					97		10	100					5.1		
					98		10	100	9	9			5.3		Verticillium wilt; entry removed
G3 20 1-8	ACOPO	399315	*Acer opalus* subsp.	77	77	8	8	100	7			.08	0.2		
			obtusatum		78		8	100	7			0.1	0.2		
			Maple		79		7	88	7			0.3	0.3		
			Yugoslavia /NCRPIS		80		7	88	7			0.3	0.5		

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V I	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
G2 24 6-7	ACPL	9030308	*Acer plantanoides*	81	81	3	3	100				0.2	1.2		
			'Royal Red' Norway		82		3	100				0.3	1.0		
			maple		83		2	67	6	5	5	0.6	1.1		
			/NCRPIS		85		2	67	5			1.2	2.7	5	
					86		2	67	5	5	5	1.0	2.8	5	
					87		2	67	5	5	5	1.0	2.8		
					93		1	33					3.6		
					05		1	33					4.8		
					10		1	33					6.5		
					15		1	33				6.7	6.5		
G 17 U-Y	ACSA2	PM-K-282	*Acer saccharinum*	64	70	5	5	100	1			6.0	8.3	12	
			silver maple		74										Entry removed 4/26/74
			/KSU Extn Forestry												
			/KSPMC												
F3 4 5-6	ACSA3	9050008	*Acer saccharum*	89	89	2	2	100	4	2		0.2	1.5		
			sugar maple		90		2	100	8	6		0.1	1.4		
			/KSU Extn Forestry		91		1	50				0.5	1.5		DB, heavy
			/KSPMC												
G 4 U-W	ADRU	PM-O-111	*Adina rubella*	64	70	3	3	100	7			1.6	1.6		
			Chinese buttonbush		74										Entry removed 4/26/74
			/SPRRS												
G2 23 6-8	AEGL	9030309	*Aesculus glabra*	81	81	3	3	100				0.2	0.5		
			Ohio buckeye		82		3	100				0.2	0.6		
			/NCRPIS		83		3	100	6	6	3	0.2	0.6		Leaves dropping 8/20.
					85		3	100	5		8	0.2	0.9		
					86		3	100	4	4	5	1.0	1.4		
					91		3	100				2.1	2.4	6	
					93		3	100					2.8		
					05		3	100					5.0		
					10		3	100					5.8		No. 2 removed – encroachment
					15		2	67				6.7	6.7		
F4 5 6-10	AEPA2	9050659	*Aesculus parviflora*	13	13	5	5	100	9						
			bottlebrush buckeye		14		5	100	9			0.3	0.4		
			Aiken Co., SC /NCRPIS		15		5	100	9			0.3	0.5		
G2 20 6-8	ALCO13	9030310	*Alnus cordata*	81	83	3	0	0							No spring recovery
			Italian alder												
			/NCRPIS												

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Plot		Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V I	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
F3	4	1-10	ALGL2	MICH-823	*Alnus glutinosa*	66	70	10	9	90	3			2.7	4.3		
					European alder		71		9	90				4.1	5.9		
					/MIPMC		74		9	90	3			5.7	7.2		
							75		9	90	3			5.8	7.3		
							76		9	90	3			6.1	7.6		
							78		8	80	3			6.5	8.7		
G3	21	6-8	ALIN2	9030311	*Alnus incana*	81	83	3	2	67	2	5	3	2.8	3.3		
					gray alder		85		2	67	2			4.3	5.6	7	
					Netherlands		86		2	67				4.1	6.5		
					Ames, IA /NCRPIS		93		2	67					6.8	15	
F2	12	6-10	ALMAM5	9050518	*Alnus maritima* subsp.	07	07	4	4	100				0.4	0.6		
					oklahomensis		08	(5)	4	100				0.9	1.1		
					'September Sun' seaside		09		4	100				1.5	1.8		
					alder		10		4	100		2	2	2.1	2.4		2 – WD
					Tishomingo, OK /ISU,		11		4	100				2.3	2.6		Scorch
					Ames, IA /NCRPIS		12		4	100				2.3	2.6		
F3	4	1-4	ARLU2	9050009	*Alnus rubra*	89	89	3	3	100	5	8		0.2	0.4		New leaves breaking bud 10/27
					red alder		90		3	100	9			0.2	0.3	2	Dieback; No. 2 – dead, EOS; winter injury
					Terrace, British Columbia /NCRPIS												
B1		1-11	ALSE2	PI 421620	*Alnus serrulata*	91	91	9	9	100				0.3	0.6	1	
					hazel alder		92	(11)	9	100				0.8	0.9	2	suckering
					Knox Co., KY /KYPMC		93		9	100				1.1	1.1		
							94		9	100	6			0.9	1.1		Winter injury
							95		9	100	6			1.4	1.5		
							03										Severe mechanical damage
							04										Entry removed
F1	12	1-5	AMAL2	PM-ND-46	*Amelanchier alnifolia*	68	70	5	5	100	5			1.2	0.8		
					Saskatoon serviceberry		71		5	100	3			1.6	1.2		
					/NDPMC		73		5	100	3			1.7	1.2		
							74		5	100	3			1.8	1.4		
							75		5	100	3			1.6	1.4		
							76		5	100	3			1.8	1.5		
							78		5	100	3			2.0	1.5		
F2	21	1-350	AMFR	PM-T-2393	*Amorpha fruticosa*	74	74	300	300	100	3			1.7	1.3		
					false indigo		75	(350)	300	100	3			2.2	1.7		
					Hugo Co., OK /TXPMC		76		300	100	3			3.2	2.1		
							77				3			3.4	2.1		
							78				3			3.7	2.3		

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Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V I	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
F1 17 1-5	AMFR	9008041	*Amorpha fruticosa*	96	96	5	5	100					0.9		
			false indigo		97		5	100				1.0	0.9		Suckering – very good
			ND /NDPMC		98		5	100					1.1		
					00		5	100				2.2	1.3		Discontinued
F1 21 6-10	PHME13	PI 323957	*Aronia ×mitschurinii*	06	06	5	5	100				0.4	0.5		
			'McKenzie' black		07		5	100				0.5	0.5		
			chokeberry		08		5	100				0.7	0.7		
			former Soviet Union		09		5	100				0.9	0.8		
			/NCRPIS/NDPMC		10		5	100				1.2	1.0		
					11		5	100		2	2	1.7	1.5		
					12		5	100				2.0	1.6		
					15		5	100				2.6	2.3		suckering
F3 11 1-10	BENI	9034682 (PM-K-1466)	*Betula nigra*	71	71	10	10	100	1			1.0	1.1		
			river birch		72		10	100	1			2.5	2.3		
			Houston Co., MN		73		10	100	1			4.7	4.6		
			/NCRPIS		74		10	100	1			6.1	6.1		
					75		10	100	1			7.3	7.3		
					76		10	100	1			8.5	7.9		
					77		10	100	1			9.1	9.0		
					78		10	100	1			9.7	10.0		
					79		10	100	1			10.0	11.0		
					80		10	100	1			10.0	11.3		
					81		10	100	1			10.0	11.0		Nice tree; bark showy
					82		10	100	1	3	4	10.0	12.0		
					83		10	100	1	4	3	11.0	12.2		
					86		10	100				12.8	13.0		
					95		10	100					13.6		3 – WD, top
					07		10	100					15.3		
					10		10	100					16.1		
					15		10	100					17.6		
F3 6 1-5	BEPA	9050478	*Betula papyrifera*	03	03	5	5	100					1.5		
F3 6 1			'Varen' paper birch		04		1	20	6	5	3	0.9	1.7		
			western North Dakota		05		1	20				0.8	1.9		
			/NCRPIS		06		1	20					1.9		DD
					07		1	20				0.9	2.0		
					08		1	20				1.4	2.5		
					12		1	20	9			1.2	3.1		Not adapted
					13		1	20				1.8	2.4		
					14		1	20					3.0		
F2 13 1	BRPA4	PMK-1850	*Broussonetia papyrifera*	74	75	1	1	100	1			2.2	2.1		
			paper mulberry		76		1	100	1			2.7	2.7		
			/SPRRS		77		1	100	1			4.2	3.4		
					78		1	100	1			5.3	4.5		

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Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V I	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
F1 1 6-9	CABO19	310388 (PM-K-1211)	*Caragana boisii* Siberian pea-tree USSR /MDPMC	68	70	4	4	100	3			0.7	1.7		
					71		4	100	3			1.1	2.0		
					74		4	100	5			1.7	2.5		
					75		4	100	5			2.1	2.3		
					76		4	100	3			1.9	3.0		
					78		4	100	3			2.2	3.0		
F1 16 6-10	CAMI48	9050581	*Caragana microphylla* 'Mongolian Silver Spires' littleleaf peashrub Inner Mongolia /NCRPIS	10	10	3	3	100		1	1	0.3	0.8		
					11	(5)	3	100		1	1	0.9	1.5		
					12		3	100				1.7	2.1		
					13		3	100				2.2	2.6		
					14		3	100				1.4	2.7		
					15		3	100				3.4	2.9		
F3 7 1-5	CABE8	9050479	*Carpinus betulus* European hornbeam Ukraine /NCRPIS	03	03	5	5	100				0.2	0.7		
					04		5	100	4	4	5	0.4	0.8		
					05		4	80				0.6	1.0		
					06		4	80					1.6		
					07		4	80				0.8	1.6		
					08		4	80				1.1	2.0		
					13		4	80				2.9	4.0		
					14		4	80					4.3		
F3 7 6-10	CABE8	9050480	*Carpinus betulus* European hornbeam Ukraine /NCRPIS	03	03	3	3	100				0.3	0.6		
					04		3	100	5	4	3	0.3	0.6		
					05		3	100				0.4	0.7		
					06		3	100					0.9		
					07		3	100				0.5	0.7		
					08		3	100				0.9	1.2		
					13		3	100				2.1	3.3		
					14		3	100					3.5		
F3 15 1-5	CACA18	9050501	*Carpinus caroliniana* 'J. N. Select' American hornbeam Minnesota/Wisconsin /NCRPIS	06	06	5	5	100					2.1		
					07		5	100				0.4	0.7		
					08		5	100				0.7	0.8		
					09		5	100				0.9	1.1		
					10		5	100		4	3	1.4	1.8		
					11		5	100		5	3	1.6	2.0		Scorch
					14		5	100				2.0	2.2		
					15		5	100				1.9	2.2		Uniformity lacking

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Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
G 9/ F-J	CAIL2	9034679 (PM-K-220)	*Carya illinoinensis* pecan /commercial/KSU Extn Forestry	63	66	5	5	100	7			0.1	0.3		
					70		5	100	5			1.8	3.3		
					74		5	100	3			4.3	6.3	9	
					78		5	100	5			3.5	8.0		
					79		5	100	5			3.5	8.0		
					80		5	100	5			3.8	9.0		
					81		5	100	3	3	3	3.5	10.0	14	
					83		5	100	3			4.5	11.5	16	
					93		5	100						23	
					97		5	100					17.5		
					02		5	100					18.2	26	
					07		5	100					19.1	28	
					12		5	100						30	
G 10/ F-J	CAIL2	9034680 (PM-K-227)	*Carya illinoinensis* pecan /commercial/SE Kansas /KSU Extn Forestry	63	66	5	4	80	7			.03	0.3		
					70		4	80	4			2.1	2.9		
					74		4	80	3			4.4	7.0	10	
					78		4	80	5			4.5	8.0		
					79		4	80	3			5.0	8.8		
					80		4	80	3			5.0	9.0		
					81		4	80	3	3	3	6.0	10.0	18	
					83		4	80	3			6.0	7.6	23	
					93		4	80						31	
					97		4	80					18.3		
					02		4	80					20.0	36	
					07		4	80					21.8	39	
					12		4	80						43	
F4 1 1-5	CAIL2	9050605	*Carya illinoinensis* pecan Ste. Genevieve Co., MO /NCRPIS	11	11	5	5	100		4	6	0.3	0.5		
					12		5	100					0.7		
					13		5	100					0.7		
					14		5	100					1.0		
					15		5	100				0.9	1.2		

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
G3 19 7	CACR27	9034858 (M2-4002)	*Castanea crenata* chestnut hybrid /MOPMC	76	76	1	1	100	5			0.05	0.2		
					77	(8)	1	100	3			0.3	0.5		Multi-stem
					78		1	100	3			0.8	0.9		Cedar-Apple rust; WD
					79		1	100	3			1.8	2.0		
					80		1	100	3			2.2	2.6		
					81		1	100	3			2.9	2.8		
					83		1	100	1	3	3	5.2	4.4		
					85		1	100	1	1	2	4.6	4.6		
					86		1	100					5.0		
					93		1	100					6.8		
					95		1	100					7.4		
					00		1	100					8.8		
					05		1	100					8.4		
					11		1	100					9.5		
					15		1	100					10.2		
F3 1 1-10	CAMO83	70314 (BN-8299)	*Castanea mollissima* Chinese chestnut /MDPMC	67	70	10	8	80	3			2.0	2.3		
					71		8	80	3			2.5	3.5		
					74		8	80	3			4.9	5.3		
					75		8	80	3			5.5	6.7		
					76		8	80	3			6.1	7.3		
					78		8	80	3			9.0	8.8		
G1 13 1-9	CAPU9	PI 421739	*Castanea pumila* 'Golden' golden chinquapin Towns Co., Ga /KYPMC	84	85	7	7	100	4	1	5	0.6	0.6		
					86	(9)	6	86	6			0.8	0.9		
					92		4	57					2.6		
					99		4	57				4.3	3.4		
					01		4	57					3.4		Discontinued
B2 3 1-5	CESC	9050529	*Celastrus scandens* bitter sweet IA /NCRPIS	08	08	5	5	100							
					09		5	100							
					10		5	100							
					11		5	100				0.3	0.5		
					12		5	100	8				0.5		
					14		5	100				0.5	0.8		
					15		5	100				0.5	1.1		
B3 2 40-42	CEAU	9010081	*Celtis australis* European hackberry	80	81	3	3	100	6	5	6		0.5		
					82		3	100	7	5	4	1.4	1.0		
					83		3	100	4	4	5	2.3	2.0		

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
F1 4 3-5	CELA	9050263	*Celtis laevigata*	97	97	3	3	100	5				1.1		
			sugarberry		99		3	100					3.4		
			/NCRPIS		00		3	100					4.7		
					01		3	100	1				5.6		
					02		3	100	4	1	3	5.1	6.0		
					06		3	100					9.1	20	
					07		3	100				7.5	10.1	22	
					11		3	100					11.5	34	
F3 14 1-10	CELAR	9066615	*Celtis laevigata*	06	06	10	10	100					1.2		
			sugarberry		07		10	100				1.1	1.4		
			Oklahoma Co., OK		08		10	100				1.6	2.0		
			/KSPMC/NMPMC		09		10	100				2.2	3.0		DB, heavy
					10		10	100		2	2	3.5	3.8		
					11		10	100				4.9	4.8		
					15		10	100					7.4	14	
F2 12 1-5	CELAR	9050519	*Celtis laevigata* var.	07	07	5	5	100				0.3	0.5		
			reticulata		08		5	100				0.3	0.5		
			netleaf hackberry		09		5	100				0.4	0.5		
			Union Co., New Mexico		10		5	100		7	3	0.9	1.0		
			/NCRPIS		11		5	100		2	4	1.4	1.3		
					12		5	100				1.5	1.6		
G 6 F-J	CEOC	PM-C-48	*Celtis occidentalis*	63	68	5	5	100					4.9	7	
			common hackberry		70		5	100	4			4.0	6.5	11	
			Wray, CO		74		5	100	5			3.9	7.6	11	
					78		5	100	7			3.7	6.5		
G 2 F-J	CEOC	PMSD-211	*Celtis occidentalis*	63	68	5	5	100					5.0	6	
			common hackberry		70		5	100	2			3.2	5.8	10	
			South Dakota		74		5	100	5			3.4	6.6	11	
					78		5	100	7			3.5	6.8		
G 7/ F-J	CEOC	9004254 (PM-O-4)	*Celtis occidentalis*	63	68	5	5	100					5.1	6	
			common hackberry		70		5	100	4			4.8	6.8	10	
			Roger Mills Co., OK		74		5	100	3			5.9	7.9	13	
			/KSPMC		78		5	100	5			5.0	8.0		

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
G 8/ F-J	CEOC	9004255 (PM-O-20)	*Celtis occidentalis* common hackberry Central Oklahoma /KSPMC	63	66	5	5	100	1			3.9	4.3	5	
					68		5	100					4.8	10	
					70		5	100	3			6.0	6.7	14	
					74		5	100	2			7.3	9.2	22	
					78		5	100	3			9.0	11.0		
					79		5	100	1				11.3		
					80		5	100	3	5	5	8.0	13.0		
					81		5	100	4	5	5		12.8		
					82		5	100	7	7	5	8.0	13.4	30	
					83		4	80	7				12.0	33	I, J – much dead wood – HD
					93		3	60						45	
					97		3	60					17.1		
					02		3	60					19.6	.5	
					07		3	60					19.3	56	
					12		3	60					18.3	59	
G 3/ F-J	CEOC	9004256 (PM-K-2)	*Celtis occidentalis* common hackberry Pottawatomie Co., KS /KSPMC	63	66	5	5	100	2			4.2	4.5	6	
					68		5	100					6.2	11	
					70		5	100	2			5.3	7.1	15	
					74		5	100	3			6.2	9.3	20	
					78		5	100	5			5.0	8.5		
					93		2	40						45	
					97		2	40					13.9		
					02		2	40					14.3	55	
					07		2	40					15.9	56	
					12		2	40						59	
G 4 F-J	CEOC	9004257 (PM-K-3)	*Celtis occidentalis* common hackberry Franklin Co., KS /KSPMC	63	68	5	5	100					6.3	13	
					70		5	100	2			5.5	7.7	16	
					74		5	100	3			4.4	9.5	18	
					78		5	100	3			4.5	10.5		
G 5 F-J	CEOC	9004258 (PM-K-6)	*Celtis occidentalis* common hackberry Ford Co., KS /KSPMC	63	68	5	5	100					4.7	8	
					70		5	100	3			5.1	6.5	12	
					74		5	100	4			5.0	7.8	15	
					78		5	100	5			4.0	8.5		
G 1 F-J	CEOC	9004260 (PM-K-208)	*Celtis occidentalis* common hackberry South Dakota /commercial/KSU Extn Forestry	63	68	5	5	100					5.0	9	
					70		5	100	3			6.3	6.9	14	
					74		5	100	5			6.2	9.0	21	
					78		5	100	3			7.5	9.0		
B3 17 1	CEOC	9021931 (CL-93-80)	*Celtis occidentalis* common hackberry /MDPMC	83	83	1	1	100	4	5	5	0.3	0.3		

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Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
B3 17 2-3	CEOC	9025554 (GK-799-81)	*Celtis occidentalis* common hackberry /MDPMC	83	83	2	2	100	5	4	4	0.2	0.2		
F3 13 1-10	CEOC	9050497	*Celtis occidentalis* common hackberry Forest Keeling Nursery Elsberry, MO	06	06	10	10	100					0.8		
					07		10	100				0.6	0.9		
					08		10	100				0.8	1.0		
					09		10	100				0.7	1.3		DB, heavy
					10		10	100		6	5	1.8	2.0		
					11		10	100				2.3	2.9		
					15		10	100					6.1	10	
B3 17 1	CEOC	9021931 (CL-93-80)	*Celtis sinensis* Chinese hackberry /MDPMC	83	83	1	1	100	3	3	3	0.3	0.4		
C-1 21 F	CELTIS	PM-K-170	*Celtis sp.* /MDPMC	62	70	1	1	100	3			7.6	6.7		
					73		1	100							
					74										Entry removed 4/26/74
F2 13 1-5	CECA4	9050520	*Cercis canadensis* red bud Van Buren Co., IA /NCRPIS	07	07	5	5	100				0.5	0.6		
					08		5	100	5			0.7	0.7		
					09		5	100				0.9	0.8		
					10		5	100		7	6	1.8	1.4		No. 1 & 2 – stunted growth
					11		5	100	3	7	7	2.1	1.9		
					12		5	100					2.4		
F2 13 6-10	CECA4	9050521	*Cercis canadensis* red bud Keokuk, Lee Co., IA /NCRPIS	07	07	5	5	100				0.5	0.7		
					08		5	100	3			0.8	0.8		
					09		5	100				1.0	1.0		
					10		5	100		7	7	1.8	1.7		IN - LCB; GH
					11		5	100	5	8	6	2.4	2.1		
					12		5	100					2.7		No. 3 - young reddish pods
F1 25 7-10	CELE3	9050010	*Cercocarpus ledifolius* curl-leaf mountain mahogany /NCRPIS	89	89	4	4	100	8	6		0.3	0.4		
					90		2	50	5	1	1	0.4	0.6		
					91		2	50				0.5	0.7		Evergreen
					92		2	50				0.4	0.6		
					93		1	25				0.6	1.0		

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot	Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
F4	6 7-8	CHTH2	PM-K 1230	*Chamaecyparis thyoides*	68	70	2	2	100	3			0.4	0.9		
				Atlantic white cedar		71		2	100	3			0.5	1.2		
				/HPHRS		73		2	100	3			0.7	1.9		
						74		2	100	3			0.9	2.1		
						75		2	100	3			0.8	2.7		
						76		2	100	3			0.9	2.8		
						78		2	100	3			1.2	3.0		
F4	6 9-11	CHTH2	PM-K 1231	*Chamaecyparis thyoides*	68	70	3	3	100	3			0.5	1.0		
				Atlantic white cedar		71		3	100	3			0.6	1.3		
				/HPHRS		73		3	100	3			0.9	1.9		
						74		3	100	3			0.9	2.2		
						75		3	100	3			1.0	2.8		
						76		3	100	3			1.1	3.0		
						78		3	100	3			1.2	3.0		
F1	13 1-18	CHLI2	9050027	*Chilopsis linearis*	87	87	18	18	100				0.2	0.5		Seeded
				desert willow		88										Disked out
				Meade Co., KS /KSPMC												
F2	16 6-10	CHLI2	9050543	*Chilopsis linearis*	09	09	5	5	100				0.2	0.5		
				desert willow		10		4	80				1.8	1.5		
				Meade Co., KS /KSPMC		11		4	80		1	1	2.8	2.3		
						12		4	80					3.0		
						13		4	80				3.6	3.5		
						14		4	80				3.5	3.3		
F3	24 8-10	CHVI3	PM-K-1842	*Chionanthus virginicus*	74	74	3	3	100	7			0.2	0.2		
				white fringetree		75		2	67	7			0.2	0.3		
				/NCRPIS		76		2	67	5			0.3	0.5		
						77		2	67	7			0.6	0.7		
						78		2	67	7			0.8	1.0		
F1	11 11-15	COAM2	MICH-765	*Cornus amomum*	68	70	5	5	100	3			2.0	1.6		
				silky dogwood		71		5	100	3			2.9	2.3		
				/MIPMC		73		5	100	3			3.6	2.6		
						74		5	100	3			4.2	2.7		
						75		5	100	3			4.3	3.1		
						76		5	100	3			4.3	3.4		
						78		5	100	3			4.8	3.6		
B1	E 14-35	COAM2	468117	*Cornus amomum*	90	11	20	15	75					2.7		Losses due to competition
				silky dogwood												
				Clinton Co., MI												
				/MIPMC												

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Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
A25 1-11	CODR	9022805	*Cornus drummondii*		75	11	11	100							
			roughleaf dogwood		78		11	100	3			1.8	2.2		
			/TXPMC		81		11	100	1	3	3	3.6	3.2		
F1 9 1-10	COFL2	PM-K-1060	*Cornus florida*	67	70	10	10	100	3			1.7	2.1		
			flowering dogwood		71		10	100	1			2.7	2.9		
			/MDPMC		73		10	100	1			3.2	3.7		
					74		10	100	1			3.9	4.0		
					75		10	100	3			3.7	4.0		
					76		10	100	3			4.3	4.6		
					78		10	100	3			5.0	4.5		
E3 21 5-7	COMA20	9050019	*Cornus macrophylla*	90	90	2	2	100	1			0.5	0.6		DB
			Murree, Punjab Prov.		91	(3)	2	100				0.3	0.5		Regrowth from base
			/NCRPIS		92		2	100				0.8	1.1		
F1 10 1-20	COMA21	278173 (BN-12114)	*Cornus mas*	67	67	16	16	100	3			0.3	0.4		
			'Kizilcik' Cornelian cherry		68	(20)	16	100	3			0.3	0.8		
			dogwood		70		16	100	3			1.1	1.7		
			/NPMC, Beltsville, Md.		71		16	100	3			1.6	2.3		
					73		16	100	3			2.7	2.9		
					74		16	100	3			2.8	3.0		
					75		16	100	3			3.7	3.1		
					76		16	100	3			3.7	3.7		
					78		16	100	3			4.6	3.6		
					80		16	100	3			4.5	3.7		
					81		16	100	3	3	3	4.9	4.4		
					82		16	100	4	5	3	3.8	3.5		
					83		16	100	3	4	4	4.0	3.6		
					93		14	88	5				3.9		
					96		14	88	6				3.9		
					01		12	75					3.8		
					02										Entry removed
F1 12 1-11	COMA21	9055585 PI 516476	*Cornus mas*	89	89	11	11	100	2	5		0.3	0.8		
			'Redstone' Cornelian		90		11	100	2	4	2	0.3	0.8		1,4-5 - frost damage, some die back
			cherry dogwood		91		11	100				0.5	1.0		
			Central Europe /NY		92		11	100				0.5	1.4	4	
			/MOPMC		93		11	100		3		0.9	1.7		No. 1 – removed for pipeline*
F1 12 2-11*					99	10	10	100				2.6	3.3		Good fruiting; 1 - HD
					03		10	100					3.5		All but 2 with good fruit production
					08		10	100					3.7		
					10		4	40							HD

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Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
F1 9 11-20	COOF	BN-14627	*Cornus officinalis*	67	70	10	8	80	3			1.7	1.9		
			Asiatic dogwood		71		8	80	3			2.4	2.4		
			/MOPMC/MDPMC		73		8	80	3			2.3	2.9		
					74		8	80	3			3.4	3.3		
					75		8	80	3			3.7	3.4		
					76		8	80	3			4.3	4.0		
					78		8	80	3			4.0	4.0		
F1 24 1-5	COSA81	9050425	*Cornus sanguinea*	02	02	5	5	100	4	4	4	0.3	0.8		Heavy browse
			blood-twig dogwood		03		5	100	3			0.7	1.1		No. 3 - tip breakage - boring insect
			Ukraine /NCRPIS		04		5	100	6		7	1.7	1.5		
					05		5	100				2.6	2.0		
					06		5	100				3.0	2.2		Second flush - flowering/fruiting-
					07		5	100				3.6	2.6		Sept.
					11		5	100	4	5	3		3.2		
					12		4	80					3.1		
					13		4	80					2.8		
															Declining
F1 24 6-10	COSA81	9050426	*Cornus sanguinea*	02	02	5	5	100	3	6	5	0.4	0.6		Medium browse
			blood-twig dogwood		03		5	100	6		5	0.7	0.8		
			Ukraine /NCRPIS		04		5	100	3		4	1.8	1.7		
					05		5	100				2.4	2.1		
					06		5	100				2.6	2.3		Second flush - flowering/fruiting-
					07		4	80				2.4	2.4		Sept
					11		2	20	7	6	3	3.6	2.3		No. 1 – dead
					12		2						2.5		
					13		1					3.1	2.6		
F1 13 19-20	COSES	PM-K-1220	*Cornus sericea* ssp.	68	70	2	2	100	3			1.1	1.1		
			sericea		71		2	100	3			2.0	1.7		
			redosier dogwood		73		2	100	7			2.1	1.2		
			/HPHRS		74		1	50	9			0.9	0.9		
					75		0								
G1 14 1-6	COSES	443229	*Cornus sericea* ssp.	84	85	4	4	100	1	1	4	0.8	0.7		DB
			sericea		86	(6)	4	100				1.2	1.2		
			'Ruby' redosier dogwood		92		2	50							
			/NYPMC												
G1 15 1-	COSES	443229	*Cornus sericea* ssp.	84	85	9	9	100	2	1	3	0.3	0.4		Shaded from south trees
			sericea		86		3		7			0.6	0.5		
			'Ruby' redosier dogwood												
			/NYPMC												

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Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
G3 19 1-6	COAM3	9034681 (MICH-1694)	*Corylus americana* /MIPMC	77	77	6	6	100	3			.05	0.4		
					78		5	83	5			0.2	0.6		
					79		4	67	5			0.8	0.9		
					80		4	67	5			1.0	1.0		
					81		4	67	4			1.7	1.4		
					83		4	67				2.7	2.3		
					85		4	67	5	1	7	2.4	1.8		Declining
					93		4	67	8				2.7		
					96		4	67	8				2.4		
					00		4	67					2.5		
					01		4	67					2.4		
F1 13 3-12	COMA3	9083247	*Corylus americana* American hazelnut /MOPMC	07	07	10	10	100				0.1	0.4		
					08		10	100				0.3	0.5		
					09		10	100				0.5	0.6		
					10		10	100		3	2	0.9	0.9		1 produced fruit
					11		10	100		3	3	1.4	1.3		5 produced fruit
					12		10	100				1.6	1.6		
F1 25 1-5	COCO10	9050427	*Cotinus coggygria* smokebush Ukraine /NCRPIS	02	02	5	5	100	2	3	2	0.5	0.8		Slight browse
					03		5	100	1			0.9	1.5		
					04		5	100	4			1.4	2.2		
					05		5	100				1.9	2.6		
					06		5	100				2.4	3.1		
					07		5	100				2.5	3.3		
					11		5	100		2	1		4.1		
					12		5	100					4.1		
G 16 U-Y	COAC2	PM-K-279	*Cotoneaster acutifolius* Peking cotoneaster /KSU Extn Forestry /KSPMC	64	70	5	5	100	3			2.3	2.0		
					74		5	100	3			3.2	2.2		
F2 24 1-5	CODA5	269293 (PM-K-1670)	*Cotoneaster dammeri* cotoneaster /NCRPIS	72	72	5	5	100	1			0.4	0.3		
					73		5	100	1			1.2	0.5		
					74		5	100	1			1.7	0.8		
					75		5	100	3			2.6	1.0		
					76		5	100	3			2.9	1.1		
					77		0								
F1 21 12-14	COFR3	344576	*Cotoneaster franchetii* orange cotoneaster	73	73	3	2	67	5			0.6	0.5		
					74		2	67	5			1.0	0.7		
					75		2	67	5			1.5	1.2		
					76		2	67	5			1.5	1.2		
					78		0	0							WI

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
F1 18 11-12	COLU5	9004275 (PM-K-1284)	*Cotoneaster lucidus* shiny cotoneaster /HPHRS	69	70	2	2	100	3			0.9	0.9		
					71		2	100	3			1.5	1.3		
					72		2	100	3			1.5	1.5		
					73		2	100	3			2.4	1.9		
					74		2	100	5			2.9	1.9		
					75		2	100	5			2.8	2.0		
					76		2	100	5			3.0	2.0		
					78		2	100	5			3.4	2.3		
					79		2	100	3			3.0	2.7		
					80		2	67	5			3.1	2.5		
F1 18 3-4	COME14	9004276 (PM-K-1280)	*Cotoneaster melanocarpus* dark-fruited cotoneaster /HPHRS	69	70	2	2	100	3			1.2	1.0		
					71		2	100	3			1.7	1.4		
					72		2	100	3			2.2	1.5		
					73		2	100	3			2.4	1.9		
					74		2	100	5			2.4	1.6		
					75		2	100	5			2.2	1.9		
					76		2	100	5			2.2	1.9		
					78		2	100	5			2.2	1.7		
F1 18 1-2	COMO1 1	9004277 (PM-K-1279)	*Cotoneaster moupinensis* Moupin cotoneaster /HPHRS	69	70	2	2	100	3			0.8	0.9		
					71		2	100	3			1.4	1.4		
					72		2	100	3			2.0	1.6		
					73		2	100	3			2.0	2.0		
					74		2	100	5			2.1	1.8		
					75		2	100	5			2.1	2.0		
					76		2	100	5			2.1	2.0		
					78		2	100	5			2.3	1.9		
F1 12 11-15	COMU9	9013449 (MICH-1078)	*Cotoneaster multiflorus* cotoneaster /MIPMC	68	70	5	5	100	2			2.3	1.8		
					71		5	100	1			3.7	2.2		
					73		5	100	1			4.6	2.7		
					74		5	100	3			4.9	2.7		
					75		5	100	3			5.3	3.4		
					76		5	100	3			5.2	3.4		
					78		5	100	3			6.3	3.5		
					79		5	100	1			6.0	3.3		
					80		5	100	1			5.5	3.2		
					81		5	100	4	5	3		3.5		
					82		5	100	3	3	5	6.0	3.3		
					83		5	100	3	6	5	5.5	3.2		
					93		0	0							Cut back; died

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
F1 18 13-14	CONI12	9004279 (PM-K-1288)	*Cotoneaster nitens* few-flowered cotoneaster /HPHRS	69	70	2	1	50	7			0.5	0.4		
					71		1	50	7			0.9	0.8		
					72		1	50	5			1.6	1.0		
					73		1	50	5			2.1	1.2		
					74		1	50	5			2.7	1.5		
					75		1	50	5			3.1	1.7		
					76		1	50	5			3.1	1.8		
					78		1	50	5			3.1	1.6		
F1 18 9-10	COOB11	9004444 (PM-K-1283)	*Cotoneaster obovatus /HPHRS*	69	70	2	1	50	3			1.1	0.9		
					71		1	50	3			1.6	1.4		
					72		1	50	3			2.3	1.6		
					73		1	50	3			2.6	1.9		
					74		1	50	5			3.0	2.0		
					75		1	50	5			3.0	2.2		
					76		1	50	5			3.1	2.1		
					78		1	50	5			3.2	2.3		
F1 21 1-10	CORA12	297597	*Cotoneaster racemiflorus* cluster-flower cotoneaster Czechoslovakia /MDPMC /MOPMC	70	70	10	10	100	3			0.8	0.5		
					71		10	100	3				1.1		
					72		10	100	3			1.8	1.3		
					73		10	100	3			2.9	1.8		
					74		10	100	3			3.2	1.8		
					75		10	100	3			3.4	2.0		
					76		10	100	5			3.4	2.4		
					78		3	30	5			3.4	2.5		
F1 18 6-8	CORA12	344580 (BN-19282)	*Cotoneaster racemiflorus* cluster-flower cotoneaster Czechoslovakia /MDPMC	73	73	3	3	100	3			0.6	0.6		
					74		3	100	3			1.1	0.8		
					75		3	100	3			1.9	1.3		
					76		3	100	3			2.4	1.7		
					78		3	100	3			3.0	1.8		
F2 24 16-21	CORO13	297598	*Cotoneaster rotundifolius* cotoneaster /MDPMC	73	73	1	1	100	5			0.9	0.4		
					74		1	100	3			1.4	0.6		
					75		0								
F1 20 17-21	COSA4	265031	*Cotoneaster salicifolius* cotoneaster Germany /MDPMC	73	73	5	2	40	7			0.6	0.3		
					74		2	40	7			0.5	0.2		
					75		2	40	5			1.1	0.4		
					76		2	40	5			1.0	0.6		
					78		0	0							WI

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
F1 22 1-10	COTON	113097 (PM-ND-28)	*Cotoneaster sp.* /NDPMC	70	70	10	6	60	5			0.9	0.7		
					71		6	60	5			1.3	1.0		
					72		7	70	3			1.8	1.5		
					73		7	70	3			3.4	2.3		
					74		7	70	1			4.6	2.5		
					75		7	70	3			4.1	3.2		
					76		7	70	3			4.7	3.3		
					78		5	50	5			5.3	3.4		
					79		5	50	3			4.0	3.2		
					80		5	50	3			5.0	3.5		
					81		5	50	3	3	3		2.9		
					82		5	50	3	2	3	6.0	3.5		
					83		5	50	5	6	4	6.0	3.5		
					93		5	50					3.0		
					96		5	50	9				3.2		
F1 22 11-20	COTON	PM-ND-170	*Cotoneaster sp.* /NDPMC	70	70	10	10	100	5			0.3	0.3		
					71		7	70	5			0.6	0.4		
					72		7	70	5			0.8	0.6		
					73		7	70	5			1.4	0.8		
					74		7	70	5			2.0	0.8		
					75		7	70	5			2.1	1.1		
					76		7	70	3			2.4	1.4		
					78		6	60	7			3.0	1.3		
F3 8 1-10	CRPH	9005731 (ND-20)	*Crataegus arnoldiana* Arnold hawthorn /NDPMC	69	69	10	10	100	5			0.2	0.2		
					70		10	100	7			0.4	0.5		
					71		10	100	4			0.7	0.8		
					72		10	100	3			1.0	1.4		
					73		10	100	3			1.4	2.0		
					74		10	100	3			2.1	2.6		Foliage unsightly
					75		10	100	3			5.2	3.1		
					76		10	100	3			2.7	3.7		
					78		10	100	5			3.3	4.3		
					79		10	100	5			3.0	4.5		
					80		10	100	5			4.5	4.5		
					81		10	100	5			4.3	5.2		Foliage unsightly
					83		10	100	7	9	5	5.5	4.8		
					88		10	100	5	6	3	6.1		13	
F2 14 6-10	CRCH	9076686	*Crataegus chrysocarpa* fireberry hawthorn Lincoln-Oakes Nursery /NDPMC	07	07	5	5	100				0.2	0.4		
					08		5	100					0.5		
					09		5	100				0.3	0.6		
					10		5	100		8		0.4	0.8		
					11		5	100		7	6	0.5	0.9		
					12		5	100				0.6	0.8		

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
F3 9 1-10	CRMO2	9034901 (PM-ND-354)	*Crataegus mollis* downy hawthorn /NDPMC	69	69	10	10	100	5			0.2	0.4		
					70		10	100	6			0.4	0.5		
					71		10	100	3			0.8	1.0		
					72		10	100	3			1.0	1.6		
					73		10	100	3			1.7	2.2		
					74		10	100	3			2.4	2.7		
					75		10	100	3			2.7	3.1		
					76		10	100	3			3.1	3.7		
					78		10	100	3			3.5	4.5		
					79		10	100	3			3.5	4.8		
					80		10	100	3			4.5	4.8		
					81		10	100	4			4.4	4.9		Foliage very unsightly
					83		10	100	7	7	4	4.8	5.0		
					88		10	100	5	6	3	6.1		13	
F3 7 1-10	CRPH	9005161 (M1-7705)	*Crataegus phaenopyrum* Washington hawthorn /MOPMC	69	69	10	8	80	6			0.2	0.5		
					70		8	80	5			0.4	1.0		
					71		8	80	5			0.9	1.9		
					72		9	90	3			0.9	2.1		
					73		9	90	3			1.3	2.9		
					74		9	90	3			2.3	3.4		
					75		9	90	3			2.7	4.9		
					76		9	90	3			3.4	5.2		
					78		9	90	3			6.0	6.5		
					79		8	80	3			6.0	6.5		
					80		8	80	3			6.4	6.7		
					81		8	80	3			6.4	6.4		
					83		8	80	5	5	4	6.8	6.0		
G2 20 4-8	CRPH	9005161 (M1-7705)	*Crataegus phaenopyrum* Washington hawthorn /MOPMC		77	5	5	100	5			0.2	0.6		
					78										Entry removed 3/78
G2 18 1-8	CRPH	9004973 (M1-7896)	*Crataegus phaenopyrum* /MOPMC	76	76	8	5	63	5			0.2	0.6		
					77		4	50	3			0.2	1.0		
					78		4	50	3			0.6	1.5		
					79		4	50	5			0.9	1.9		
					80		4	50	3			1.1	2.9		
					81		4	50	3			1.3	3.8		
					83		4	50	4	7	3	3.0	4.9		
					85		4	50	1	1	1	3.3	3.8		
					86		4	50	5			3.4			
					95		4	50					5.3		
					00		4	50					5.9		Discontinued

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Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
F4 10 1-7	CUAR	9050495	*Cupressus arizonica*	05	05	7	7	100					0.8		
			Arizona cypress		06		0	0							Not adapted
			/Lawyer Nursery, Plains, MT												
F4 12 1-10	CUBA	9050504	*Cupressus bakeri*	06	06	10	10	100				0.2	0.4		
			Modoc cypress		07		9	90				0.3	0.5		
			/Lawyer Nursery, Plains,		08		6	60		6		0.4	0.5		
			MT		09		6	60				0.5	0.6		
					10		4	40							DD – 25%
					11		4	40		4	5	0.9	0.9		BW
					14		4	40				1.4	1.5		
					15		4	40				1.7	1.6		
F1 20 12-16	DAFR6	PM-K-1285	*Dasiphora fruticosa*	69	70	5	5	100	6			0.4	0.3		
			shrubby cinquefoil		71		5	100	7			0.8	0.7		
			/HPHRS		72		5	100	3			1.0	0.8		
					73		5	100	5			1.3	0.9		
					74		5	100	9			0.9	0.6		
					75		5	100	9			0.9	0.5		
					76		5	100	5			0.6	0.5		
					78		0	0							WI
F2 24 6-10	DAFR6	PM-K-1672	*Dasiphora fruticosa*	72	72	5	4	80	3			0.5	0.4		
			shrubby cinquefoil		73		4	80	3			0.9	0.8		
			Canada /NCRPIS		74		4	80	5			1.1	0.8		
					75		4	80	5			1.2	0.8		
					76		4	80	7			0.5	0.7		
					77		2	40	9			0.5	0.5		
					78		1	20	9			0.5	0.5		
F1 24 1-10	DAFR6	242217 (PM-K-1463)	*Dasiphora fruticosa*	71	71	10	10	100	5			0.3	0.3		
			shrubby cinquefoil		72		10	100	3			0.6	0.4		
			/NCRPIS		73		10	100	5			0.8	0.4		
					74		10	100	5			0.8	0.5		
					75		10	100	5			0.8	0.5		
					76		9	90	5			0.9	0.6		
					77		9	90	5			0.7	0.6		
					78		7	70	7			0.7	0.5		

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
F2 11 1-4	DIVI5	9050011	*Diospyros virginiana*	89	89	4	4	100	9	3		0.3	1.3		
			common persimmon		90		4	100	1			0.2	0.5		
			Iowa /NCRPIS		91		4	100				0.3	0.7	1	
					92		4	100				0.7	1.3	2	
					93		4	100		3	5	1.3	2.0		
					98		4	100				3.5	4.8		Mean shoot growth - 42-cm
					99		4	100					6.1		Nos. 1 & 2 - HD
					03		4	100					6.1		No. 1 - a resprout; fruit amount - 5
					08		4	100					7.7		
					13		4	100					9.6		
F4 3 1-5	DIVI5	9050606	*Diospyros virginiana*	11	11	5	5	100		3	5	0.5	0.8		
			common persimmon		12		5	100				0.8	1.9		
			St. Charles Co., MO		13		5	100				1.4	1.8		
			/NCRPIS		14		5	100				1.8	2.4		
					15		5	100				2.3	3.4	32	
F1 23 6-10	DEGL11	9050428	smooth Deutzia	02	02	5	5	100	7	5	4	0.2	0.3		
			Deutzia glabrata		03		5	100	9			0.2	0.3		
			China /NCRPIS		04		1	20	9			0.1	0.3		Not adapted
					05		0	0							
F1 14 1-5	ELAEA	9050524	*Elaeagnus* X 'Jefmorg'	07	07	5	5	100				0.6	0.7		
			Silverscape® olive		08		5	100				2.1	2.3		
			Lincoln-Oakes Nursery		09		5	100				3.1	3.2		
			/NDPMC		10		5	100		5	2	4.2	3.8		2,3 – WD
					11		5	100		3	2		3.9		
					12		5	100					4.1		
C1 4 F-J	ELAN	PM-C-143	*Elaeagnus angustifolia*	61	70	5	2	40	5			5.5	4.9	9	
			'Kinghorn' Russian olive		74										Entry removed 4/26/74
			/National Arboretum												
			/NMPMC												
C1 17 F-J	ELAN	PM-C-143	*Elaeagnus angustifolia*	62	70	5	4	80	7			4.8	5.6	14	
			'Kinghorn' Russian olive		74										Entry removed 4/26/74
			/National Arboretum												
			/NMPMC												
F 0 8	ELAN	PM-C-143	*Elaeagnus angustifolia*	62	68	5	5	100	6			2.7	4.9	9	
			'Kinghorn' Russian olive		70		5	100	6			7.6	6.6	11	
			/National Arboretum		74		4	80	6			7.7	7.2		
			/NMPMC		78		3	60	5			9.0	7.0		
C-1 16 F-J	ELAN	PM-K-167	*Elaeagnus angustifolia*	62	70	5	5	100	4			6.5	7.5	14	
			Russian olive		73		5	100							
			/KSU Extn Forestry		74										Entry removed 4/26/74

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Plot	Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
G	1 K-O	ELAN	PM-K-167	*Elaeagnus angustifolia*	63	70	5	2	40	3			6.9	5.5	19	
				Russian olive		74										Entry removed 4/26/74
				/KSU Extn Forestry												
G	18 K-O	ELAN	PM-K-167	*Elaeagnus angustifolia*	63	70	5	5	100	5			6.7	6.6	11	
				Russian olive		73		5	100							
				/KSU Extn Forestry		74										Entry removed 4/26/74
F	0 4	ELAN	PM-K-177	*Elaeagnus angustifolia*	62	68	5	5	100	4			6.4	8.1	12	
				Russian olive		70		5	100	4			8.8	8.7	17	
				/KSU Extn Forestry		74		4	80	5			8.4	10.7		
						78		4	80	5			13.0	11.0		
G	1 P-T	ELAN	PM-K-281	*Elaeagnus angustifolia*	64	70	5	2	100	4			7.8	5.6	7	
				Russian olive												
				/KSU Extn Forestry												
G	18 P-T	ELAN	PM-K-281	*Elaeagnus angustifolia*	64	70	5	4	80	3			6.9	7.2	12	
				Russian olive		73		2	40							
				/KSU Extn Forestry		74										Entry removed 4/26/74
G	18 U-Z	ELAN	PM-K-281	*Elaeagnus angustifolia*	64	70	6	5	83	3			6.7	7.5	13	
				Russian olive		74										Entry removed 4/26/74
				/KSU Extn Forestry												
G	1 U-Z	ELAN	PM-K-281	*Elaeagnus angustifolia*	64	70	6	4	67	5			6.2	5.6	10	
				Russian olive		74										Entry removed 4/26/74
				/KSU Extn Forestry												
G	16 P-T	ELAN	PM-ND-363	*Elaeagnus angustifolia*	64	70	5	3	60	4			1.9	6.9	9	
				Russian olive		74										Entry removed 4/26/74
				/NDPMC												
G	17 P-T	ELAN	PM-ND-364	*Elaeagnus angustifolia*	64	70	5	4	80	6			4.5	5.8	6	
				Russian olive		74										Entry removed 4/26/74
				/NDPMC												
C1	18 F-J	ELAN	PM-WY-160	*Elaeagnus angustifolia*	62	70	5	2	40	6			5.0	6.8	13	
				'Cheyenne' Russian olive		74										Entry removed 4/26/74
				/NMPMC												

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
G1 12 1-2	ELANO2	434029 (BN-22963)	*Elaeagnus angustifolia* var. *orientalis* 'King Red' Russian olive /NMPMC/MDPMC	76	76	1	1	100	3			0.5	0.8		
					77	(2)	1	100	1			1.1	1.7		
					78		1	100	1			3.0	2.9		
					79		1	100	1			4.0	3.7		
					80		1	100	3			5.0	4.3		
					81		1	100	5	6	3		5.5		
					82		1	100	8	7	5	5.0	5.5		
F1 14 6-10	ELUM	MS-430	*Elaeagnus umbellata* autumn olive /MSPMC	68	70	5	4	80	3			2.3	1.9		
					71		4	80	5			3.0	2.3		
					72		4	80	3			3.0	2.9		
					73		4	80	7			2.6	2.2		
					74		3	60	9			1.8	1.6		
					75		0								
F1 14 11-15	ELUM	MS-432	*Elaeagnus umbellata* autumn olive /MSPMC	68	70	5	4	80	6			2.6	2.6		
					71		4	80	3			4.1	3.0		
					72		4	80	3			4.3	3.8		
					73		4	80	3			5.8	4.1		
					74		4	80	3			5.9	4.1		
					75		4	80	3			5.8	4.0		
					76		4	80	3			6.7	4.6		
					78		4	80	3			7.0	4.5		
F1 16 1-20	ELUM	9004976 (MICH-777)	*Elaeagnus umbellata* autumn olive /MIPMC	69	69	20	20	100	3			0.7	0.7		
					70		20	100	3			2.1	1.7		
					71		20	100	1			3.4	2.7		
					72		20	100	1			3.8	2.6		
					73		20	100	1			5.0	3.5		
					74		20	100	1			5.3	3.8		
					75		20	100	1			5.8	4.3		
					76		20	100	1			6.4	4.6		
					78		20	100	1			6.0	4.5		
F2 16 1-20	ELUM	9005164 (M1-6369)	*Elaeagnus umbellata* 'Elsberry' autumn olive /MOPMC	71	71	20	20	100	3			1.1	1.1		
					72		20	100	3			2.0	1.5		
					73		20	100	3			3.1	2.7		
					74		20	100	3			4.3	3.1		
					75		20	100	3			5.5	3.7		
					76		20	100	3			5.5	4.3		
					78		20	100	3			8.0	4.5		WI

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
F1 15 1-20	ELUM	421800 (MICH-421)	*Elaeagnus umbellata* 'Cardinal' autumn olive /MIPMC	69	69	20	20	100	3			0.8	0.8		
					70		20	100	3			1.7	1.5		
					71		20	100	2			3.2	2.8		
					72		20	100	1			3.8	3.5		
					73		20	100	1			6.1	3.9		
					74		20	100	1			6.4	4.3		
					75		20	100	1			6.4	4.9		
					76		20	100	1			6.7	4.9		
B1 19 1-10	ELUM	421800 (MICH-421)	*Elaeagnus umbellata* 'Cardinal' autumn olive /MIPMC	70	70	10	10	100	2				0.9		
					71		10	100	1			2.3	2.1		
					72		10	100	1			3.0	2.5		
					73		10	100	1			4.7	3.5		
					74		10	100	1			5.5	3.8		
F2 17 1-20	ELUM	421800 (MICH-421)	*Elaeagnus umbellata* 'Cardinal' autumn olive /MIPMC	71	71	20	20	100	3			1.0	0.8		
					72		20	100	3			1.7	1.4		
					73		20	100	3			3.0	2.7		
					74		20	100	3			3.7	2.9		
					75		20	100	3			4.6	3.7		
					76		20	100	3			5.2	4.3		
					78		20	100	1			7.0	5.0		
					79		20	100							
F 0 11	ELUM	421800 (PM-K-210)	*Elaeagnus umbellata* 'Cardinal' autumn olive /NYPMC	63	68	5	5	100	3			2.1	2.7		
					70		4	80	3			6.4	4.1	7	
					74		4	80	3			7.0	4.3		
					78		4	80	3			7.5	4.5		
G 10 D	ELUM	421800 (PM-K-210)	*Elaeagnus umbellata* 'Cardinal' autumn olive /NYPMC	63	70	1	1	100	3			5.5	4.1		
					74		1	100	3			6.1	4.6		
					78										Entry removed 3/78
F1 14 1-5	ELUM	434033 (MS-429)	*Elaeagnus umbellata* autumn olive /MSPMC	68	70	5	5	100	3			3.2	2.4		
					71		5	100	3			4.1	3.2		
					72		5	100	3			4.3	4.3		
					73		5	100	3			5.2	4.0		
					74		5	100	5			6.1	3.5		
					75		5	100	5			5.8	3.4		
					76		5	100	5			6.7	3.7		
					78		5	100	3			7.0	4.5		
HQ2 4/9	EUAT	9034666 (PM-K-656)	*Euonymus atropurpureus* wahoo Riley Co., KS /KSPMC	66	66	1	1	100							
					10		1	100				8.2	4.4		
					15		1	100							Fire damage

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
G1 16 1-6	EUAT	9034666 (PM-K-656)	*Euonymus atropurpureus* wahoo Riley Co., KS /KSPMC	77	77	9	9	100	3			0.1	0.4		No. 9 - MD
					78		9	100				0.3	0.7		
					79		9	100	1			0.5	1.2		
					80		9	100	1			1.0	2.0		
					81		9	100	1			1.2	2.0		
					83		9	100	3			1.6	2.2		
					93		6	67					3.3		Overgrown with honeysuckle
C1 1 F-J	EUBU5	62418 (PM-O-38; PM-K-1071)	*Euonymus bungeanus* 'Pink Lady' winterberry /SPRRS	61	70	5	5	100	3			5.7	5.2		
					73		4	80							
					74		4	80	4			6.9	5.2		
F1 11 1-10	EUBU5	62418 (PM-O-38; PM-K-1071)	*Euonymus bungeanus* 'Pink Lady' winterberry Plumfield Nursery, Fremont, Neb. /KSPMC	67	70	10	10	100	1			2.3	3.0		
					71		10	100	1			3.6	4.1		
					73		10	100	1			4.6	4.9		
					74		10	100	1			5.2	5.2		
					75		10	100	1			4.9	5.2		
					76		10	100	1			4.9	5.2		
					78		10	100	3			5.5	6.0		
G 8-17 A-J	EUBU5	62418 (PM-O-38; PM-K-1071)	*Euonymus bungeanus* 'Pink Lady' winterberry /SPRRS	63	70	10	10	100	3			4.8	4.2		
					73		10	100	3			5.7	5.1		
					74		9	90	3			6.7	5.7		
G 6 U-Y	FOPHF	PM-O-119	*Fontanesia phillyreoides* ssp. *fortunei* Syrian-privet	64	70	5	4	80	2			4.1	4.1		
					74										Entry removed 4/26/74
F1 20 11	FOPUP	PM-K-1273	*Foresteria pubescens* var. *pubescens* stretchberry /HPHRS	69	70	1	1	100	3			1.2	1.3		
					71		1	100	3			1.5	1.8		
					72		1	100	3			1.9	2.1		
					73		1	100	3			3.3	2.8		
					74		1	100	3			3.8	3.7		
					75		1	100	3			4.2	4.2		
					76		1	100	3			4.3	4.3		
					78		1	100	5			4.5	4.3		
F3 16 1-10	FOPUP	9050502	*Foresteria pubescens* var. *pubescens* stretchberry /New Mexico /NMPMC/NCRPIS	06	06	10	10	100					0.9		
					07		9	90				0.2	1.1		
					08		9	90				0.2	1.3		
					09		9	90					1.7		
					10		9	90		2	1	0.4	2.3		
					11		9	90		5	1	0.6	2.4		Windthrow, scorch
					14		9	90				1.0	2.7		Nos. 1 & 4 – broken off at base
					15		9	90					2.8		

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
G2 17 1-11	FOPUP	303300	*Foresteria pubescens*	76	76	11	11	100	3			0.8	1.1		
			var. *pubescens*		77		11	100	3			1.2	1.3		
			stretchberry		78		8	73	3			1.1	1.5		
			/NCRPIS		79		8	73	5			1.2	1.6		
					80		8	73	3			1.2	1.7		
					83		8	73	4	3	3	2.5	2.8		
					85		8	73	9		2	2.9	3.2		
					86		8	73	5			2.4	3.4		
					00		6	55					2.4		Discontinued
G 5 U-Y	FOPUP	PM-O-120	*Forestiera pubescens* var.	64	70	5	4	100	3			3.2	3.6		
			pubescens		74		3		3			4.3	4.9		X-Y removed 4/26/74
			stretchberry												
			/SPRRS												
F1 24 1-8	FOOV80	9030989	*Forsythia ovata*	82	83	10	10	100	3	4	2	0.7	0.8		Damage – hot, dry conditions
			early forsythia												
			/NCRPIS												
F2 26 6-10	FOEU3	9034667 (PMK-1795)	*Forsythia ovata* X *F.*	73	73	5	5	100	1			0.9	0.7		
			europaea early forsythia		74		5	100	1			1.2	1.4		
			hybrid		75		5	100	3			1.4	1.9		
			/NCRPIS		76		5	100	3			1.8	2.0		
					77		5	100	3			2.1	2.2		
					78		5	100	3			3.2	2.6		
					79		5	100	1			3.0	3.0		
					80		5	100	1			3.5	3.0		
					81		5	100	1			4.2	2.9		
					82		5	100	1	2	2	4.3	3.4		Excellent bloom
					83		5	100	1	2	2	4.7	3.5		
					93		5	100					3.5		
					02		5	100					3.1		
					07		5	100					2.5		
					12		5	100					2.5		
G 4 X-Y	FORSY	PM-K-288	*Forsythia sp.*	64	70	2	2	100	5			2.4	2.3		
			Forsythia		73		2	100							
			/commercial/KSPMC		74										Entry removed 4/26/74

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
F3 13 1-5	FRAM2	9004445 (PM-K-1363)	*Fraxinus americana* 'Autumn Purple' white ash /NCRPIS	70	70	5	5	100	3			0.3	1.3		
					71		5	100	3			0.6	1.8		
					72		5	100	3			1.4	2.5		
					73		5	100	3			1.6	3.1		
					74		5	100	3			1.9	3.6		
					75		5	100	3			2.0	4.3		
					76		5	100	3			2.9	4.9		
					77		5	100	3			3.5	5.2		
					78		5	100	3			4.6	6.0		
					83		4	80	3	3	4	6.2	7.8	17	
					87		4	80	3	1	1		8.1	19	
					88		4	80	3	1	1	7.5		21	
					89		4	80	6	1			8.4	21	
					95		4	80					7.6	23	Tops dead
F3 20 6-10	FREX80	265620	*Fraxinus excelsior* 'Hessei' European ash West Germany /NCRPIS	73	73	5	5	100	5			0.3	1.7		
					74		5	100	2			0.6	2.3		
					75		5	100	5			1.0	3.1		
					76		5	100	5			1.6	3.5		
					77		5	100	3			2.4	4.6		
					78		5	100	3			2.6	4.9		
					79		5	100	1			3.5	5.5		
					80		5	100	3			3.8	5.5		
					81		5	100	4	3	3		5.5	18	
					82		5	100	4	5	4	4.7	6.6	15	
					83		5	100	3	4	3	4.7	7.0	21	
					96		4	80					6.6	24	No. 4 – is a sucker
					07		1	20					8.2	34	
					12		1	20					10.7	37	
F2 7 1-5	FREX80	377816	*Fraxinus excelsior* European ash Yugoslavia /NCRPIS	75	75	5	5	100	3			0.1	0.7		
					76		5	100	3			0.2	1.2		
					77		5	100	5			0.3	1.3		
					78		5	100	3			0.6	2.3		
F2 7 6-10	FREX80	377817	*Fraxinus excelsior* European ash Yugoslavia /NCRPIS	75	75	5	5	100	5			0.03	0.4		
					76		5	100	5			0.1	0.7		
					77		5	100	5			0.7	1.5		
					78		5	100	3			1.0	2.2		
E3 21 0-4	FRMA5	9050411	*Fraxinus mandshurica* Manchurian ash /NCRPIS	01	01	5	5	100					1.5		
					02		5	100	9	6	3	20	1.0		Die back
					03		5	100	9						Dropped leaves early
					04		5	100	9						Dropped leaves early
					05		5	100	9	5	4	30	0.7		Discontinued

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
C1 20 A-E	FRPE	9004302 (PM-K-1)	*Fraxinus pennsylvanica* var. *lanceolata* green ash Butler Co., KS /KSPMC	61	68	5	5	100					6.3	12	
					70		5	100	2			6.1	8.0	17	
					74		5	100	3			6.6	10.5	20	
					78		5	100	3			6.5	11.5		
					79		5	100	3			8.0	11.5		
					80		5	100	3			6.5	12.5		
					81		5	100	5	5	6		12.0	26	
					82		5	100	3	5	3	8.0	11.5	27	
					83		5	100	3	3	5	7.0	11.8	27	
					85		4	80	3		4		12.2	28	
					86		4	80	5	5		9.8		29	
					88		4	80	1			9.3		34	
					90		4	80	3	5					
					93		4	80					13.7	36	
					95		4	80					13.0	36	
					05		4	80					14.1		
					06		4	80						41	WD, severe
					10		3	60					14.3	45	
					15		2	40					14.8	53	
F3 19 1-10	FRPE	9004302 (PM-K-1)	*Fraxinus pennsylvanica* var. *lanceolata* green ash Butler Co., KS /KSPMC	71	71	10	10	100	3			0.3	0.7		
					72		10	100	3			1.3	1.6		
					73		10	100	1			1.9	2.5		
					74		10	100	1			2.7	3.5		
					75		10	100	1			3.1	4.6		
					76		10	100	1			4.0	5.2		
					78		10	100	1			4.8	6.7		
					83		10	100	3	3	5	7.0	8.8	16	
					86		10	100	5			7.3	12.0		
					87		10	100	5				10.4	18	
					88		10	100	2	3	2	8.0		19	
					89		10	100	5	3			10.6	18	
					90		10	100	4	2					
					95		9	90					11.7	25	
					05		8	80					12.4		No. 1 – dead
					10		8	80					10.8		No. 9 – major top damage; declining
					15		8	80					11.2		

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
C1 17 A-E	FRPE	9004303 (PM-K-181)	*Fraxinus pennsylvanica* green ash Franklin Co., KS /KSPMC	61	68	5	5	100						11	
					70		5	100	3				6.3	14	
					74		5	100	3			5.6	8.5	17	
					78		5	100	5			5.5	9.5		
					79		3	60	5			5.0	9.0		
					80		3	60	5			5.5	9.8		
					81		2	40	5	5	5		9.8	25	
					82		2	40	4	4	4	6.5	11.8	26	
					83		2	40	6	5	3	5.5	11.8	26	
					85		1	20	8	1	8		10.7	36	E - dead
					86		2	40	3	3	5	4.9	13.0	30	
					88		2	40	4	3	2	5.8			
					90		1	20	2	2					
					93		1	20					14.5	36	
					95		1	20					11.9	35	
F3 5 1-5	FRPE	9004305 (PM-K-1236)	*Fraxinus pennsylvanica* green ash Butler Co., KS	69	69	5	5	100	1						
					70		5	100	1			0.8	1.4		
					71		5	100	2			2.1	2.7		
					72		5	100	1			3.4	3.6		
					73		5	100	1			2.6	4.2		
					74		5	100	1			3.4	5.2		
					75		5	100	1			3.7	5.8		Abundant fruiting
					76		5	100	1			4.9	6.1		Moderate fruiting
					78		5	100	3			6.5	8.5		
					79		5	100	3			6.5	9.0		
					80		5	100	1			7.3	9.5		
					81		5	100	3	6	3		8.8	20	
					82		5	100	2	5	3	8.0	11.0	23	
					83		5	100	2	4	5	9.0	10.8	24	
					89		5	100	2	4			11.0	28	No. 1 – blown down 6/03 - rot
					90		4	80	2	5					
					03		4	80					11.8		
					08		4	80					11.5	33	
														34	

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
C1 19 A-E	FRPE	9004307 (PM-NB-2)	*Fraxinus pennsylvanica* green ash Ash Hollow, NE /KSPMC	61	68	5	5	100					5.2	8	
					70		5	100	4			4.2	6.8	11	
					74		4	80	4			5.5	9.4	16	
					78		4	80	3			5.5	9.5		
					79		4	80	3			5.0	10.5		
					80		4	80	3			5.0	11.8		
					81		4	80	4	5	5		11.0	21	
					82		4	80	6	6	4	5.0	10.5	23	
					83		3	60	4	4	4	5.0	11.0	22	
					86		3	60	5			3.9	12.0	23	
					88		3	60	2	1	1	4.4			
					90		3	60	8	9					
					93		2	40					10.4	23	
					95		2	40					11.7	28	
C1 21 A-E	FRPE	9004304 (PM-K-445)	*Fraxinus pennsylvanica* green ash Franklin Co., KS /KSPMC	61	68	5	5	100					6.4	12	
					70		5	100	1			5.7	8.3	17	
					74		5	100	3			6.2	10.4	21	
					78		5	100	3			8.0	11.0		
					79		5	100	1			8.0	11.0		
					80		5	100	1			8.0	11.3		
					81		5	100	5	5	5		11.3	30	
					82		5	100	3	4	3	9.0	13.0	28	
					83		5	100	3	4	3	9.0	13.1	30	
					85		5	100	3				12.8	30	
					86		5	100	6	6	6	7.6			
					88		5	100	2	1	1	7.3		33	
					90		5	100	1	1					
					93		5	100					12.9	36	
					95		5	100					12.4	36	No. B – top dead
					05		4	80					14.2		
					06		4	80						44	WD, severe
					10		1	20					13.3	63	
					15		1	20					14.6	68	

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
F3 14 6-10	FRPE	9004306 (PM-K-1365)	*Fraxinus pennsylvanica* green ash Gilbertson Nursery, Kindred, ND /NCRPIS	70	71	5	5	100	5			0.6	1.4		
					72		5	100	3			1.5	2.5		
					73		5	100	3			1.6	3.1		
					74		5	100	3			2.3	4.2		
					75		5	100	3			3.4	5.5		
					76		5	100	3			4.1	5.9		
					77		5	100	3			4.2	6.4		
					78		5	100	3			4.9	7.3		
					83		5	100	2	4	4	6.0	9.4	20	
					87		5	100	2	4	4		11.6	20	
					88		5	100	3	3	2	6.5		23	
					89		5	100	2	2			11.3	24	
					95		5	100					12.6	25	
F3 5 6-10	FRPE	9005093 (M1-7692)	*Fraxinus pennsylvanica* green ash /MOPMC	69	70	5	4	80	4			0.5	1.1		
					71		4	80	5			1.2	2.3		
					72		4	80	5			2.2	3.1		
					73		4	80	5			2.2	3.1		
					74		4	80	3			2.9	5.1		
					75		4	80	5			3.4	5.8		
					76		4	80	5			4.3	5.8		
					78		4	80	3			6.0	7.7		
					79		4	80	4			6.0	7.8		
					80		4	80	3			5.5	8.2		
					81		4	80	4	5	3		7.6	16	
					82		4	80	4	6	3	6.0	8.5	17	
					83		4	80	5	5	5	6.5	8.7	19	
					89		4	80	4	2			9.6	22	
F3 16 6-10	FRPE	9005095 (M1-7777)	*Fraxinus pennsylvanica* green ash Ash Hollow, NE /MOPMC	71	71	5	5	100	5			0.1	0.3		
					72		5	100	5			0.7	1.1		
					73		5	100	5			1.4	1.9		
					74		5	100	3			2.0	2.6		
					75		5	100	3			2.8	3.7		
					76		5	100	5			3.1	4.9		
					78		5	100	3			4.0	6.3		
					83		5	100	3	4	5	6.0	8.9	15	
					86		5	100	4			6.4	9.0	20	
					87		5	100	5	4	4		10.8	15	
					88		5	100	2	4	2	6.3		17	
					89		5	100	8	9			10.4	17	
					95		5	100					10.3	19	

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
F3 17 1-5	FRPE	9005096 (M1-7778)	*Fraxinus pennsylvanica* green ash Ash Hollow, NE /MOPMC	71	71	5	5	100	3			0.1	0.5		
					72		5	100	3			0.7	1.2		
					73		5	100	3			1.2	1.9		
					74		5	100	1			2.4	3.0		
					75		5	100	1			3.1	4.3		
					76		5	100	3			3.1	4.6		
					78		5	100	3			3.3	5.5		
					83		5	100	5	4	6	5.5	7.5	13	
					86		5	100	5			5.5	10.0	18	
					87		5	100	6	4	4		9.4	13	
					88		5	100	3	5	2	6.0		15	
					89		5	100	7	5			8.7	15	
					95		5	100					8.8	20	
F3 17 6-10	FRPE	9005097 (M1-7779)	*Fraxinus pennsylvanica* green ash Ash Hollow, NE /MOPMC	71	71	5	5	100	3			0.1	0.4		
					72		5	100	3			0.8	1.2		
					73		5	100	5			1.3	1.7		
					74		5	100	3			1.4	2.4		
					75		5	100	3			2.1	3.4		
					76		5	100	5			3.4	4.3		
					78		5	100	5			3.3	5.3		
					83		4	80	5	4	6	5.8	7.6	15	
					86		4	80	4			5.5	10.0	19	
					87		4	80	5	4	5		11.0	19	
					88		4	80	2	3	2	6.8		18	
					89		4	80	4	7			10.6	25	
					95		4	80					11.1	27	
F3 15 6-10	FRPE	9005888 (PM-SD-13)	*Fraxinus pennsylvanica* green ash /NDPMC	71	71	5	5	100	3			0.5	0.6		
					72		5	100	3			0.7	1.5		
					73		5	100	3			1.6	2.9		
					74		5	100	3			1.9	3.7		
					75		5	100	3			2.7	4.6		
					76		5	100	3			3.4	5.2		
					78		5	100	3			4.3	6.5		
					83		5	100	5	4	5	6.5	9.5	19	
					86		5	100	3	5	5	5.5	10.0	18	
					87		5	100	3	5	5		11.3	20	
					88		5	100	2	2	1	6.1		17	
					89		5	100	6	4			11.2	22	
					95		5	100					11.3	26	

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
C1 18 A-E	FRPE	9005889 (PM-ND-154)	*Fraxinus pennsylvanica* green ash /NDPMC	61	68	5	5	100					4.6	8	
					70		5	100	5			3.2	6.2	10	
					74		5	100	5			4.3	8.2	13	
					78		5	100	3			4.7	10.5		
					79		5	100	5			4.5	10.7		
					80		5	100	5			4.5	11.0		
					81		5	100	7	7	5		10.5	18	
					82		5	100	6	5	4	4.5	10.3	18	
					83		5	100	7	5	3	4.5	10.8	19	
					86		5	100	3	3	5	3.0	9.0	19	
					88		4	80	5	3	2	2.7		19	
					90		3	60	9	7					
					93		3	60					10.7	20	
					95		2	40							Nos. A, C, E – tops dead
F3 16 1-5	FRPE	9005890 (PM-SD-156)	*Fraxinus pennsylvanica* green ash Clear Lake, SD /NDPMC	71	71	5	5	100	3			0.5	0.7		
					72		5	100	3			1.1	1.5		
					73		5	100	3			1.2	2.1		
					74		5	100	3			1.6	3.1		
					75		5	100	3			2.4	4.3		
					76		5	100	3			3.4	5.2		
					78		5	100	3			4.6	6.5		
					83		5	100	5	5	6	6.0	9.5	16	
					86		5	100	4	5	5	6.4	10.0	20	
					87		5	100	3	5	5		11.2	22	
					88		5	100	3	3	2	6.5		19	
					89		5	100	7	8			11.3	21	
					95		3	60					12.2	26	
F3 15 1-5	FRPE	469226 (Mandan-12002)	*Fraxinus pennsylvanica* green ash Kindred, ND /NDPMC	71	71	5	5	100	3			0.1	0.6		
					72		5	100	3			0.8	1.1		
					73		5	100	5			1.1	1.9		
					74		5	100	3			1.6	3.0		
					75		5	100	3			2.1	4.3		
					76		5	100	3			3.4	5.5		
					78		5	100	3			4.0	6.5		
					83		5	100	6	7	5	7.0	8.0	14	
					86		5	100	3	5	4	5.5	10.0	18	
					87		5	100	5	4	5		10.4	14	
					88		5	100	3	2	1	6.1		18	
					89		5	100	8	3			10.6	16	
					95		4	80					12.7	23	
E3 (see bur oak map)	FRPE	9050087	*Fraxinus pennsylvanica* green ash Geary Co., KS /KSPMC		02		11	100					5.0	8	
					05		11	100					4.9	9	
					07		11	100					5.6	9	
					13		11	100					7.0	13	

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
P/W 1/ 5-6	FRAXI	9001455	*Fraxinus* sp.	71	71	2	2	100							
			'Emerald' ash		06		2	100					12.3	65	
			/Marshall Nursery,		10		2	100					12.5	70	
			Arlington, NE		15		2	100					13.9	77	
F3 14 1-5	FRAXI	9004446 (PM-K-1364)	*Fraxinus* sp.	70	70	5	5	100	3			0.2	0.7		
			'Kindred' seedless ash		71		5	100	3			0.8	1.8		
			Kindred, ND /NCRPIS		72		5	100	3			1.7	2.6		
					73		5	100	3			2.3	3.1		
					74		5	100	3			2.7	3.7		
					75		5	100	3			3.4	4.7		
					76		5	100	3			4.2	5.3		
					77		5	100	3			4.2	5.9		
					78		5	100	3			5.2	6.6		
					83		5	100	3	4	4	6.5	8.1	17	
					87		5	100	5	2	3		10.4	18	
					88		5	100	2	2	1	6.6		21	
					89		5	100	9	2			9.5	19	
					95		4	80					12.1	24	
F3 13 6-10	FRAXI	9004447 (PM-K-1366)	*Fraxinus* sp.	70	70	5	5	100	3			1.8	1.2		
			'Marshall' seedless ash		71		5	100	3			0.5	1.9		
			/NCRPIS		72		5	100	3			1.4	2.7		
					73		5	100	3			1.9	3.4		
					74		5	100	3			2.2	4.5		
					75		5	100	3			2.6	5.2		
					76		5	100	3			3.6	5.9		
					77		5	100	3			4.2	6.4		
					78		5	100	3			4.6	7.0		
					83		5	100	1	3	3	7.0	9.0	19	
					87		5	100	1	2	2		11.9	21	
					88		5	100	2	1	1	8.4		24	
					89		5	100	1	1			11.6	24	
					95		5	100					12.7	26	
F1 19 6-10	GETI	9050412	*Genista tinctoria*	01	01	5	5	100	1			0.4	0.6		WC; DB
			common woadwaxen		02		5	100	2	6	6	0.4	0.6		Heavy DB
			Ukraine /NCRPIS		03		5	100	1			0.7	0.9		Rabbit browse
					04		2	40	3			1.1	1.2		Discontinued
					05		0	0							
F1 19 1-5	GETI	9050413	*Genista tinctoria*	01	01	5	5	100	9			0.3	0.2		WC; DB
			common woadwaxen		02		5	100	9	6	5	0.4	0.3		Heavy DB
			Ukraine /NCRPIS		03		4	80	9			0.4	0.3		Heavy rabbit browse
					04		2	40	9			0.4	0.5		
					05		1	20	9			0.4	0.4		Discontinued

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
F3 17 1-5	GIBI2	9050582	*Ginkgo biloba*	10	10	5	5	100		4	1	0.4	0.6		
			ginkgo		11		5	100		5	2	0.6	0.9		Scorch
			Nebraska /NCRPIS		12		5	100					1.2		Severe scorch
					13		5	100					1.4		
					14		5	100				1.0	1.7		
					15		5	100				1.2	1.9		
C1 16 A	GLTR	PM-K-229	*Gleditsia triacanthos*	61	70	1	1	100	3			4.9	9.1	10	
			honeylocust		74		1	100	3			7.3	13.4	19	
			KSU Extn Forestry		78		1	100	3			6.5	15.5		
			/KSPMC												
F4 4 6-10	GYDI	9050577	*Gymnocladus dioicus*	11	11	5	5	100		1	2	0.2	0.6		DB
			Kentucky coffee tree		12		5	100				0.4	0.8		Late leafing out
			Kingfisher Co., OK		13		5	100				1.0	1.4		
			/KSPMC		14		5	100				1.1	2.0		
					15		5	100				1.6	2.9	28	
F4 4 1-5	GYDI	9050580	*Gymnocladus dioicus*	11	11	5	5	100		1	2	0.4	0.6		DB
			Kentucky coffee tree		12		5	100				0.3	0.7		
			Riley Co., KS /KSPMC		13		5	100				0.8	1.4		
					14		5	100				0.8	1.5		
					15		5	100				1.0	1.8		
F4 3 6-10	GYDI	9050661	*Gymnocladus dioicus*	13	13	5	5	100							Senesced early
			Kentucky coffee tree		14		5	100							Senesced early
			Kansas /CBN		15		5	100				0.4	0.8		
F1 20 1-10	HYAN8	9050414	*Hypericum androsaemum*	01	01	10	10	100	2			0.3	0.5		WC; leaf cutter bee damage
			tutsan		02		0	0							Winterkill
			Czech Republic /NCRPIS												
F2 24 11-15	HYFR	PM-K-1796	*Hypericum frondosum*	73	73	5	5	100	1			0.6	0.5		
			cedarglade St. John's		74		5	100				1.2	0.8		
			wort		75		5	100	1			1.5	0.9		
			/NCRPIS		76		5	100	1			1.8	1.1		
					77		4	80	5			1.5	0.9		
					78		3	60	5			1.1	0.6		
F1 25 6-10	HYARR	9050498	*Hydrangea arborescens radiata*	06	06	5	5	100				0.2	0.4		
					07		4	80				0.3	0.4		
			silverleaf hydrangea		08		4	80				0.5	0.5		
			Transylvania Co., NC		09		3	60				0.5	0.5		
			/NCRPIS		10		3	60				0.7	0.8		
					11		3	60	6	5	2	1.0	0.8		Unsightly foliage
					15		2	40				1.2	0.7		

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
F1 21 11-14	ILVE	PM-K-1367	*Ilex verticillata* common winterberry /NCRPIS	70	70	4	3	75	5				0.4		
G3 17 1-8	JUNI	9001678 (PMT-3534)	*Juglans nigra*	76	76	8	8	100	5			0.2	0.4		
			black walnut		77		8	100	3			0.6	1.2		
			Okla. Forest Service /TXPMC		78		8	100	3			1.8	1.6		
G 5 A-E	JUNI	9004309 (PM-K-213)	*Juglans nigra*	63	70	5	5	100	3			4.3	6.1	12	
			black walnut		74		5	100	2			5.3	10.4	18	
			/KSU Extn Forestry		78		5	100	3			6.0	12.0		
G 6 A-E	JUNI	9004310 (PM-K-214)	*Juglans nigra*	63	70	5	5	100	4			3.8	5.4	8	
			black walnut		74		5	100	3			4.8	9.6	13	
			/commercial/KSU Extn Forestry		78		5	100	5			4.5	11.0		
G 7 A-E	JUNI	9004311 (PM-K-215)	*Juglans nigra*	63	70	5	5	100	2			5.3	6.8	13	
			black walnut		74		5	100	2			6.3	11.2	20	
			/KSPMC		78		5	100	3			7.0	12.0		
G1 17 1-3	JUNI	9004312 (PMK-1976)	*Juglans nigra*	77	77	3	3	100	3			0.1	0.5		
			black walnut		78		3	100	1			0.8	1.2		
			Doniphan Co., KS		79		3	100	1			2.5	2.4		
					80		3	100	5			2.4	2.6		
					81		3	100	1	4	5		3.5		
					82		3	100	3	3	7	4.5	5.5		
					83		3	100	1	3	4	5.5	5.8	9	
					93		3	100					11.6	18	
					01		3	100					13.3	24	
					06		3	100					16.0	31	
					11		3	100					20.2		
F3 11 1-10	JUNI	9013187 (MS-2937; PMT-2364)	*Juglans nigra*	70	70	10	10	100	3			0.2	0.6		
			black walnut		71		10	100	3			1.7	1.5		
			Hays, KS /MSPMC		72		10	100	3			2.7	2.4		
					73		10	100	3			3.3	4.0		
					74		10	100	5			2.8	4.1		
					75		10	100	5			2.7	4.6		
					76		10	100	3			4.3	5.2		
					78		10	100	3			5.0	6.5		

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
F3 6 1-5	JUNI	9013187 (PMT-2364)	*Juglans nigra* black walnut Hays, KS /TXPMC	75	75	5	5	100	3			0.1	0.4		
					76		5	100	3			0.7	1.0		
					77		5	100	3			1.7	1.7		
					78		5	100	3			2.3	3.0		
F3 12 1-10	JUNI	9013187 (MS-2938; PMT-2365)	*Juglans nigra* black walnut Carter, OK /MSPMC	70	70	10	10	100	3			0.3	0.8		
					71		10	100	3			1.2	1.7		
					72		10	100	1			3.0	2.6		
					73		10	100	1			4.3	4.1		
					74		10	100	5			3.1	3.8		
					75		10	100	7			3.4	5.1		
					76		10	100	5			4.3	5.8		
					78		10	100	3			5.5	6.7		
F3 6 6-10	JURE80	9004451 (PM-K-1843)	*Juglans regia* 'Hansen' Persian walnut Carter, OK /NCRPIS	74	74	5	5	100	7			0.2	0.2		
					75		4	80	5			0.1	0.3		
					76		5	100	5			0.1	0.3		
					77		5	100	5			0.1	0.4		
					78		5	100	5			0.3	0.6		
F4 12 1-11	JUCH4	BN-19716	*Juniperus chinensis* Chinese juniper /MDPMC	76	76	6	6	100	5			0.5	0.5		
					77	(11)	10	100	5			0.4	0.7		
					78		10	100	5			0.7	0.8		
F4 7 3-4	JUCH4	PM-K-1218	*Juniperus chinensis* 'Columnaris' Chinese juniper	68	70	2	2	100	3			0.6	1.1		
					71		2	100	3			0.7	1.7		
					73		2	100	3			1.3	2.6		
					74		2	100	3			1.5	3.0		
					75		2	100	3			1.9	3.8		
					76		2	100	3			2.1	4.0		
					78		2	100	3			2.8	5.0		
F4 11 16-20	JUCH4	PM-K-1799	*Juniperus chinensis* 'Perfecta' Chinese juniper Burks Nursery, Gardner, KS	73	73	5	5	100	5			0.2	0.4		
					74		5	100	5			0.5	0.7		
					75		5	100	3			0.8	1.1		
					76		5	100	3			1.1	1.5		
					78		5	100	3			1.7	2.1		
F4 4 4.5-5.5	JUCH4	323923 (BN-19654)	*Juniperus chinensis* 'Mas' Chinese juniper /MDPMC	73	73	9	9	100	5			0.2	0.1		
					74		9	100	5			0.2	0.2		
					75		7	78	5			0.3	0.3		
					76		7	78	5			0.3	0.6		
					78		7	78	7			0.6	1.0		
					93		2	22					0.6		

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
F4 13 1-11	JUCH4	323923 BN-19654	*Juniperus chinensis* Chinese juniper /MDPMC	76	76	11	11	100	3			0.3	0.5		
					77		11	100	3			0.5	1.0		
					78		10	91	3			0.8	1.3		
F4 7 5-6	JUCO6	PM-K-1225	*Juniperus communis* var. *ashfordi* Ashford common juniper /HPHRS	68	70	2	2	100	3			0.6	1.3		
					71		2	100	3			0.7	1.6		
					73		2	100	3			1.2	2.2		
					74		2	100	3			1.2	2.4		
					75		2	100	3			1.2	2.9		
					76		2	100	3			1.2	3.1		
					78		2	100	3			1.5	2.9		
F4 6 10-11	JUCO12	PI 323932	*Juniperus conferta* 'Emerald Sea' shore juniper /MDPMC	73	73	7	7	100	5			0.2	0.1		
					74	(9)	7	100	5			0.4	0.2		
					75		7	100	5			1.0	0.3		
					76		7	100	3			1.6	0.3		
					78		7	100	3			1.7	0.4		
					79		7	100	3			2.5	0.5		
					80		7	100	3			3.0	0.5		
					81		7	100	1			3.0	0.8		Attractive, dense groundcover
					83		7	100	2	3	3	4.0	0.5		
					93		7	100					0.6		
					02		7	100	3	5			0.5		
					07		7	100		2		2.2	0.4		
F4 7 1-2	JUHO2	PM-K-1228	*Juniperus horizontalis* var. plumosa 'Andorra' creeping juniper /HPHRS	68	70	2	2	100	3			1.7	0.4		
					71		2	100	3			1.4	0.4		
					73		2	100	3			2.6	0.8		
					74		2	100	3			3.2	0.8		
					75		2	100	3			2.7	0.6		
					76		2	100	3			2.4	0.7		
					78		2	100	3			3.3	0.7		
P/W 1/ 3	JUHO2	9050513 (PM-K-380; MICH-768)	*Juniperus horizontalis glauca* blue creeping juniper /MIPMC	66	66	1	1	100							
					07		1	100							
					10		0	0							
F4 2 1.5-2.5	JUHO2	9050513 (PM-K-380; MICH-768)	*Juniperus horizontalis glauca* blue creeping juniper /MIPMC	66	70	25	2		3			1.0	0.2		
					71		2		3			1.4	0.2		
					73		2		3			1.6	0.4		
					74		2		3			1.9	0.4		
					75		2		5			1.5	0.3		
					76		2		7			1.8	0.3		
					78		0								Too much plant competition

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
C1 2 F-J	JUMO	PMO-48	*Juniperus monsperma* oneseed juniper /SPRRS	61	70 74	5	5	100	7			2.2	3.4	5	 Entry removed 4/26/74
C1 6 F-J	JUMO	PMO-48	*Juniperus monsperma* oneseed juniper /SPRRS	61	70 74	5	5	100	7			2.6	3.3	4	 Entry removed 4/26/74
G 4 P-T	JUMO	PMO-48	*Juniperus monsperma* oneseed juniper /SPRRS	64	70 74	4	2	50	7			1.5	2.1	1	 Entry removed 4/26/74
G 4 O	JUMO	PM-O-126	*Juniperus monsperma* oneseed juniper /SPRRS	63	70 74	1	1	100	5			1.8	2.4	3	 Entry removed 4/26/74
G 3/ P-T	JUSC2	PM-O-116	*Juniperus scopulorum* Rocky Mountain juniper /SPRRS	64	70 74	4	3	75	4			2.0	2.4	2	 Entry removed 4/26/74
F4 9 5-6	JUSC2	9004314 (712)	*Juniperus scopulorum* Rocky Mountain juniper Nebraska /HPHRS	75	75 76 77 78	2	2 2 2 2	100 100 100 100	5 3 3 3			0.2 0.4 0.8 1.1	0.6 0.9 1.4 1.9		
F4 9 7-8	JUSC2	9004315 (713)	*Juniperus scopulorum* Rocky Mountain juniper Nebraska /HPHRS	75	75 76 77 78	2	2 2 2 2	100 100 100 100	5 3 3 3			0.2 0.4 0.7 0.9	0.7 0.9 1.3 1.7		
F4 9 9-10	JUSC2	9004316 (714)	*Juniperus scopulorum* Rocky Mountain juniper Nebraska /HPHRS	75	75 76 77 78	2	2 2 2 2	100 100 100 100	5 5 3 3			0.2 0.3 0.6 0.9	0.7 0.9 1.3 1.5		
F4 9 11	JUSC2	9004317 (A-716)	*Juniperus scopulorum* Rocky Mountain juniper /HPHRS	75	75 76 77 78	1	1 1 1 1	100 100 100 100	5 5 5 5			0.1 0.2 0.2 0.3	0.3 0.2 0.3 0.4		
F4 9 12	JUSC2	9004318 (716-A)	*Juniperus scopulorum* Rocky Mountain juniper /HPHRS	75	75 76 77 78	1	1 1 1 1	100 100 100 100	5 5 3 3			0.1 0.2 0.5 0.7	0.2 0.3 0.6 1.0		

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
F4 4 6-10	JUSC2	9004319 (COMMERCIAL)	*Juniperus scopulorum* Rocky Mountain juniper / KSU Extn Forestry /KSPMC	68	70	5	5	100	3			0.9	1.2		
					71		5	100	3			1.2	1.8		
					73		5	100	3			1.9	2.7		
					74		5	100	3			2.2	3.0		
					75		5	100	3			2.3	2.7		
					76		5	100	3			3.1	4.0		
					78		5	100	3			3.7	4.7		
					79		5	100	1			3.5	5.0		
					80		5	100	3			4.0	4.9		
					81		5	100	2	3	3		4.6		
					82		5	100	3	3	3	5.0	5.2	14	
					83		5	100	5	5	3	4.8	5.6		
					93		5	100					6.2		
G 5 K-O	JUSC2	9004320 (PM-K-274)	*Juniperus scopulorum* Rocky Mountain juniper Kans. Landscape & Nursery, Salina, KS /KSPMC	64	70	5	4	80	4			1.7	3.0	4	
					74		4	80	3			2.7	4.3	9	
					78		4	80	7			3.0	4.7		
					79		4	80	7			3.0	4.8		
					80		4	80	7						Entry removed
F4 4 1-5	JUSC2	9004320 (PM-K-274)	*Juniperus scopulorum* Rocky Mountain juniper Kans. Landscape & Nursery, Salina, KS /KSPMC	68	70	5	4	80	3			0.7	1.4		
					71		4	80	5			1.0	1.6		
					73		3	60	3			1.4	2.3		
					74		3	60	3			1.6	2.7		
					75		3	60	3			1.7	3.3		
					76		3	60	3			1.8	3.4		
					78		2	40	3			2.0	4.1		
					79		2	40	5			2.0	4.0		
					80		2	40	5			2.0	4.3		
					81		2	40	3	5	3		4.1		
					82		2	40	3	4	3	2.4	4.2	12	
					83		2	40	5	6	3	2.4	4.0		
F4 5 1-3	JUSC2	9004321 (PM-K-1217)	*Juniperus scopulorum* Rocky Mountain juniper Lone Tree Canyon, Laramie Co., WY /HPHRS	68	70	3	3	100	3			0.6	1.1		
					71		3	100	3			1.0	1.5		
					73		3	100	3			1.3	2.2		
					74		3	100	3			1.6	2.5		
					75		3	100	3			2.8	3.3		
					76		3	100	3			2.8	3.3		
					78		3	100	3			2.8	3.8		
					79		3	100	3			2.8	4.3		
					80		3	100	5			2.7	4.3		
					81		3	100	3	3	3		4.0		
					82		3	100	3	4	3	3.0	4.2	12	
					83		3	100	5	5	5	3.0	4.0		
					93		2	67	9						

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
F4 5 4-6	JUSC2	9004322 (PM-K-1219)	*Juniperus scopulorum* Rocky Mountain juniper Pinebluff, WY /HPHRS	68	70	3	3	100	3			0.9	1.2		
					71		3	100	3			1.2	1.5		
					73		3	100	3			1.7	2.2		
					74		3	100	3			2.0	2.4		
					75		3	100	3			2.2	2.9		
					76		3	100	3			2.4	3.1		
					78		3	100	3			2.9	3.2		
					79		3	100	5			3.0	3.6		
					80		3	100	5			3.2	3.5		
					81		3	100	3	3	3		3.4		
					82		3	100	3	4	3	3.1	3.6		
					83		3	100	5	5	3	3.8	3.7		
					93		3	100					4.0		
F4 5 7-10	JUSC2	9004323 (PM-K-1222)	*Juniperus scopulorum* Rocky Mountain juniper Fremont Co., CO /HPHRS	68	70	4	4	100	3			1.1	1.6		
					71		4	100	3			1.4	2.1		
					73		3	80	3			2.3	3.1		
					74		3	80	3			2.5	3.4		
					75		3	80	3			2.8	4.2		
					76		3	80	3			3.1	4.3		
					78		3	80	3			4.2	4.7		
					79		3	75	1			4.2	5.2		
					80		3	75	3			4.3	5.2		
					81		3	75	1	2	2		5.2		
					82		3	75	1	4	3	4.4	5.0	14	
					83		3	75	3	3	3	6.0	5.3		
					93		3	75					5.9		
F4 6 1-2	JUSC2	9004324 (PM-K-1223)	*Juniperus scopulorum* Rocky Mountain juniper Lone Tree Canyon, Laramie Co., WY /HPHRS	68	70	2	2	100	5			0.8	1.2		
					71		2	100	3			1.2	1.8		
					73		2	100	3			1.8	2.4		
					74		2	100	3			2.0	2.6		
					75		2	100	3			2.5	3.5		
					76		2	100	3			2.7	3.5		
					78		2	100	3			3.1	4.5		
F4 9 13-14	JUSC2	9004325 (PMK-1958)	*Juniperus scopulorum* Rocky Mountain juniper /HPHRS	75	75	2	2	100	5			0.1	0.2		
					76		2	100	5			0.2	0.2		
					77		2	100	5			0.2	0.2		
					78		1	50	5			0.2	0.3		
F4 9 20-21	JUSC2	9004326 (PMK-1959)	*Juniperus scopulorum* Rocky Mountain juniper /HPHRS	75	75	2	2	100	3			0.1	0.5		
					76		2	100	3			0.5	0.7		
					77		2	100	3			0.7	1.0		
					78		2	100	3			0.9	1.1		

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
F4 6 5-6	JUSC2	9004327 (PM-K-1224)	*Juniperus scopulorum* Rocky Mountain juniper /HPHRS	68	70	2	2	100	3			0.6	1.0		
					71		2	100	3			0.7	1.3		
					73		2	100	3			1.0	1.6		
					74		2	100	3			1.2	1.8		
					75		2	100	2			1.4	2.1		
					76		2	100	2			1.6	2.2		
					78		1	50	3			1.9	2.4		
F4 6 3-4	JUSC2	9004328 (PM-K-1226)	*Juniperus scopulorum* Rocky Mountain juniper Fremont Co., CO /HPHRS	68	70	2	2	100	3			0.7	1.4		
					71		2	100	3			1.0	1.9		
					73		2	100	3			1.3	2.7		
					74		2	100	3			1.5	2.7		
					75		2	100	3			1.6	3.3		
					76		2	100	3			1.8	3.3		
					78		2	100	3			2.2	3.4		
F 0 9	JUSCC2	PM-O-57	*Juniperus scopulorum* var. *columnaris* /SPRRS	62	68	5	5	100	5			0.4	3.2	4	
					70		4	80	4			0.9	3.2	5	
					74		4	80	5			0.8	4.6		
F 0 10	JUSCC2	PM-O-57	*Juniperus scopulorum* var. *columnaris* /SPRRS	63	68	5	5	100	1			0.3	0.5	2	
					70		5	100	1			0.9	4.1	8	
					73		5	100	3			0.9	5.2		
					74		5	100	3			1.0	5.3		
F4 9 16	JUNIP	67-16	*Juniperus* sp. Rocky Mountain juniper /HPHRS	75	75	1	1	100	7			0.2	0.4		
					76		1	100	5			0.3	0.4		
					77		1	100	3			0.7	0.3		
					78		1	100	3			0.9	1.0		
F4 9 17-18	JUNIP	5056	*Juniperus* sp. Rocky Mountain juniper /HPHRS	75	75	2	2	100	5			0.2	0.4		
					76		2	100	5			0.2	0.6		
					77		2	100	3			0.2	1.3		
					78		2	100	3			0.4	1.8		
F4 7 9-10	JUNIP	PM-K-1227	*Juniperus* sp. columnar juniper Woodward Co., OK /SPRRS,	68	70	2	2	100	3			1.0	0.8		
					71		2	100	3			1.8	1.1		
					73		2	100	4			2.5	1.6		
					74		2	100	3			3.0	1.7		
					75		2	100	3			3.3	1.8		
					76		2	100	3			3.8	2.0		
					78		2	100	3			4.8	2.5		

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
F4 11 1-10	JUNIP	PM-K-1797	*Juniperus* sp.	73	73	7	7	100	5			0.3	0.2		
			Missouri /Burks Nursery,		74	(10)	6	86	5			0.5	0.7		
			Gardner, KS		75		6	86	5			0.6	1.1		
					76		6	86	3			1.5	1.7		
					78		0	0							WI
F4 11 11-15	JUNIP	PM-K-1798	*Juniperus* sp.	73	73	5	5	100	3			0.1	0.4		
			Burks Nursery, Gardner,		74		5	100	3			0.4	0.7		
			KS		75		5	100	3			0.6	1.3		
					76		5	100	3			1.3	1.9		
					78		5	100	3			1.8	2.4		
F4 9 19	JUNIP	PMK-1966	*Juniperus* sp.	75	75	1	1	100	5			0.2	0.6		
			Skyrocket Rocky		76		1	100	5			0.2	0.8		
			Mountain juniper		77		1	100	3			0.3	1.2		
			/HPHRS		78		1	100	3			0.5	1.6		
F4 11 9-13	JUNIP	9004334	*Juniperus* sp.	75	78	5	5	100	5			0.6	1.8		
			Columnar-type juniper		79		5	100	5			0.7	2.2		
			Custer Co., NE /HPHRS		80		5	100	5			0.8	2.9		
					81		5	100	3	2	3		3.5		
					82		5	100	3	3	4	1.5	4.3	6	
					83		5	100	3	5	3	1.6	4.3		Cedar-Apple rust
					99		5	100					9.6		
					04		5	100					10.6		
					09		5	100				2.0	11.1		
					12		5	100					11.6		
G 10 K-O	JUNIP	9004334 (PM-K-1957)	*Juniperus sp.*	75	75	5	5	100	5			0.2	0.4		
			columnar-type juniper		76		5	100	5			0.3	0.9		
			Custer Co., NE /HPRHS		77		5	100	3			0.5	1.6		
					78		5	100	3			0.6	1.8		
HQ1 1-10	JUSQ2	9030990	*Juniperus squamata*	82	82	4	4	100				0.1	0.05		Plants not hardened off
			'Blue Star' juniper		83	(10)	4	100	7	5	3	0.1	0.06		
					91		4	100				0.4	0.3		
					96		4	100				0.5	0.2		
					98		4	100	3			0.6	0.3		
					12		0								Crowded out
G 2/ P-T	JUVI	PM-K-280	*Juniperus virginiana*	64	70	4	4	100	2			2.7	3.1	5	
			eastern red cedar		73		4	100							
			/KSU Extn Forestry		74										Entry removed 4/26/74
			/KSPMC												

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
F4 9 1-20	JUVI	PM-K-1665	*Juniperus virginiana*	72	73	18	18	100	4			0.6	0.8		
			eastern red cedar		74	(20)	2	11	3			0.8	1.5		
			Okla. State Nursery		75		2	11	3			1.3	2.1		
			Norman, OK		76										Entry removed
F4 9 2-3	JUVI	PM-K-1847	*Juniperus virginiana*	74	74	3	3	100	5			0.2	0.4		
5-33			eastern red cedar			(31)									
			/KSU Extn Forestry												
G 2/ K-O	JUVI	9004329	*Juniperus virginiana*	63	70	5	5	100	1			3.2	4.2	9	
		(PM-K-222)	eastern red cedar		74		5	100	1			4.5	5.7	15	
			/KSU Extn Forestry		78		5	100	3			5.0	7.5		
					79		5	100	1			5.0	7.5		
					80		5	100	3			5.0	8.0		
					81		5	100	1	1	1		7.6		
					82		5	100	3	3	3	5.3	7.2	19	
					83		5	100	3			6.0	7.6		
					02		5	100					10.6		
					07		5	100					11.5		
					12		5	100					12.2		
F4 14 1-16	JUVI	9004330	*Juniperus virginiana*	70	74	16	14	88	3			2.1	2.2		
		(PM-K-1380)	eastern red cedar		75		14	88	5			2.0	3.0		
			/KSU Extn Forestry		76										
F4 8 1-7	JUVI	9004331	*Juniperus virginiana*	75	75	7	3		5			0.2	0.6		
		(PM-K-1975)	eastern red cedar		76		7	100	3			0.4	0.9		
			Payne Co., OK /KSPMC		77		7	100	3			0.8	1.4		
					78		7	100	3			1.4	2.1		
G 6/ K-O	JUVI	9004332	*Juniperus virginiana*	63	70	5	5	100	1			3.8	4.2	9	
		(PM-O-69)	silver eastern red cedar		74		5	100	1			5.3	5.3	17	
			/SPRRS												data combined with Row 7
					80		5	100	3			6.0	4.9		
					81		5	100	3	1	1		8.2		
					82		5	100	1	3	3	6.5	8.4	25	
					83		5	100	4			7.5	9.0		
					02		5	100					12.6		
					07		5	100					13.0		
					12		5	100					13.6		
G 7/ K-O	JUVI	9004332	*Juniperus virginiana*	63	70	5	5	100	1			3.8	4.2	9	
		(PM-O-69)	silver eastern red cedar		74		5	100	1			4.9	5.8	15	
6&7 K-O			/SPRRS		78		10	100	3			5.5	7.0		Rows 6 & 7 – data combined
					79		10	100	1			6.5	8.0		Rows 6 & 7 – data combined

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
G 3/ K-O	JUVI	9004333 (PM-O-74)	*Juniperus virginiana*	63	70	5	5	100	1			3.7	4.5	9	
			eastern red cedar		74		5	100	1			5.1	5.9	15	
3&4 K-O			Harper Co., OK		78		9	100	1			5.0	7.0		Rows 3 & 4 – data combined
					79		9	100	1			2.0	7.5		
G 4/ K-N	JUVI	9004333 (PM-O-74)	*Juniperus virginiana*	63	70	4	4	100	1			3.0	3.5	6	
			eastern red cedar		74		4	100	1			4.6	5.6	12	
			Harper Co., OK												data combined with Row 3
					80		4	100	5			5.0	7.6		
					81		4	100	3	1	1		7.0		
					82		4	100	3	3	3	6.0	7.5	20	
					83		4	100	3	3	3	6.0	8.3		
					02		4	100					11.3		
					07		4	100					12.7		
					12		4	100					13.2		
F4 15 1-5	JUVI	9050662	*Juniperus virginiana*	13	13	5	5	100				0.2	0.4		
			'Burkii'		14		5	100				0.3	0.7		
			eastern red cedar		15		5	100				0.9	1.0		
			Kansas /CBN												
P/W 1/ 2	JUVI	9050514	*Juniperus virginiana*	65	65	1	1	100							
			canaerti		06		1	100							Over topped with vines, stifles
			Canert juniper		15		1	100							growth
			/Nelson Nursery, Enid, OK												
G 10 U-Y	KOAM80	PM-O-118	*Kolkwitzia amabilis*	64	70	5	5	100	5			2.9	2.5		
			beautybush		74		3		3			4.7	4.0		X-Y removed 4/26/74
			/SPRRS												
F4 8 1-10	LAKA2	PM-K-1845	*Larix kaempferi*	74	74	1	1	100	5			0.2	0.4		
			Japanese larch		77	(10)	2	100	3			1.3	1.8		
			NU Extn Forestry, North		78		2	100	3			1.8	2.7		
			Platte, NE												
F4 10 7-8	LAOC	9050012	*Larix occidentalis*	89	89	2	2	100	4	1		0.2	0.9		
			western larch		90		2	100							Winter injury; dead EOS
			/NCRPIS												
F4 10 1-5	LARIX	PM-K-1682	*Larix* sp.	72	73	3	3	100	5			0.8	0.9		
			hybrid larch		74	(20)	3	100	3			1.2	1.6		
			N. Y. State Dept. Env.		75		3	100	3			1.5	2.8		
			Cons. Albany, NY		76		3	100	3			2.0	3.7		
					78		3	100	3			2.7	6.0		

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Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
F4 14 1-10	LARIX	PMND-2383	*Larix* sp. larch /NDPMC	76	78	10	7	70	5			0.1	0.5		Heat stress
F4 15 1-5	LARIX	PMND-1729	*Larix* sp. larch /NDPMC	76	78	5	3	60	5			0.2	0.5		Heat stress
F2 18 9-20	LETH4	AM-167	*Lespedeza thunbergii* Thunberg's lespedeza /GAPMC	75	75 76 77 78	12 (13)	12 8 6 6	100 67 50 50	1 1 5 5			0.9 1.6 2.3 2.5	1.7 2.1 2.5 2.5		
G 8/ U-Y	LIAM	PM-O-121	*Ligustrum amurense* Amur privet /SPRRS	64	70 74	5	1	100	3			3.4	3.0		Entry removed 4/26/74
F1 20 1-5	LIOB	477010	*Ligustrum obtusifolium* border privet /MIPMC/NCRPIS	90	90 91 92 93 94 99 05 10 14	5	5 5 5 5 5 5 5 5 5	100 100 100 100 100 100 100 100 100	1 2 	2 3 	1 1 	0.6 0.8 1.1 1.9 2.4 3.9 5.6 	0.6 0.8 1.0 1.4 1.6 2.9 3.0 4.0 3.5		Excellent fruit production
G 12 F-J	LIQU2	PM-O-70	*Ligustrum quihoui* waxyleaf privet /SPRRS	63	70 74	5	3 0	60	5			2.7	2.6		
G 7 U-Y	LIQU2	PM-O-70	*Ligustrum quihoui* waxyleaf privet /SPRRS	64	70 74	5	2	40	5			3.2	2.1		Entry removed 4/26/74

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Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
F1 18 19-20	LITS2	9004341 (PM-K-1286)	*Ligustrum tschonoskii* Tschonosky privet /HPHRS	69	70	2	2	100	3			0.5	0.9		
					71		2	100	3			1.1	2.0		
					72		2	100	3			1.3	1.9		
					73		2	100	3			2.1	2.8		
					74		2	100	3			2.9	2.9		
					75		2	100	3			3.2	3.3		
					76		2	100	3			3.7	3.4		
					78		2	100	3			4.2	3.7		
					79		2	100	1			4.0	3.9		
					80		2	100	3			4.3	4.0		
					81		2	100	5	6	3		4.0		
					82		2	100	4	3	3	4.0	3.8		
					83		2	100	5	5	3	5.5	4.2		
F1 1 10-19	LIVU	107630 (PM-K-388)	*Ligustrum vulgare* Cheyenne European privet /NDPMC	66	70	10	5	50	1			2.9	3.2		
					71		5	50	1			3.2	4.0		
					74		5	50	1			4.1	5.0		
					75		5	50	5			4.9	6.2		
					76		5	50	5			5.1	6.5		
					78		5	50	3			6.5	6.5		
					79		5	50	1			6.0	5.0		
					80		5	50	3			6.4	5.0		
					81		5	50	5	5	1		4.1		
					82		5	50	5	3	3	7.0			
					83		5	50	5	3	3	7.5	5.5		
					87		5	50	4			6.3	3.0		
					95		5	50					3.3		
					98		5	50					3.5		
					00		5	50					3.7		
					05		5	50					3.4		
					11		5	50					3.7		
					15		5	50					2.9		
P/W 1/ 1	LIST2	9050512	*Liquidambar styraciflua* sweetgum /Forest Keeling Nursery, Elsberry, MO	66	66	2	2	100							
					06		1	50				15.6	14.3	72	
					10		1	50					14.9	76	
					15		1	50					15.5	80	
F4 5 1-5	LITU	9050658	*Liriodendron tulipifera* tulip tree Michigan /NCRPIS	13	13	4	4	100				0.4	0.7		
					14	(5)	4	100				0.5	0.9		
					15		4	100				0.8	1.3		

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
F2 23 19-20	LOCA6	323719	*Lonicera caerulea*	73	73	2	2	100	3			0.5	0.5		
			sweetberry honeysuckle		74		2	100	3			1.0	0.9		
			/NCRPIS		75		2	100	3			1.3	1.1		
					76		2	100	3			1.4	1.3		
					77		1	50	3			2.4	1.7		
					78		1	50	3						Poorly adapted
F2 23 11-14	LOCA6	377880	*Lonicera caerulea*	73	73	3	3	100	7			0.3	0.1		
			sweetberry honeysuckle		74		3	100	7			0.3	0.2		
			/NCRPIS		75		3	100	7			0.4	0.2		
					76		3	100	7			0.5	0.3		
					77		2	67	7			0.7	0.4		
					78		2	67	7			0.9	0.4		
					79		2	67	3			1.0	0.6		
					80		2	67	5			1.2	0.7		
					81		2	67	6	6	3		0.6		
					82		2	67	4	5	3	1.7	0.8		
					83		2	67	3			1.8	0.9		
F2 23 14-18	LOCA6	377881	*Lonicera caerulea*	73	73	5	5	100	7			0.2	0.1		
			sweetberry honeysuckle		74		5	100	7			0.2	0.1		
			/NCRPIS		75		5	100	7			0.3	0.2		
					76		4	80	7			0.2	0.3		
					77		4	80	7			0.2	0.2		
					78		3	60	7			0.5	0.3		
					79		3	60	7			0.6	0.4		
					80		3	60	7			0.7	0.5		
					81		3	60	7	7	3		0.4		
					82		3	60	6	5	3	0.8	0.4		
					83		3	60	6			0.9	0.5		
F2 18 6-10	LOCA6	384493	*Lonicera caerulea*	74	74	4	4	100	7			0.1	0.1		
			sweetberry honeysuckle		75	(5)	2	50	7			0.1	0.1		
			/NCRPIS		76		2	50				0.1	0.1		
					77		2	50	9			0.2	0.1		
					78		1	25	9			0.2	0.2		Not adapted
F2 18 11-14	LOCA6	384494	*Lonicera caerulea*	74	74	1	1	100	9			0.2	0.1		
			sweetberry honeysuckle			(4)									
			/NCRPIS												
G1 8 B-E	LOFR	9004345 (PM-K-216)	*Lonicera fragrantissima*	63	70	4	4	100	3			3.1	2.2		
			winter honeysuckle		74		4	100	5			3.6	2.9		
			Mt. Arbor Nursery,		78		4	100	3			4.0	3.4		
			Shenandoah, IA /KSPMC		79		0	0							

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Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
F1 20 1-4	LOIN5	PM-K-1277	*Lonicera involucrata*	69	70	4	4	100	5			0.5	0.9		
			twinberry honeysuckle		71		4	100	7			0.6	0.7		
			/HPHRS		72		2	50	9						
					73		0								
G NE CORNER	LOJA	PM-K-1076	*Lonicera japonica*	67	70	6	4	67	1			2.1	0.7		
			'Halliana' Japanese		74		6	100	1			7.3	0.9		
			honeysuckle												
			/commercial/KSPMC												
G 13 G-J	LOMA6	9004346 (PM-O-71)	*Lonicera maackii*	63	70	4	4	100	1			5.3	3.5		
			Amur honeysuckle		74		4	100	3			4.4	3.7		
			/SPRRS		78										Entry removed 3/78
G 2 U-Y	LOMA6	9004346 (PM-O-71)	*Lonicera maackii*	64	70	5	5	100	3			4.9	3.6		
			Amur honeysuckle		74										Entry removed 4/26/74
			/SPRRS												
F1 20 6-10	LOMA6	9005172 (M1-4701)	*Lonicera maackii* f.	69	70	5	4	80	3			1.7	1.1		
			podocarpa		71		4	80	3			2.3	2.3		
			Amur honeysuckle		72		4	80	3			3.5	2.7		
			/MOPMC		73		4	80	3			4.1	3.7		
					74		4	80	3			5.3	3.7		
					75		4	80	3			5.8	4.6		
					76		4	80	3			5.8	4.6		
					78		4	80	3			7.4	5.0		
					79		4	80	5			7.2	4.5		
					80		4	80	5			7.5	4.4		
					81		4	80	3	4	3		4.6		
					82		4	80	3	4	2	8.5	5.0		
					83		4	80	2	3	3	9.0	5.0		
F1 5 16-20	LOMA6	9005172 (M1-4701)	*Lonicera maackii*	68	70	5	4	80	4			2.0	1.6		
			Amur honeysuckle		71		4	80	3			2.9	2.3		
			/MOPMC		74		4	80	3			4.4	3.3		
					75		4	80	3			4.9	3.1		
					76		4	80	3			4.9	3.9		
					78		4	80	3			7.0	4.5		
F1 5 11-15	LOMA6	9005993 (PM-ND-11)	*Lonicera maackii*	68	70	5	5	100	3			1.2	1.1		
			Amur honeysuckle		71		5	100	5			1.7	1.7		
			/MOPMC		74		5	100	3			3.8	2.7		
					75		5	100	5			2.9	2.8		
					76		5	100	5			2.3	3.5		
					78		5	100	5			4.6	3.3		

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F2 20 11-20	LOMA6	434101 (AM-1538)	*Lonicera maackii* Amur honeysuckle /GAPMC	76	76	10	10	100	3			0.6	0.5		
					77		10	100	3			2.6	1.4		
					78		10	100	3			3.0	2.1		
					79		10	100	1			3.6	2.5		
					80		10	100	3			3.9	3.0		
					83		10	100	1			6.0	3.5		
					93		10	100					4.1		
					95		9	90					3.5		
G1 9 C-E	LOBE	PM-K-217	*Lonicera x bella white bells honeysuckle* /KSPMC	63	70	3	3	100	5			3.0	2.5		
					74		3	100	7			2.5	2.3		
F1 3 6-10	LONIC	PM-K-392 (PM-ND-26)	*Lonicera sp.* /NDPMC	66	70	5	5	100	5			1.4	1.6		
					71		5	100	5			1.3	1.5		
					73		5	100	5						
					74		5	100	7			1.3	1.4		
					75		5	100	9			2.5	1.5		
					76		3	60	7			2.5	2.5		
					78		3	60	5			3.0	2.7		
G 3 U-Y	LOTA	PM-K-283	*Lonicera tatarica* Tatarian honeysuckle /KSU Extn Forestry /KSPMC	64	70	5	4	80	4			3.5	2.9		
					74		2	40	5			4.4	3.5		W-Y removed 4/26/74
F1 3 19-20	LOTA	PM-K-1221	*Lonicera tatarica* Tatarian honeysuckle /HPHRS /KSPMC	68	70	2	2	100	5			0.9	1.2		
					71		2	100	7			1.1	1.2		
					74		2	100	7			1.5	1.5		
					75		2	100	7			1.5	1.5		
					76		2	100	7			1.8	1.5		
					78		2	100	7			1.9	1.8		
F1 3 11-15	LOTA	PM-K-393 (PM-ND-313)	*Lonicera tatarica sibirica* red Tatarian honeysuckle /NDPMC	66	70	5	5	100	4			1.8	2.1		
					71		5	100	5			2.3	1.6		
					74		5	100	7			2.1	1.5		
					75		5	100	9			2.0	1.9		
					76		3	60	9			2.0	1.6		
					78		3	60	9			2.5	1.8		

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Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
F1 23 1-10	LOXY	9004453 (PM-K-1461)	*Lonicera xylosteum nana* 'Emerald Mound' dwarf honeysuckle /NCRPIS	71	71	10	10	100	3			0.5	0.2		
					72		10	100	3			0.8	0.4		
					73		10	100	3			1.1	0.7		
					74		10	100	1			1.2	0.7		
					75		10	100	3			1.6	0.9		
					76		10	100	3			1.7	1.0		
					77		9	90	3			1.5	1.0		
					78		9	90	7			1.7	0.9		
F2 15 5-9	MAHU2	122586 (MS-150)	*Malus hupehensis* flowering crab apple /MSPMC	70	70	5	5	100	3			0.4	0.6		
					71		5	100	3			0.9	1.3		
					72		5	100	3			1.5	2.2		
					73		5	100	3			2.1	3.6		
					74		5	100	3			2.3	4.1		
					75		5	100	3			3.4	5.2		
					76		5	100	3			4.0	5.5		
					78		5	100	3			5.5	6.3		
					79		5	100	1			5.8	6.7		
					80		5	100	1			6.0	7.0		
					81		5	100	1	3	3		6.4		
					82		5	100	3	3	4	7.0	7.6		
					83		5	100	3	5	2	8.0	7.8		
					98		5	100					8.8		One tree mostly dead
					99		4	80					8.5		Plentiful fruit
F2 1 1-10	MAMA37	PI 478000 9006003 (PM-ND-282)	*Malus mandshurica* 'Midwest' Manchurian crab apple /NDPMC	67	70	10	10	100	3			2.1	2.5		
					71		10	100	3			3.2	3.4		
					72		10	100	3			3.7	4.0		
					74		10	100	3			5.0	5.6		
					75		10	100	3			5.5	6.1		
					76		10	100	3			6.4	6.1		
					78		10	100	3			6.0	7.0		
					79		10	100	1			7.0	6.7		
					80		10	100	3			7.0	6.5		
					81		10	100	3	5	3		5.8		
					82		10	100	4	4	3	9.0	7.6		Fruit frozen – 4/19
					83		10	100	3	5	3	10.0	7.8		
					93		2						8.8		Removed decadent trees
					96		2						8.4		
					01		2		7				8.2		

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
F2 11 6-10	MAMA37	PI 478000	*Malus mandshurica*	68	68	5	4	80	3			0.5	0.8		
		9006003	'Midwest' Manchurian		69		5	100	4			0.7	1.2		
		(PM-ND-282)	crab apple		70		5	100	4			1.2	1.9		
			/NDPMC		71		5	100	4			1.8	2.9		
					72		5	100	3			2.4	3.7		
					74		5	100	3			4.0	4.4		
					75		5	100	3			4.0	4.9		
					76		4	80	3			5.2	5.5		
					78		4	80	3			5.5	5.7		
F2 10 1-5	MASA9	477986	*Malus sargentii*	68	70	5	5	100	7			0.8	1.1		
		(9005026; MICH-1339)	'Roselow' Sargent crab		71		5	100	7			1.2	1.6		
			apple /MIPMC		72		5	100	5			1.7	1.7		
					74		5	100	5			3.0	2.6		
					75		5	100	5			3.4	3.4		
					76		5	100	5			4.3	4.3		
					78		5	100	5			5.5	3.9		
C1 3 F-J	MATO6	PM-K-178	*Malus toringo* (Siebold) toringo crab apple /MIPMC	61	70	5	5	100	4			5.9	4.4		
F2 8 7	MALUS	'DOT X HAY'	*Malus sp.*	75	75	1	1	100	5			.01	0.3		
			'Dot x Hay' crabapple		76		1	100	5			0.8	1.2		
			/HPHRS		77		1	100	7			0.2	0.5		
					78		1	100	7			0.3	0.8		
F2 8 1	MALUS	'EASTMAN'	*Malus sp.*	75	75	1	1	100	3			.02	0.9		
			'Eastman' crabapple		76		1	100	3			0.3	0.9		
			/HPHRS		77		1	100	3			0.9	2.0		
					78		1	100	3			1.8	3.3		
F2 8 2	MALUS	'GOODHUE'	*Malus sp.*	75	75	1	1	100	3			.01	0.7		
			'Goodhue' crabapple		76		1	100	3			0.6	0.8		
			/HPHRS		77		1	100	3			1.2	1.9		
					78		1	100	3			1.8	3.2		
F2 8 6	MALUS	'JOYCE'	*Malus sp.*	75	75	1	1	100	3			.01	0.8		
			'Joyce' crabapple		76		1	100	3			0.5	1.1		
			/HPHRS		77		1	100	3			1.2	0.9		
					78		1	100	3			2.0	2.8		
F2 8 10	MALUS	'OLGA'	*Malus sp.*	75	75	1	1	100	5			.01	0.5		
			'Olga' crabapple		76		1	100	3			0.3	0.9		
			/HPHRS		77		1	100	3			0.6	2.3		
					78		1	100	3			1.2	2.9		

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
F2 8 3	MALUS	'REDANT'	*Malus sp.*	75	75	1	1	100	3			.01	0.8		
			'Redant' crabapple		76		1	100	3			0.4	1.2		
			/HPHRS		77		1	100	3			1.2	1.9		
					78		1	100	3			1.7	2.5		
F2 8 9	MALUS	'SHARON'	*Malus sp.*	75	75	1	1	100	3			.01	0.8		
			'Sharon' crabapple		76		1	100	3			0.2	1.4		
			/HPHRS		77		1	100	3			1.0	1.9		
					78		1	100	3			1.8	3.1		
F2 8 11	MALUS	'SUGAR'	*Malus sp.*	75	75	1	1	100	3			.01	0.9		
			'Sugar' crabapple		76		1	100	5			0.3	0.8		
			/HPHRS		77		1	100	3			0.9	1.8		
					78										Entry removed 3/78
F2 8 8	MALUS	'SUNDOG'	*Malus sp.*	75	75	1	1	100	3			0.1	0.8		
			'Sundog' crabapple		76		1	100	1			0.5	1.1		
			/HPHRS		77		1	100	1			1.5	2.6		
					78		1	100	1			2.6	3.5		
F2 8 4	MALUS	'UNIVERSIT Y'	*Malus sp.*	75	75	1	1	100	5			.01	0.5		
			'University' crabapple		76		1	100	3			0.2	1.1		
			/HPHRS		77		1	100	3			1.2	2.0		
					78		1	100	3			1.6	2.8		
F2 8 5	MALUS	'WEALTHY'	*Malus sp.*	75	75	1	1	100	5			.01	0.5		
			'Wealthy' crabapple		76		1	100	3			0.1	1.0		
			/HPHRS		77		1	100	3			0.5	1.8		
					78		1	100	3			1.2	2.3		
F2 11 1-5	MALUS	MICH-860	*Malus* sp.	68	70	5	5	100	3			1.4	2.1		
			'Radiant' hybrid crab		71		5	100	3			2.4	2.9		
			apple		72		5	100	3			2.5	3.8		
			/MIPMC		74		5	100	3			4.0	3.8		
					75		5	100	3			4.3	5.5		
					76		5	100	3			5.2	5.5		
					78		4	80	3			7.0	5.8		
B3 0 17-26	MALUS	9005032	*Malus* sp.	77	77	10	10	100	3			0.5	1.3		
WINDBRK		PI 514275	'Magenta' hybrid crab		78		10	100	5			1.0	2.0		
		(MICH-1704)	apple		79		10	100	5			1.0	2.0		
			/MIPMC		80		10	100	1			2.3	3.0		
					81		10	100	1	3	3		3.4		
					82		10	100	3	3	3	3.5	4.0		
					83		10	100	1	3	3	4.0	4.3		
					96		7	70					6.7		

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
HQ1 2/2	MALUS	9005032	*Malus* sp.	77	77	1	1	100							
		PI 514275	'Magenta' hybrid crab		07		1	100					9.0	29	
			apple		11		1	100		8			9.4		Cedar-Apple rust; WD
			Clinton Co., MI /MIPMC												
F2 12 6-10	MATS2	9004347	*Malus tschonoskii*	72	72	5	4	80	3			0.3	0.9		
		(PM-K-1671)	crab apple		73		3	60	5			0.3	1.1		
			/MSPMC		74		3	60	3			0.6	1.8		
					75		3	60	5			0.9	2.9		
					76		3	60				1.2	3.6		
					77		2	40				1.0	4.5		
					78		2	40	3			2.0	5.0		
					79		2	40	5			1.6	5.2		
					80		2	40	3			1.9	5.0		
					82		2	40	5	6	4	2.6	5.7	7	
					83		2	40	5	6	4	3.5	6.0	8	
					93		2	40	2				7.0	8	
					96		2	40	2				8.0		
F2 10 6-10	MAZU2	9005029	*Malus zumi*	68	70	5	5	100	5			1.5	2.1		
		(MICH-1340)	o-zumi		71		5	100	3			2.4	3.3		
			/MIPMC		72		5	100	3			2.7	3.8		
					74		5	100	3			4.3	4.9		
					75		5	100	3			4.6	5.2		
					76		5	100	3			4.9	5.2		
					78		5	100	3			6.3	6.0		
HQ1 1/1	NYSY	9050506	*Nyssa sylvatica*	66	66	1	1	100							
		(20-385)	black gum		06		1	100					10.5	22	
			/Forrest Keeling Nursery,		10		1	100					11.8	24	
			Elsberry, MO		14		1	100					11.7	25	
					15		1	100					12.8	26	
F2 12 4-5	OSVI	27-8-15	*Ostrya virginiana*	72	72	2	1	50	5			0.1	0.5		
			hophornbeam		73		1	50	7			0.4	0.9		
			USDA-SCS-MRTSC,		74		1	50	3			0.8	1.5		
			Lincoln, NE /KSPMC		75		1	50	3			1.2	2.1		
					76		1	50	3			1.6	2.5		
					78		1	50	3			2.5	3.3		
F 1 7.5	PACA	BN-13500	*Paxistima canbyi*	67	70	10	1	10				0.6	0.2		
			Canby's mountain-lover		71		1	10	3			0.7	0.2		
			Mayfair Nursery, NY		74		1	10	3			1.1	0.2		
			/MDPMC		75		1	10	7				0.2		
					76		1	10	7			1.0	0.2		
					77		0	0							Died – plant competition

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
F1 19 11-20	PHLE4	A-341190 (PM-K-1275)	*Philadelphus lewisii* Lewis' mock orange /HPHRS	69	70	10	9	90	3			0.7	0.8		
					71		9	90	5			1.4	1.7		
					72		9	90	5			1.7	1.8		
					73		9	90	3			2.3	2.2		
					74		9	90	5			2.5	2.4		
					75		9	90	5			2.5	2.9		
					76		8	80	5			3.4	3.1		
					78		7	70	5			3.6	3.5		
F1 15 6-10	PHMI4	9050530	*Philadelphus microphyllus* 'June Bride'™ littleleaf mock orange Sevier Co., UT /NCRPIS	08	08	5	5	100				0.4	0.5		
					09		5	100				0.4	0.4		
					10		5	100	8			0.3	0.3		
					11		3	60		3	1	0.3	0.4		
					12		3	60	9				0.3		
					13		2	40				0.4	0.3		
F1 24 11-20	PHILA	PM-K-1464	*Philadelphus sp.* 'Dwarf Snowflake' mock orange /NCRPIS	71	71	10	10	100	1			0.3	0.5		
					72		10	100	1			0.5	0.7		
					73		10	100	1			0.9	1.2		
					74		10	100	1			1.2	1.5		
					75		10	100	1			1.2	1.6		
					76		10	100	1			1.3	2.1		
					77		10	100	1			1.1	2.5		
					78		10	100	3			1.4	2.3		
F1 21 1-5	PHME13	9050500	*Photinia melanocarpa* 'Morton' black chokeberry Kane County, IL /Morton Arboretum/NCRPIS	06	06	4	4	100					0.5		
					07	(5)	4	100				0.4	0.5		
					08		4	100				0.5	0.7		
					09		4	100				0.4	0.6		
					10		4	100				0.5	0.7		
					11		4	100		5	4	0.6	0.6		
					15		1	25				1.5	1.1		suckering
F1 23 11-20	PHPY4	PM-K-1462	*Photinia pyrifolia* 'Brilliantissima' red chokeberry /NCRPIS	71	71	10	10	100	5			0.6	0.4		
					72		10	100	3			0.5	0.6		
					73		10	100	1			0.9	0.9		
					74		10	100	1			1.3	0.8		
					75		10	100	3			1.3	1.4		
					76		9	90	2			1.6	1.6		
					77		9	90	3			1.7	1.6		
					78		10	100	3			2.2	1.7		
F2 20 1-5	PHPY4	658641	*Photinia pyrifolia* red chokeberry Pickens Co., NC /NDPMC	11	11	5	5	100				0.5	0.7		
					12		5	100				0.4	0.8		
					13		5	100				1.0	1.2		
					14		5	100				1.5	1.6		
					15		5	100				1.6	1.9		suckering

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
F1 14 6-10	PHOP	9050522	*Physocarpus opulifolius*	07	07	3	3	100				0.7	0.5		
			common ninebark		08		3	100				1.2	0.9		
			Bucks Co., PA /NCRPIS		09		3	100				1.7	1.2		
					10		3	100		4	1	2.6	1.4		
					11		3	100	1	5	1	2.6	1.5		
					12		3	100				2.4	1.5		DB
F1 16 1-5	PHOP	9050531	*Physocarpus opulifolius*	08	08	5	5	100				0.7	0.6		
			'Center Glow' common		09		5	100				0.8	0.9		
			ninebark		10		5	100		2	1	1.5	1.4		
			Minnesota /NCRPIS		11		5	100	4	3	2	1.7	1.5		
					12		5	100				1.8	1.5		
					13		5	100				1.8	1.5		
F4 21/ 1-10	PIAB	9034668 (K-1846)	*Picea abies*	74	74	10	10	100	5			0.2	0.3		
			Norway spruce		75		10	100	5			0.3	0.4		
			/Griffith State Nursery		76		10	100	5			0.4	0.6		
			Wisconsin Rapids, WI		77		10	100	3			0.6	0.8		
			/KSPMC		78		10	100	3			0.8	10.0		
					79		10	100	3			1.1	1.2		
					80		10	100	3			1.2	1.5		
					81		10	100	4			1.5	1.7		Tip dieback
					82		10	100	5			1.8	2.0	3	New growth twisted
					83		10	100	4			2.3	2.4	4	
					94		10	100	1				6.4		
					98		10	100					8.3		
					02		8	80							Nos. 6 & 7 – dead
					03		8	80					9.3		
					07		8	80							
					08		8	80					10.8		No. 8 – dying
					14		6	60					11.3		
F4 14 6-10	PICEA	9094411	*Picea* sp.	13	13	3	3	100					0.3		
			Meyer spruce		14		3	100				0.4	0.3		
			Gansu, China /Itasca Greenhouse, Cohasset, Minnesota /NDPMC		15		2	67				0.1	0.3		
F4 17 1-10	PIBRE	PMK-2345	*Pinus brutia* var. *eldarica*	78	78	10	10	100	3			0.2	0.5		
			Afghan pine /KSU Extn Forestry /KSPMC												

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
G 5 P-T	PIED	PM-O-125	*Pinus edulis*	64	70	4	3	75	7			4.6	5.2		
			pinyon pine		74										Entry removed 4/26/74
			/SPRRS												
C1 5 F-J	PIED	PM-K-179	*Pinus edulis*	61	70	5	5	100	6			0.7	0.7		
			pinyon pine												
			/KSU Extn Forestry												
HQ1 2/3	PIED	9050507	*Pinus edulis*	64	64										
			pinyon pine		10		1						539		Entry removed – poor siting
			/SPRRS												
F4 27/ 8-20	PINUS	9034669 (65-2)	*Pinus heldreichii var. leucodermis*	73	73	13	13	100	7			0.1	0.1		
					74	(20)	10	77	7			0.1	0.1		
			Bosnian pine		75		8	61	7			0.1	0.2		
			Yugoslavia /RMFRS, NE		76		8	61	5			0.2	0.3		
			/MDPMC		78		7	54	7			0.3	0.3		
					79		7	54	7			0.3	0.4		
					80		6	46	7			0.3	0.5		
					81		6	46	7			0.5	0.7		
					82		6	46	7			0.6	0.7		
					83		6	46	7	3	3	0.7	0.9		
					93		6	46					2.6	8	
					03		5	38					4.9		
					07		3	23					5.5		
					12		3	23					6.1		
G 8/ P-T	PINI	PM-K-285	*Pinus nigra*	63	70	4	2	50	7			1.5	1.3	3	
			Austrian pine		74										Entry removed 4/26/74
			Kans. Landscape & Nursery, Salina, KS												
F4 23/ 1-10	PINI	9004364 (68-10)	*Pinus nigra*	73	73	10	10	100	3			0.3	0.2		
			Austrian pine		74		10	100	3			0.5	0.4		
			N. Turkey /RMFRS		75		10	100	3			0.7	0.8		
			/KSPMC		76		10	100	3			1.2	1.1		
					78		10	100	3			1.9	2.0		
					79		10	100	3			2.0	2.2		
					80		10	100	1			2.5	3.0		
					81		10	100	1	3	3		3.5		
					82		10	100	1	3	3	4.3	4.1	13	
					83		10	100	1	3	3	4.3	4.7	15	
					93		10	100					8.4	23	No. 10 – disease resistant
					02		10	100					11.1		Nos. 1 – dying: 4 – dead
					07		6	60					10.1		
					12		5	50							Nos. 1 & 9 – dead; No. 10 – dying

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
P/S 1-6, 8-10	PINI	399400	*Pinus nigra* Austrian pine Yugoslavia /NCRPIS	77	77	9	9	100	7			0.1	0.1		
					78	(10)	9	100	7			0.3	0.2		
					79		9	100	5			0.5	0.5		
					80		9	100	3			0.8	0.8		
					81		9	100	2	3	2		1.3		
					82		9	100	3	3	4	1.6	1.7	2	
					83		9	100	3			2.1	2.1	3	
					86		9	100	5			3.0	3.8		No. 9 – PS
					96		9	100					6.7		
					01		9	100					8.2		
					06		8	89					10.4		
					11		7	78					11.3		
G 9/ K-O	PINI	9013469 (PM-K-224)	*Pinus nigra* Austrian pine /KSU Extn Forestry	63	70	5	5	100	6			1.4	1.4		
					74		5	100	4			3.1	3.4	11	
					78		5	100	3			5.0	6.0		
					79		5	100	5			5.0	6.7		
					80		5	100	3			4.0	6.5		
					81		5	100	3	3	3		6.0		
					82		5	100	3	3	3	5.0	6.5	21	
					83		5	100	3			7.0	7.5		
					97		5	100							
					02		3	60					13.1		
					07		0	0							
P/S 7, 11-30, 55, 57, 83, 85	PINI	9034670	*Pinus nigra* Austrian pine /KSU Extn Forestry	81	83	25	25	100	5		3	0.3	0.2		
					86	(26)	23	92	5			0.6	0.6		No. 55 – PS
					95		21	84					3.4		
					01		21	84					6.2	20	
					05		21	84					7.5		
					10		20	80					9.1		
					15		11	44					9.4		
G 7 P-T	PIPO	PM-K-275	*Pinus ponderosa* ponderosa pine Kans. Landscape & Nursery, Salina, KS	64	70	4	1	25	7			0.7	0.5		
					74										Entry removed 4/26/74

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
G 8/ K-O	PIPO	9034671 (PM-K-223)	*Pinus ponderosa* ponderosa pine /KSU Extn Forestry	63	66	5	4	80	5			0.5	0.4		
					70		3	60	7			1.1	1.5		
					74		3	60	7			3.0	3.8	9	
					78		3	60	5			3.0	5.5		
					79		3	60	5			3.0	5.5		
					80		3	60	5			3.4	6.5		
					81		3	60	3			3.6	6.7		
					83		3	60	5			5.0	12.5		
					02		3	60					15.3		
					07		3	60					16.8	43	
					12		3	60					18.2	45	
F4 16 1-10	PISA2	9013470 PMK-2404	*Pinus sabiniana* gray pine /SCS SO/Stillwater, OK	79	79	1	1	100	5			0.3	0.4		
					80	(10)	1	100	3			0.3	0.5		
					81		1	100	3	3	5		1.0		
					82		1	100	5	6	4	0.9	1.3		
					83		4	100	5	5	3	0.4	0.5		No. 1-3, replanted
F4 22/ 1-10	PIST3	9004363 (64-9)	*Pinus strobiformis* southwestern white pine Lincoln Co. NM /RMFRS /KSPMC	73	73	10	10	100	5			0.3	0.2		
					74		10	100	5			0.4	0.4		
					75		10	100	3			0.5	0.6		
					76		10	100	3			0.8	1.0		
					78		9	90	3			1.4	1.2		
					79		9	90	3			1.5	1.6		
					80		9	90	5			2.3	2.0		
					81		9	90	4	5	3		2.2		
					82		9	90	3	5	3	2.8	2.8	5	
					83		9	90	2	3	3	3.5	3.4	7	
					93		9	90					6.8	15	
					02		8	80					9.9		
					07		6	60					11.5		Nos. 1, 5, & 8 – dead
					12		2	20					11.5		No. 2 – dead
HQ1 8/3	PIST3	9004363	*Pinus strobiformis* southwestern white pine Lincoln Co., NM /RMFRS, NE	77	77	1	1	100							
					06		1	100					11.5		
					11		1	100					12.3		
					12		1	100					12.4		
G 10 P-T	PISY	PM-K-277	*Pinus sylvestris* Scots pine UNL /KSU Extn Forestry /KSPMC	64	70	4	2	50	7			1.4	1.3		
					74										Entry removed 4/26/74
G 9 P-T	PISY	PM-K-278	*Pinus sylvestris* Scots pine Indiana /KSU Extn Forestry /KSPMC	64	70	4	1	25	7			1.1	1.0		
					74										Entry removed 4/26/74

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
F4 19/ 1-9	PISY	343948 (BN-19249)	*Pinus sylvestris* Scots pine Gazi, Ankara, Turkey /MDPMC	76	76	1	1	100	7			0.3	0.2		
					77	(9)	3		7			0.2	0.2		
					78		3		7			0.4	0.3		
					79		3		5			0.4	0.6		
					80		3		5			0.7	1.0		
					81		3		3	3	3		1.3		
					82		3		3	3	3	1.5	1.7	2	
					83		3		3	3	3	2.2	1.9	2	
					86		3		6	5	5	3.4	3.7		
					95		3						6.9		
F4 20 1-6	PISY	343949 (BN-19250)	*Pinus sylvestris* Scots pine Gazi, Ankara, Turkey /MDPMC	76	76	(9)	4		7			0.2	0.2		
					77	6	6	100	5			0.4	0.3		Replants
					78		6	100	5			0.5	0.5		
					79		6	100	3			0.9	0.7		
					80		6	100	3			1.2	1.0		
					81		6	100	2	2	2		1.3		
					82		6	100	3	3	3	1.6	1.9	2	
					83		6	100	2	3	3	2.3	2.1	4	
					95		6	100					7.5		
					00		6	100					10.3		
					05		6	100							
					07		4	67					11.2		Nos. 1 & 5 – dying; 3 – dead
					11		2	33					12.1		
					12		2	33					13.4		No. 5 – 80% dead
PQ/S 11-30	PISY	399401	*Pinus sylvestris* Scots pine Yugoslavia /NCRPIS	77	77	10	10	100	9			0.1	.07		
					78	(20)	7	70	9			0.2	0.2		Poorly adapted

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
PQ/S 31-35, 37-50	PISY	399402	*Pinus sylvestris* Scots pine Yugoslavia /NCRPIS	77	77	20	20	100	3			0.1	0.2		
					78		20	100	3			0.3	0.4		
					79		20	100	3			0.5	0.6		
					80		20	100	3			0.9	0.9		
					81		20	100	2	3	3		1.3		
					82		19	95	2	3	3	1.9	1.6	2	
					83		19	95	2		3	2.3	2.3	4	
					86		19	95	5			3.5	3.4		Nos. 48 & 50 – PS
					96		19	95					7.3		
					01		19	95					8.4	25	
					06		13	65					10.1		
					10		5	25					10.1		PW
Q/S 51-54, 56, 58-70	PISY	399403	*Pinus sylvestris* Scots pine Yugoslavia /NCRPIS	77	77	18	18	100	3			0.2	24		
					78	(20)	18	100	3			0.4	0.4		
					79		18	100	3			0.6	0.6		
					80		18	100	3			1.0	0.9		
					81		18	100	2	3	3		1.4		
					82		18	100	1	3	3	1.8	1.9	3	
					83		18	100	1	4	3	2.5	2.4	5	52, 53, 58, 61-62, 65, 68 – PS
					86		18	100	5			3.8	4.1		
					96		18	100					8.2		
					01		18	100					9.5	28	
					06		13	72					11.8		PW
					10		12	67					10.5		
Q/S 71-82, 84, 86-90	PISY	399404	*Pinus sylvestris* Scots pine Yugoslavia /NCRPIS	77	77	18	18	100	5			0.1	0.2		
					78	(20)	18	100	5			0.3	0.2		
					79		18	100	5			0.4	0.4		
					80		18	100	5			0.7	0.6		
					81		18	100	3	3	3		1.0		
					82		18	100	4	3	5	1.3	1.3		
					83		18	100	3	3	3	1.8	1.8		
					86		18	100	5			2.9	3.2		
					96		18	100					7.1		
					01		18	100					8.3		PW
					06		18	100					9.9		
					10		11	61					9.5		

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
F4 23/ 1-10	PISY	9004365 (62-7)	*Pinus sylvestris* Scots pine Holt Co., NE. /RMES	73	73	10	10	100	3			0.3	0.3		
					74		10	100	3			0.5	0.5		
					75		10	100	3			0.7	0.8		
					76		10	100	3			1.2	1.2		
					78		10	100	3			1.8	1.9		
					79		10	100	3			2.0	2.0		
					80		10	100	3			3.0	2.8		
					81		10	100	3	3	3		2.9		
					82		10	100	2	4	3	4.2	3.3	10	
					83		10	100	2	3	3	4.3	4.0	13	
					93		10	100					7.2		
					02		2	20					10.5		Discontinued
F4 13 6-10	PISYM	9076718	*Pinus sylvestris* var. *mongolica* Mongolian pine Nenjiang, China /NCRPIS	09	09	5	5	100				0.5	0.6		
					10		5	100				0.7	0.9		DD, severe – 100%
					11		5	100			1	0.9	0.8		
					12		5	100				1.1	1.2		
					13		5	100				1.4	1.4		
					14		5	100				1.7	1.7		
F4 13 1-5	PISYM	9076719	*Pinus sylvestris* var. *mongolica* Mongolian pine Shangzhi, China /NCRPIS	09	09	4	4	100				0.4	0.4		
					10	(5)	4	100				0.6	0.8		DD – 50%
					11		4	100			1	0.8	0.9		
					12		4	100				1.1	0.9		
					13		4	100				1.1	1.3		
					14		4	100				1.4	1.6		
F3 10 1-10	PICH4	AM-1405	*Pistacia chinensis* Chinese pistache /GAPMC	69	70	10	1	10	7			0.9	1.1		
G 11 F-J	PICH4	PM-O-72	*Pistacia chinensis* Chinese pistache /SPRRS	63	70	5	4	80	6			2.9	4.3		
					74		3	60	8			1.8	2.7		
F1 2 5; F1 3 2-3	PLOC	9049955	*Platanus occidentalis* sycamore Marysville, KS /UNL-Lincoln	85	85	3	3	100	2		2	1.0	1.8		
					86		3	100	1	4		2.0	3.1		
					87		3	100	3			4.5	5.1	7	
					88		3	100	2	3	2	5.6	6.2	11	
					89		3	100	4	5		6.1	7.2	14	
					95		3	100					13.0	30	
					04		3	100					17.9	39	
					09		3	100					19.3	44	

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
F1 2 2-3;	PLOC	9049956	*Platanus occidentalis*	85	85	5	5	100	3		2	0.9	1.9		
F1 3 1,4-5			sycamore		86		5	100	2	4		1.8	2.9		
			Burt Co., NE /UNL-Lincoln		87		5	100	3			4.0	4.9	6	
					88		5	100	2	3	2	5.1	6.1	10	
					89		5	100	4	5		5.5	7.1	12	
					95		5	100					12.3	25	
					04		5	100					16.3	31	
					09		5	100					17.7	33	
F1 1 1-2;	PLOC	9049957	*Platanus occidentalis*	85	85	4	4	100	3		2	0.9	1.8		
F1 2 1,4			Brownville, NE /UNL-		86		4	100	4	4		2.6	2.4		
			Lincoln		87		4	100	5			4.4	4.9	6	
					88		4	100	3	3	3	5.5	6.2	10	
					89		4	100	5	5		5.9	7.1	13	
					95		4	100					12.1	27	
					04		4	100					17.9	36	
					09		4	100					20.6	40	
F3 17 6-10	PLOC	9050583	*Platanus occidentalis* var.	10	10	5	5	100		3	2	1.1	1.8		
			glabrata		11		5	100	1	4	4	2.2	3.3		
			smooth sycamore		12		5	100					4.6		
			/NCRPIS		13		5	100					6.1		
					14		5	100					6.1	9	
					15		5	100					7.4	11	
F4 10 6-8	PLOR80	PM-K-1683	*Platycladus orientalis*	72	73	3	3	100	3			0.3	0.3		
			Ware's Siberian		74		3	100	3			0.5	0.5		
			arborvitae		75		3	100	3			0.6	0.7		
			/HPHRS		76		3	100	3			0.9	0.9		
					78		3	100	3			1.4	1.2		
C1 8 F-J	PLOR80	434460 (PM-K-135)	*Platycladus orientalis*	61	70	5	5	100	3			3.4	4.2	5	
			'Rochester' oriental		74										Entry removed 4/26/74
			arborvitae												
			/Kansas Land & Livestock												
			/Salina, KS /KSPMC												

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
F4 1 1-5	PLOR80	434460 (PM-K-135)	*Platycladus orientalis* 'Rochester' oriental arborvitae /Kansas Land & Livestock /Salina, KS /KSPMC	68	70	5	5	100	3			1.3	1.8		
					71		5	100	3			1.8	2.3		
					73		5	100	3			2.1	3.2		
					74		5	100	3			2.7	3.5		
					75		5	100	3			3.1	4.3		
					76		5	100	3			3.7	4.6		
					78		5	100	3			5.0	6.0		
					79		5	100	5			5.0	6.7		
					80		5	100	5			5.0	6.7		
					81		5	100	3	4	3		6.4		
					82		5	100	2	3	3	6.0	6.2		
					83		5	100	5	5	4	6.3	6.7		No. 3 – nearly dead
					93		3	60					7.0		
					96										Entry removed
F4 3 6-10	PLOR80	9004434 (PM-K-1691)	*Platycladus orientalis* oriental arborvitae Deuel Co., NE /HPHRS	72	73	5	5	100	5			0.5	0.8		
					74		5	100	3			0.9	1.2		
					75		5	100	5			1.2	1.8		
					76		5	100	5			1.8	2.5		
					78		4	80	5			2.7	4.0		
					79		4	80	5			3.2	4.7		
					80		4	80	5			4.0	4.8		
					81		4	80	4	5	3		4.9		
					82		4	80	3	5	3	5.3	5.8		
					83		4	80	4	5	4	5.5	5.8		
					96		4	80					8.0		
					06		4	80					8.5		Discontinued
C1 7 F-J	PLOR80	9004461 (PM-O-47)	*Platycladus orientalis* 'Woodward' oriental arborvitae /Okla. State Nursery Norman, OK /KSPMC	61	70	5	5	100	4			4.5	5.0	7	
					74										Entry removed 4/26/74

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Plot	Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
F4	1 6-10	PLOR80	9004461	*Platycladus orientalis*	68	70	5	5	100	3			1.6	2.0		
				'Woodward' oriental		71		5	100	3			2.1	2.6		
				arborvitae		73		5	100	3			3.2	3.6		
				/Okla. State Nursery		74		5	100	3			3.8	3.7		
				Norman, OK /KSPMC		75		5	100	3			4.0	4.3		
						76		5	100	3			4.0	4.6		
						78		5	100	3			6.0	5.5		
						79		5	100	5			6.0	6.4		
						80		5	100	5			6.0	6.4		
						81		5	100	3	4	3		6.1		
						82		5	100	2	3	3	6.7	6.1		
						83		5	100	5	3	4	7.0	6.2		
						93		5	100					8.2		
						96		2								Entry removed Nos. 6, 7, and 10
						07		2						9.8		Discontinued
F4	2 1-4	PLOR80	9013581 (PM-O-130)	*Platycladus orientalis*	68	70	4	4	100	3			1.4	2.0		
				oriental arborvitae		71		4	100	3			1.6	2.5		
				/SPRRS /KSPMC		73		4	100	3			2.4	3.0		
						74		4	100	3			2.8	3.5		
						75		4	100	3			3.4	4.0		
						76		4	100	3			3.7	4.3		
						78		4	100	3			4.6	5.5		
						79		4	100	3			4.5	5.5		
						80		4	100	3			5.0	5.8		
						81		4	100	2	3	3		6.1		
						82		4	100	2	3	3	5.8	6.3		
						83		4	100	3	3	4	6.0	6.2		
						93		4	100	7				6.1		
						96										Entry removed 1996
F4	2 6-10	PLOR80	9013582 (PM-O-131)	*Platycladus orientalis*	68	70	5	5	100	3			1.3	2.1		
				oriental arborvitae		71		5	100	3			1.7	2.7		
				Mangum, OK /SPRRS		73		5	100	3			2.6	3.2		
				/KSPMC		74		5	100	3			3.0	3.8		
						75		5	100	3			3.4	4.0		
						76		5	100	3			3.4	4.6		
						78		5	100	3			4.1	5.0		
						79		5	100	3			5.0	6.0		
						80		5	100	3			5.2	6.4		
						81		5	100	2	3	3		5.5		
						82		5	100	2	3	3	6.0	6.2		
						83		5	100	2	3	4	7.0	6.6		
						93		4	80	6				7.2		
						96										Entry removed

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
F3 6 2-4	POAL7	9050499	*Populus alba*	06	06	3	3	100					1.7		No. 2 - DD
			white poplar		07		3	100				2.7	3.2		
			South Korea /NCRPIS		08		3	100					5.0		
					09		3	100				4.9	7.8		
					10		3	100		2	3		9.0		2 - Premature leaf fall
					11		2	67				5.4	9.4		No. 1 - dead, No. 2 - declining
					13		0	0							No. 2 & 3 - dead
C1 22 B-E	PODE3	PM-K-180	*Populus deltoides*	61	70	5	4	80	5				10.1	18	
			Siouxland cottonwood		73		4	80							
			/NDPMC		74										Entry removed 4/26/74
B2 HQ1 1-7 (WINDBREAK)	PODE3	9004457 (PMK-2014)	*Populus deltoides*		78	7	7	100	5			1.5	2.7		
			eastern cottonwood		79		7	100	5			2.8	4.5		
			KSU Hort. Farm /KSPMC		80		7	100	3			2.9	6.0		
					81		7	100	3	3	3		8.4	13	
					82		7	100	4	5	3	5.5	9.8	17	
					83		7	100	2	3	3	6.0	11.0	19	
					96										Entry removed
B2 HQ2 1-7 (WINDBREAK)	PODE3	9004458 (PMK-2015)	*Populus deltoides*		78	7	7	100	1			3.0	6.0		
			eastern cottonwood		79		7	100	1			5.0	8.0		
			Milford, KS /KSPMC		80		7	100	1			5.5	9.8		
					81		7	100	1	3	3		11.5	20	
					82		7	100	2	5	3	6.3	13.7	21	
					83		7	100	5	5	3	5.5	15.0	26	
					86		7	100	5	4	5	5.5	20.0	34	
F2 21 1-10	POPUL	9022896	*Populus* sp.	82	83	10	10	100	1	5	3	2.0	4.4	4	No. 1 – girdled, regrowth from base
			'Tower' cottonwood /MDPMC												
G2 19 5-8	POCA19	432347 (M1-5514; MICH-88)	*Populus* ×*canadensis*	81	83	4	3	75	2	3	4	2.7	3.1	4	
			(pro sp.) [*deltoides* × *nigra*]		85		2	50	7			3.6	6.4	9	
			'Imperial' Carolina poplar /MIPMC												
B1 HQ2 8-20 (WINDBREAK)	POCA19	9013471 (MICH-1630; PMNB-237)	*Populus* ×*canadensis*		78	13	13	100	3			3.0	4.5		
			(pro sp.) [*deltoides* × *nigra*]		79		13	100	3			4.6	6.5		
					80		13	100	1			4.8	7.6		
			Carolina poplar /MIPMC		81		13	100	3	6	3		9.2	13	
					82		13	100	6	7	3	6.2	10.0	19	
					83		9	69	4	7	5	6.0	11.8	30	No. 14 – 17 - dead

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
B3 0 1-16	POCA19	9013472	*Populus ×canadensis*		78	16	16	100	1			1.8	2.2		
WINDBRK		(MICH-1631)	(pro sp.) [*deltoides* ×		79		16	100	1			4.4	4.2		
			nigra]		80		16	100	1	6	3	4.8	6.0		
			Carolina poplar /MIPMC		81		16	100	1	5	3		7.6	15	
					82		15	94	2	5	3	7.5	10.6	27	
					83		15	94	1	3	3	10.5	12.0	25	
					96										Entry removed
F3 6 7-11	POTR5	9050535	*Populus tremuloides*	09	09	5	5	100				1.0	1.9		
			'NE-Arb Prairie Gold'		10		5	100		8	3	1.1	2.0		
			quaking aspen		11		5	100		5	6	1.6	1.6		No. 10 – DD, severe
			Platte Co., NE /NCRPIS		12		5	100					3.6		
					13		5	100				1.4	1.9		
F2 12 10-11	POTR23	A-38647	*Populus tristis*	75	75	2	2	100				.01	0.5		
			/HPHRS		76		2	100				0.2	0.5		
					77		2	100				0.2	0.7		
					78		1	50	5			0.4	1.0		MD
G 16 K-O	PRAM	PM-K-226	*Prunus americana*	63	70	5	5	100	3			4.1	3.3		
			American plum		74		5	100	7			2.8	2.9		
			/KSU Extn Forestry		78										Entry removed 3/78
			/KSPMC												
F2 2 1-5	PRAR3	PM-K-389	*Prunus armeniaca*	66	70	5	5	100	3			2.6	4.0		
		(PM-ND-132)	apricot		71		5	100	3			3.2	4.4		
					74		5	100	3			4.9	5.5		
					75		5	100	3			4.9	5.8		
					76		5	100	3			5.5	5.8		
					78		5	100	3			6.0	6.5		
F2 2 6-10	PRAR3	PM-K-390	*Prunus armeniaca*	66	70	5	5	100	3			2.6	3.6		
		(PM-ND-133)	apricot		71		5	100	3			3.7	3.8		
					74		5	100	5			5.0	4.3		
					75		5	100	5			5.2	5.2		
					76		5	100	5			5.5	5.2		
					78		5	100	5			7.0	5.0		
F2 3 1-4	PRAR3	PM-K-391	*Prunus armeniaca*	66	70	5	4	80	3			2.7	1.8		
		(PM-SD-134)	apricot		71		4	80	3			3.4	4.3		
			/NDPMC		74		4	80	3			5.3	5.0		
					75		4	80	3			4.9	5.2		
					76		4	80	3			6.1	5.5		
					78		4	80	3			6.0	6.0		

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
F2 9 8-9	PRDO	PM-K-1684	*Prunus domestica*	72	73	2	2	100	5			0.2	0.4		
			European plum		74		1	50	7			0.1	0.2		
			/HPHRS		75		1	50							
					76		0	0							
F1 2 6-10	PRFR2	PM-K-396	*Prunus fruticosa*	66	70	5	5	100	7			1.2	1.3		
			European dwarf cherry		71		5	100	4			1.3	1.4		
			Morden, Manitoba, CN		74		4	80	5			2.5	1.6		
			/NDPMC		75		3	60	7			2.8	2.0		
					76		2	40	5			3.3	2.0		
					78		2	40	5			3.3	2.0		
F2 6 1-20	PRFR2	M1-7063	*Prunus fruticosa*	67	70	20	18	90	5			0.8	0.8		
			European dwarf cherry		71		17	85	7			1.3	1.1		
			/MOPMC		73		16	80	7						
					74										Entry removed 3/25/74
F2 7 1-20	PRFR2	MICH-1214	*Prunus fruticosa*	67	70	20	19	95	6			1.1	0.7		
			European dwarf cherry		71		19	95	7			1.0	0.9		Entry removed 3/25/74
			/MIPMC		74		19	95	7						
F2 8 1-20	PRFR2	MORDEN	*Prunus fruticosa*	67	70	20	16	80	6			0.9	1.0		
			'Morden' European dwarf		71		15	75	6			1.2	1.2		
			cherry		74		15	75	7						Entry removed 3/25/74
			/MOPMC												
F1 19 1-6	PRFR2	478003	*Prunus fruticosa*	89	89	6	6	100	2	7		0.3	0.5	1	
			'Scarlet' European dwarf		90		6	100	4	8	1	0.5	0.6	3	DB
			cherry		91		6	100		9		0.6	0.7	6	
			/MDPMC		92		6	100		8		0.6	0.7	6	Early leaf drop
					93		6	100	9			0.8	0.7		Early leaf drop; No. 1 & 6 disked out
					94										Entry removed
F2 9 11-20	PRHO	9004382 (PM-K-1212)	*Prunus hortulana*	68	70	10	10	100	2			1.4	2.2		
			hortulan plum		71		10	100	2			2.4	2.9		
			Plumfield Nursery,		74		9	90	3			0.6	4.3		
			Fremont, NE /KSPMC		75		9	90	3			5.4	5.2		
					76		9	90	3			7.3	5.2		
					78		8	80	3			10.0	5.0		
F2 5 1-10	PRPA5	9006073 (PM-SD-131)	*Prunus padus*	67	70	10	10	100	3			1.4	1.9		
			European bird cherry		71		10	100	5			1.8	2.3		
			/NDPMC		74		10	100	3			3.0	3.0		
					75		10	100	3			4.6	4.9		
					76		10	100	3			5.5	5.5		
					78		10	100	3			5.3	5.5		

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
F2 3 9-10	PRPE3	COMMERCIAL	*Prunus persica*	67	70	2	2	100	1			4.9	4.1		
			peach		71		2	100	1			5.0	4.6		
			Hort. Farm, KSU /KSPMC		74		2	100	5			6.4	5.6		
					75		2	100	5			6.4	6.1		
					76		2	100	5			7.0	6.1		
					78		2	100	5			8.0	7.0		
F1 16 1-10	PRPUD	9051508	*Prunus pumila* var.	95	96	10	10	100		2		2.8	0.5		
			depressa		97		10	100				3.5	0.6		
			dwarf sand cherry		98		10	100					0.7		Covers 128-m^2 area
			Sullivan Co., NY /NYPMC												Discontinued
F1 2 11-17	PRPUB	PM-K-381 (MICH-1073)	*Prunus pumila* L. var.	66	70	10	10	100	4			2.3	2.0		
			besseyi		71		10	100	3			2.5	1.8		
			western sandcherry		73		9	90	7						
			/MIPMC		74		4	40	9			1.1	1.0		
					75		0								
B1C4 19-21	PRSE2	9004384	*Prunus serotina*	81	81	3	3	100	3	3	2		0.7		
			black cherry		82		3	100	1	2	2	1.6	1.6		
			Ann Arundel Co., MD		83		3	100	1	2	3	2.4	2.6		
			/MDPMC		05		3	100					9.4		
					10		2	67					11.6		
					15		2	67					12.1		
B1C5 19-20	PRSE2	9007345	*Prunus serotina*	81	81	2	2	100	2	2	3		0.7		
			black cherry		82		2	100	1	2	2	1.8	1.9		
			Hampshire Co., WV		83		2	100	1	3	2	2.7	2.8		
			/MDPMC		05		2	100					9.9		
					10		2	100					12.1		
					15		2	100					13.3		
F1 4 1 13	PRSE2	9049958	*Prunus serotina*	85	85	1	1	100	5	1	2	0.2	0.5		
			black cherry		86		1	100	6	4	2	0.7	1.1	2	
			UNL /KSPMC		87		1	100	6	7	6	1.4	2.0		
					88		1	100	4	2	1	1.7	2.7	2	
					89		1	100	9	5			3.1		Few fruits
F1 5 1 18	PRSE2	9049958	*Prunus serotina*	85	85	10	10	100	3	2	2	0.5	0.7		DB
			black cherry		86		10	100	5	4	1	1.0	1.2	4	
			UNL /KSPMC		87		10	100	4			2.2	2.4		
					88		10	100	2	6	3	2.0	3.2		
					89		10	100	5	8					Few fruits

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
F1 4 4 15	PRSE2	9049959	*Prunus serotina*	85	85	1	1	100	1	1	2	0.4	0.8		DB
			black cherry		86		1	100	6	4	2	0.8	0.9	7	
			UNL /KSPMC		87		1	100	2	5	5	2.3	3.6		
					88		1	100	1	2	1	3.0	4.1	4	
					89		1	100	5	6			4.0		
F1 4 4 21	PRSE2	9049959	*Prunus serotina*	85	85	6	6	100	1	1	2	0.5	0.7		
			black cherry		86		6	100	2	5	2	1.2	1.9	5	
			UNL /KSPMC		87		6	100	3			2.5	3.2		
					88		6	100	1	3	1	3.1	4.2		
					89		6	100	2	1					
F1 4 3 16	PRSE2	9049960	*Prunus serotina*	85	85	1	1	100	4	2	2	0.5	0.6		
			black cherry		86		1	100	5	4	2	0.8	1.3	6	
			UNL /KSPMC		87		1	100	4	5	5	3.1	3.3		
					88		1	100	2	3	1	3.5	4.0		
					89		1	100	7	7			4.2		
F1 4 3 20	PRSE2	9049960	*Prunus serotina*	85	85	10	10	100	2	2	2	0.5	0.7		DB
			black cherry		86		10	100	1	4	2	1.1	2.2	4	
			UNL /KSPMC		87		10	100	4			2.2	2.4		
					88		10	100	2	3	1	2.5	3.6		
					89		10	100	4	5					
F1 4 7 14	PRSE2	9049961	*Prunus serotina*	85	86	1	1	100	1	4	2	1.1	2.0	6	
			black cherry												
			UNL /KSPMC												
F1 4 4 22	PRSE2	9049961	*Prunus serotina*	85	85	3	3	100	1	1	2	0.7	0.9		
			black cherry		86	(4)	3	100	1	5	1	1.9	2.1	4	
			UNL /KSPMC		87		3	100	2	5	5	3.2	4.0		
					88		3	100	1	3	2	3.5	4.6	5	
					89		3	100	1	2					
F1 4 5 17	PRSE2	9049962	*Prunus serotina*	85	85	6	6	100	2	2	2	0.4	0.7		DB
			black cherry		86		5	83	6	4	2	0.8	1.0	5	DB
			UNL /KSPMC		87		6	100	5			1.9	2.6		
					88		6	100	1	5	3	2.6	4.0		
					89		6	100	5	9			4.1		
F1 4 2 19	PRSE2	9049963	*Prunus serotina*	85	85	(8)	8	100	5	2	2	0.4	0.5		DB
			black cherry		86	10	7	88	6	5	2	0.8	1.1	3	
			UNL /KSPMC		87		7	88	8			1.5	2.3		
					88		7	88	3	6	3	2.4	2.9		
					89		7	88	6	6					

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Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
F1 4 6 23	PRSE2	9049964	*Prunus serotina*	85	85	9	9	100	4	1	2	0.5	0.6		
			black cherry		86	(10)	9	100	4	4	2	1.2	1.5	5	
			UNL /KSPMC		87		9	100	2	4	4	2.6	2.9		
					88		9	100	1	3	2	3.2	4.2	5	
					89		9	100	3	3					No. 9 – loaded with flowers
G 13 K-O	PRUNU	PM-ND-284	*Prunus sp.*	63	70	5	4	80	4			4.2	3.4	4	
			Manhattan plum		74		4	80	5			3.8	3.8		
			/NDPMC		78										Entry removed 3/78
G 12 P-T	PRUNU	PM-ND-284	*Prunus sp.*	64	70	5	5	100	3			2.7	2.7	2	
			Manhattan plum		74										Entry removed 4/26/74
			/NDPMC												
G 12 K-O	PRUNU	PM-ND-285	*Prunus sp.*	63	70	5	5	100	4			3.2	3.2	4	
			bounty plum		73		4	80							
			/NDPMC		74		4	80	6			3.4	3.4		
					78										Entry removed 3/78
G 14 P-T	PRUNU	PM-ND-285	*Prunus sp.*	64	70	5	4	80	5			1.6	1.9	1	
			bounty plum		74										Entry removed 4/26/74
			/NDPMC												
G 14 K-O	PRUNU	PM-ND-288	*Prunus sp.*	63	70	5	5	100	4			3.3	3.2	4	
			South Dakota plum		74		5	100	5			4.0	3.7		
			/NDPMC		78										Entry removed 3/78
G 13 P-T	PRUNU	PM-ND-288	*Prunus sp.*	64	70	5	5	100	4			2.5	2.6	4	
			South Dakota plum		74										Entry removed 4/26/74
			/NDPMC												
G 15 K-O	PRUNU	PM-ND-286	*Prunus sp.*	63	70	5	5	100	4			4.3	3.5	5	
			Manet plum		74		5	100	5			4.1	4.2		
			/NDPMC		78										Entry removed 3/78
G 11 P-T	PRUNU	PM-ND-286	*Prunus sp.*	64	70	5	5	100	3			3.2	2.7	2	
			Manet plum		74										Entry removed 4/26/74
			/NDPMC												
G 11 K-O	PRUNU	PM-ND-287	*Prunus sp.*	74	74	5	5	100	7			0.3	1.2		
			Wyant plum		75		5	100	5			0.5	0.7		
			/NDPMC		76		5	100	3			0.6	1.2		
					77		5	100	5			0.8	1.0		
					78										Entry removed 3/78

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Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
G 15 P-T	PRUNU	PM-ND-287	*Prunus sp.*	68	70	5	5	100	5			1.6	2.5	3	
			Wyant plum		74		1		7			2.3	2.6		Q-T removed 4/26/74
			/NDPMC												
F1 2 18-21	PRUNU	PM-K-1059	Prunus x cistena	67	70	4	4	100	3			1.1	1.9		
			purpleleaf sandcherry		71		4	100	7			1.5	2.1		
			/NCRPIS		73		4	100	3			2.6	2.6		
					74		4	100	5			2.6	2.8		
					75		1	100	5			1.5	1.6		
					76		1	100	7			1.5	1.7		Entry removed 12/1976
F2 14 1-10	PRSP	PM-ND-81	*Prunus spinosa*	69	70	10	9	90	5			0.7	0.9		
			blackthorn		71		8	80	7			1.4	1.6		
			/NDPMC		72		8	80	3			1.9	2.1		
					73		8	80	5			2.6	2.6		
					74		8	80	3			3.3	3.0		
					75		8	80	5			3.1	3.4		
					76		8	80	7			3.1	3.4		
F2 15 3-4	PRTE5	9004385 (PM-K-1278)	*Prunus tenella*	69	69	2									
			dwarf Russian almond		70		1	50	5			0.5	0.3		
			/HPHRS		71		1	50	7			1.1	0.9		
					72		1	50	3			1.5	1.1		
					73		1	50	3			1.5	1.1		
					74		1	50	3			2.0	1.2		
					75		1	50	3			2.0	1.2		
					76		1	50	3			2.2	1.2		
					78		1	50	3			2.6	1.7		
					79		1	50	3			2.5	1.4		
					80		1	50	3			2.9	1.4		
					81		1	50	1	3	5		1.4		
					82		1	50	3	3	4	2.8	1.0		
					83		1	50	6	5	3	2.5	1.0		Entry removed – fall 1983
F1 25 11-20	PRTE5	9006079	*Prunus tenella*	89	89	10	10	100	1	2		0.5	0.7		
		PI 540442	'Regal' dwarf Russian		90		10	100	1	5	1	0.9	1.0		
			almond		91		10	100				1.2	1.2		
			/NDPMC		92		10	100				1.2	1.2		FD to blooms
					93		10	100				1.5	1.2		Fruit riddled with insects
					94		10	100							Nos. 2 & 4 – run over by disk
					98		9	90							Discontinued
F2 9 1-5	PRTO80	421529 (9006080; PM-ND-32)	*Prunus tomentosa*	68	70	5	5	100	3			1.4	1.4		
			Nanking cherry		71		5	100	3			1.8	1.7		
			/NDPMC		74		5	100	9			1.6	1.2		
					75		0	0							

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Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
B1 C5-7	PRTO80	421529	*Prunus tomentosa*	81	81	6	6	100	4	4	3		0.7		
/21,18-21,		(9006080; PM-ND-32)	Nanking cherry		82		6	100	1	2	2	1.2	1.5		
19			/NDPMC		83		6	100	2	2	3	1.6	2.1		
F2 13 5-17	PRVI	9012608	*Prunus virgianna*	69	69	(20)									
		(Mandan-11223)	Schubert chokecherry		70	8	8	100	7			0.1	0.5		
			/NDPMC		71		8	100	7			0.5	1.0		
					72		8	100	5			0.4	1.8		
					73		8	100	5			1.1	2.5		
					74		8	100	3			2.0	3.1		
					75		8	100	3			2.4	3.7		
					76		8	100	3			3.1	4.9		
					78		8	100	3			4.0	5.0		
					79		8	100	1			4.3	5.0		
					80		8	100	1			5.0	5.8		
					81		8	100	3	5	5		5.5		
					82		8	100	3	5	4	6.0	5.9		
					83		8	100	2	4	4	6.5	6.0		
F2 12 1-3	PRVI	9013553	*Prunus virgianna*	69	70	3	2	67	4			0.6	1.4		
		(PM-K-1276)	Schubert chokecherry		71		2	67	4			1.6	2.5		
			/NDPMC		72		2	67	5			1.6	2.8		
					73		2	67	4			2.6	3.7		
					74		2	67	3			4.0	4.3		
					75		2	67	3			4.0	4.9		
					76		2	67	3			4.9	5.5		
					78		1	33	3			4.7	4.5		
F2 14 1-5	PTTR	9050523	*Ptelea trifoliata*	07	07	5	5	100				0.6	1.1		
			common hoptree		08		5	100				1.1	1.5		
			Van Buren Co., IA		09		5	100				1.9	1.9		
			/NCRPIS		10		5	100			8	2.5	2.6		WD; IN - WF; attractive fruits
					11		5	100		2	5	3.1	2.4		
					12		5	100				3.1	2.6		
F2 15 1-2	PYCA80	9007065	*Pyrus calleryana*	69	70	2	1	50	5			0.3	1.1		
		(BN-19173)	'Bradford' callery pear		71		1	50	3			0.7	1.7		
			/MDPMC		72		1	50	3			1.1	2.9		
					73		1	50	3			1.7	3.7		
					74		1	50	3			2.4	4.6		
					75		1	50	3			3.1	5.5		
					76		1	50	3			3.4	5.8		
					78		1	50	3			5.0	6.0		

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot	Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
F4	6 1-5	PYRUS	9050599	*Pyrus* sp.	13	13	5	5	100				0.1	0.5		Browse
				pear		14		5	100				0.2	0.5		Browse
				Jefferson Co., KS /KSPMC		15		5	100				0.7	0.6		
F2	4 1-10	PYUS2	478004 (9006095)	*Pyrus ussuriensis* 'McDermand' Ussurian pear Morden, Manitoba, CN /NDPMC	67	70	10	10	100	3			2.1	2.4		
						71		10	100	3			2.1	3.2		
						74		10	100	3			4.9	5.3		
						75		10	100	3			5.5	6.1		
						76		10	100	3			6.4	7.3		
						78		10	100	3			6.7	7.5		
						79		10	100				7.7	7.7		
						80		10	100	3			7.6	8.5		
						81		10	100	1	5	3		7.6		
						82		10	100	4	4	2	9.5	8.5		
						83		10	100	3	4	3	10.0	8.3		
						88		10	100	2	2	3	12.8	8.8		
						93		9	90					10.5		
						96		9	90	1				11.2		Good fruit production; No. 6 - WD
						01		8	80	4				9.7		
						07		8	80					11.6		
						11		8	80					13.0		
F3	24 1-10	QUAC80	434253 (AM-261)	*Quercus acutissima* 'Athens' sawtooth oak /GAPMC	73	73	10	10	100	3			0.6	0.7		
						74		10	100	3			1.1	1.4		
						75		10	100	3			2.0	2.7		
						76		10	100	3			2.8	3.1		
						78		10	100	3			4.0	5.5		
						79		10	100	3			4.5	6.5		
						80		10	100	3			5.5	6.5		
						82		10	100	2	3	3	6.8	7.5	17	
						83		10	100	1	3	3	6.5	8.0	20	
						89		10	100	3		1		9.5		No. 8 – suckers
						93		10	100					9.6	43	
						02		10	100					12.3	30	No. 4 – top gone
						07		9	90					12.4	33	
						12		8	80					12.9	35	

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
G3 16 1-8	QUAC80	9008245 (PMT-3389)	*Quercus acutissima* sawtooth oak Pennsylvania /TXPMC	76	76	8	8	100	5			0.3	0.4		
					77		8	100	5			0.9	0.7		
					78		8	100	3			1.5	1.7		
					79		8	100	5			2.2	3.0		
					80		8	100	3			2.5	3.6		
					83		8	100	3	3	3	4.2	5.5	7	
					85		8	100	1	1	2	4.3	5.2		
					93		8	100	9				8.5	27	
					95		8	100					9.5	18	
					00		8	100					10.6		
					05		8	100					11.0	23	No. 1 – top broken
					10		8	100					12.6	28	
					15		8	100					12.5	28	
G 15/ U-Y	QUAC80	9034673 (PM-K-203)	*Quercus acutissima* sawtooth oak /GAPMC	64	70	5	4	80	4			2.9	3.9	6	
					74		4	80	3			5.3	7.0	12	
					75		4	80	4			5.8	7.3		
					78		4	80	3			9.0	10.0		
					79		4	80	3			8.5	10.0		
					80		4	80	3			8.5	11.0		
					83		3	60	3			7.0	9.8	25	
					93		3	60					9.4	39	
					96		2	40					10.6		
					98		2	40					11.0	43	
					03		2	40						45	
					04		2	40					12.1		
					09		2	40					12.1	48	
					14		2	40					12.4	49	
E3 (see bur oak map)	QUAL	9050077	*Quercus alba* white oak Lancaster Co., NE /KSPMC	95	02	4	4	100					4.5	6	
					05		4	100					5.7	10	
					07		4	100					7.3	12	
					13		4	100					9.3	19	
F2 15 1-5	QUAL	9050532	*Quercus alba* white oak Richardson Co., NE /NCRPIS	08	08	5	5	100				0.5	0.6		
					09		5	100				0.7	0.8		
					10		5	100		4	3	10.0	1.6		IN - BW; 1 - rub
					11		5	100		4	3	1.4	2.2		BW
					12		5	100				1.7	2.7		
					13		5	100				2.1	3.1		
F4 2 6-10	QUBI	9050607	*Quercus bicolor* swamp white oak Adair Co., MO /NCRPIS	11	11	5	5	100			5	0.4	0.8		BW
					12		5	100				0.5	0.9		
					13		4	80				0.6	1.0		
					14		4	80				1.0	1.3		
					15		4	80				1.4	1.8	13.7	

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
F4 2 1-5	QUBI	9050608	*Quercus bicolor*	11	11	5	5	100			6	0.6	1.1		BW
			swamp white oak		12		5	100				0.7	1.1		
			Polk Co., IA /NCRPIS		13		5	100				0.9	1.5		
					14		5	100				1.3	1.7		
					15		5	100				1.7	2.4	21.9	
F2 16 1-5	QUGA	9050663	*Quercus gambelii*	13	13	5	5	100				0.2	0.6		
			Gambel oak		14		5	100				0.3	0.7		
			Colorado /CBN		15		5	100				0.5	0.8		
F3 23 6-10	QUMA2	9004392 (PM-K-1407)	*Quercus macrocarpa*	72	72	5	5	100	5			0.2	0.3		
			'Lippert' bur oak		73		5	100	3			0.8	1.3		
			Payne Co., OK /KSPMC		74		5	100	3			0.8	1.8		
					75		5	100	3			1.6	3.0		
					76		5	100	3			2.4	3.7		
					78		5	100	3			3.3	5.1		
					79		5	100	1			4.3	6.0		
					80		5	100	1			5.5	6.7		
					81		5	100	1	2	2		6.7	18	
					82		5	100	1	5	4	6.8	8.5	25	
					83		5	100	1	6	4	8.0	8.4	25	
					85		5	100	1				9.8		
					89		5	100	1		8		9.8	29	
					93		5	100					10.2	32	
					96		5	100	1				11.1		
					01		5	100	1				11.7	36	
					07		5	100					13.2	38	
					11		5	100					13.1	40	
G3 18 1-8	QUMA2	9004392 (PMK-1407; PMT-3060)	*Quercus macrocarpa*	76	76	8	8	100	3			0.2	0.8		
			'Lippert' bur oak		77		8	100	3			0.8	1.4		
			City Park, Stillwater, OK		78		8	100	3			1.0	1.8		
			/KSPMC		79		8	100	3			2.6	3.0		
					80		8	100	3			2.3	3.8		
					81		8	100	3				4.3	9	
					82		8	100	2	5	5	4.7	5.4	11	
					83		8	100	3	1	4	5.6	5.8	13	
					85		8	100	5	1	4	4.6	5.2	23	
					86		8	100	2			5.5	6.0		
					89		8	100						22	
					90		8	100	4	9	9				
					93		8	100					8.5	27	
					95		8	100					9.3	30	
					00		8	100					10.5		
					05		8	100					10.4	35	
					10		8	100					12.0	39	
					15		8	100					12.9	41	

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
F3 22 1-5	QUMA2	9004393 (PM-K-1677)	*Quercus macrocarpa* bur oak Forrest Keeling Nursery, Elsberry, MO /MOPMC	72	72	5	5	100	5			0.1	0.3		
					73		5	100	5			0.3	0.4		
					74		5	100	3			0.6	0.8		
					75		5	100	5			0.8	1.5		
					76		5	100	5			1.2	2.1		
					78		5	100	5			1.8	3.5		
					79		5	100	5			2.0	4.0		
					80		5	100	5			2.9	4.5		
					81		5	100	5	5	5		5.3	10	
					82		5	100	5	6	6	4.0	5.8	12	
					83		5	100	4	5	3	4.2	6.3	12	
					89		5	100	9		9		7.4	14	
					93		5	100	9				7.6	16	
					96		4	80	8				8.2	19	No. 5 – dead
F2 9 1-2	QUMA2	9004394 (PM-K-1967)	*Quercus macrocarpa* bur oak /HPHRS	75	75	2	2	100	5			0.03	0.1		
					76		2	100	5			0.02	0.1		
					77		2	100	5			0.03	0.2		
					78		2	100	5			0.1	0.3		
					79		2	100	5			0.6	1.0		
					80		2	100	3			0.8	1.3		
					81		2	100	5	6	6		2.4		
					82		2	100	5	4	3	1.7	2.9	2	
					83		2	100	4	5	4	2.4	3.4	3	
					89		2	100	7				6.5	9	
					90		2	100	8	9	9				
					93		2	100	7				7.5	16	
					95		2	100	8				7.7	14	
					96		2	100							Entry removed 11/7/96
G3 12 H-I	QUMA2	9004394 (PMK-1967)	*Quercus macrocarpa* bur oak /HPHRS	75	75	2	2	100	5			.03	0.1		
					76		2	100	5			.02	0.1		
					77		2	100	5			.03	0.2		
F2 9 3-4	QUMA2	9004395 (PMK-2013)	*Quercus macrocarpa* bur oak Payne Co., OK /KSPMC	76	76	2	2	100	5			0.3	1.4		
					78		1	50	5			0.5	0.5		
					79		1	50	3			0.9	1.3		
					80		1	50	3			1.4	2.0		
					81		1	50	3	5	3		3.2		
					82		1	50	5	4	3	2.2	3.4	1	
					83		1	50	3	4	3	3.6	2.9	3	
					87		1	50	4			4.0	6.0		
					89		1	50	3				6.6	18	
					90		1	50	5	7	7				
					93		1	50	3				8.1	28	
					95		1	50					4.6	33	
					96		1	50							Entry removed 11/7/96

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
G3 12 J-K	QUMA2	9004395 (PMK-2013)	*Quercus macrocarpa* bur oak Payne Co., OK /KSPMC	76	77	1 (2)	1	100	5			0.2	0.8		
G 14 H&J	QUPA2	PM-K-289	*Quercus palustris* pin oak /commercial/KSU Extn Forestry	63	70	2	2	100	1			3.2	4.7		
					74		2	100	1			6.2	8.1	12	
					78										Entry removed 3/78
F3 2 1-11	QUPA2	9001069	*Quercus palustris* pin oak /Manhattan Nursery Manhattan, KS /KSPMC	67	70	11	9	82	3			1.8	2.1		
					71		9	82	5			2.9	3.3		
					74		9	82	5			4.6	5.2		
					75		9	82				4.9	7.0		
					76		9	82				6.7	7.6		
					78		8	73				8.0	9.6		
					01		8	73					13.3	37	
					07		7	67					16.7	43	
					11		7	67					17.8	45	
F3 22 1-5	QUPH	9050021	*Quercus phellos* willow oak southeast Missouri /NCRPIS	90	90	3	3	100	3	1	2	0.2	0.3		DB, severe
					91	(5)	2	67				0.4	0.5		
					92		2	67				0.8	1.1		
					93		2	67				1.1	1.8		
F3 22 6-10	QUPH	9050022	*Quercus phellos* willow oak central Tennessee /NCRPIS	90	90	5	5	100		2	3	0.2	0.3		
					91		4	80				0.2	0.3		DB, severe
					92		4	80				0.5	0.8		
					93		4	80				1.0	1.5		No. 9 – small
					94		4	80	4			1.4	2.4	1	No. 9 – winter injury
					98		3	60							1 dead, mechanical
					99		3	60					3.6		
					04		3	60					5.0		
					09		3	60				4.1	8.2		Comp., severe
					14		3	60					10.8	12	
E3 21 5-7 /P21 1-6	QUPR	9050416	*Quercus prinoides* dwarf chinkapin oak /NCRPIS	01	01	9	9	100					0.2		
					02		8	89	6	7	5	0.3	0.3		IN - LCB
					03		8	89				0.4	0.4		
					04		8	89				0.7	0.7		DB, some
					05		8	89		5	4	0.9	0.8		
					06		8	89		1	4	1.1	1.1		Nos. - 6 DD; 7 MD, severe
					10		8	89					1.8		
					11		8	89				2.1	2.0		No. 2 - DD, severe; No. 3 – DD
					15		7	78				3.1	2.8		No. 3 E – MD

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
F2 17 6-10	QUPR	9050664	*Quercus prinoides*	13	13	5	5	100				0.3	0.4		
			dwarf chinkapin oak		14		5	100				0.4	0.5		
			SE Nebraska /CBN		15		5	100				0.5	0.7		
F3 21 6-10	QURO2	9017646 (PM-K-1673)	*Quercus robur*	72	72	4	4	100	3			0.2	0.7		
			English oak		73	(5)	4	100	5			0.6	1.1		
			/ISU Hort. Farm /NCRPIS		74		4	100	3			0.9	1.8		
					75		4	100	5			1.4	3.0		
					76		4	100	5			2.0	3.7		
					77		4	100	5			2.2	4.4		
					78		4	100	5			2.7	5.3		
					79		4	100	3			3.5	6.0		
					80		4	100	3			4.2	6.7		
					81		4	100	3	3	3		7.0	14	
					82		4	100	2	5	3	4.5	7.6	15	
					83		4	100	1	5	4	6.0	7.8	18	
					88		4	100	2	1	1	7.4		24	
					89		4	100	2	1	9		9.1	25	
					90		4	100	3						
					93		4	100					10.2	28	
					96		4	100	5				9.5	32	No. 6 - top dead
					01		4	100					9.8		
					06		4	100					11.2	32	
					11		3	75					11.7	35	No. 1 - dead
E3 22 5	QURO2	9050025	*Quercus robur*	90	90	1	1	100	5			0.2	0.6	1	
			English oak		91		1	100				0.3	0.6	1	
			/Germany /KSPMC		92		1	100				0.5	0.8	2	
					93		1	100				0.8	1.3	5	
P/W 1/ 4	QURU	9000399	*Quercus rubra*	66	66	1	1	100							
			northern red oak		06		1	100				15.0	11.3	44	
			Greenwood Co., KS		10		1	100					11.9	51	
			/KSPMC		15		1	100					11.6		
F4 8 6-10	QURU	9050660	*Quercus rubra*	13	13	5	5	100				0.2	0.5		
			Red oak		14		5	100				0.3	0.5		
			Kansas /CBN		15		5	100				0.4	0.7		
F4 8 1-5	QUSHS	9050611	*Quercus shumardii*	13	13		5	100				0.2	0.6		
			Shumard oak		14		5	100				0.5	0.6		
			Geary Co., KS /KSPMC		15		5	100				1.0	1.0		

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Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
F3 21 1-5	QUERC	9034674 (PM-K-1674)	*Quercus* sp. Swedish hybrid oak /UNL-Lincoln /NCRPIS	72	72	5	5	100	3			0.1	0.4		
					73		5	100	3			0.3	0.6		
					74		5	100	3			0.5	1.1		
					75		5	100	5			1.3	1.9		
					76		5	100	5			1.8	2.8		
					77		5	100	5			2.5	3.5		
					78		5	100	5			2.9	4.3		
					79		5	100	5			3.5	5.0		
					80		5	100	3			3.7	5.2	12	
					81		5	100	5			3.7	5.2	12	
					82		5	100	3	5	3	4.0	6.3		
					83		5	100	3	6	4	5.0	6.5	15	
					88		5	100	3	3	3	6.6		21	
					89		5	100					8.7		
					90		5	100	4	8	9				
					93		5	100					9.0	23	No. 3 – top out
					96		5	100	8				9.4		
					01		5	100					10.0	29	
					06		5	100					12.0	28	
					11		5	100					16.7	34	
G2 24 8	RHMO3	9030316	*Rhododendron molle* Chinese azalea /NCRPIS	81	83	3	1	33	9	6	5	0.6	1.1		
C1 15 F-J	RHAR4	PM-K-197	*Rhus aromatica* fragrant sumac /KSU Extn Forestry	62	70	5	5	100	3			4.8	2.9		
F2 15 6-10	RHCO	9050537	*Rhus copallinum* 'Morton Prairie Flame' shining sumac Iroquois Co., IL /NCRPIS	09	09	5	5	100				0.9	0.7		
					10		5	100				1.3	1.0		
					11		5	100		3	2	2.3	1.5		DD - severe
					12		5	100				2.4	1.8		
					13		5	100				3.0	2.1		
					14		5	100				3.4	2.4		
F 0 1	RHTR	PM-C-95	*Rhus trilobata* skunkbush sumac Colorado	62	68	7	6	86	7			2.3	1.7		
					70		4	57	7			2.7	2.3		
					74		1	14	9			2.7	1.2		
F 0 3	RHTR	PM-K-33	*Rhus trilobata* skunkbush sumac Shawnee Co., KS /KSPMC	62	68	10	10	100	3			4.0	2.7		
					70		10	100	3			5.5	3.6		
					74		10	100	3			6.1	3.2		

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
F 0 2	RHTR	PM-K-435	*Rhus trilobata*	62	68	10	8	80	6			2.6	1.7		
			skunkbush sumac		70		4	40	6			4.0	2.1		
			Clark Co., KS /KSPMC		74		2	20	7			4.6	1.5		
G 14 U-Y	RHTR	PM-K-512	*Rhus trilobata*	64	70	5	3	60	7			2.7	2.2		
			skunkbush sumac		74										Entry removed 4/26/74
			/NMPMC												
F 0 5	RHTR	PM-WY-6	*Rhus trilobata*	62	68	10	4	40	7			1.8	1.7		
			skunkbush sumac		70		3	30	7			1.8	1.8		
			Wyoming		74		0								
F 0 3	RHTR	9004399 (PM-K-33)	*Rhus trilobata*	62	70	10	10	100	3			5.5	3.4		
			skunkbush sumac		74		10	100	3			6.1	3.2		
			Shawnee Co., KS		78		9	90	5			6.0	3.0		
			/KSPMC		79		8	80	5			5.0	3.0		
F2 19 1-15	RHTR	9004401 (PMT-3332)	*Rhus trilobata*	75	75	13	13	100	5			0.6	0.7		
			skunkbush sumac		76	(15)	13	100	3			1.5	1.2		
			Greer Co., OK /TXPMC		77		13	100	5			2.8	1.4		
					78		13	100	3			3.0	1.8		
					79		13	100	3			3.5	2.2		
F2 19 16-20	RHTR	9004402 (PMT-3333)	*Rhus trilobata*	75	75	5	5	100	3			0.9	0.9		
			skunkbush sumac		76		5	100	3			1.7	1.2		
			Beaver Co., OK /TXPMC		77		5	100	3			3.2	1.6		
					78		5	100	3			3.5	1.8		
					79		5	100	3			3.5	2.2		
F2 20 1-10	RHTR	9004403 (PMT-3335)	*Rhus trilobata*	75	75	10	10	100	3			0.7	0.8		
			skunkbush sumac		76		10	100	3			2.0	1.3		
			Woodward Co., OK		77		10	100	3			3.7	1.5		
			/TXPMC		78		10	100	1			4.0	2.2		
					79		10	100	1			3.2	2.3		
F 0 7	RHTR	9004404 (PM-K-32)	*Rhus trilobata*	62	68	10	10	100	3			3.6	2.2		
			skunkbush sumac		70		10	100	2			4.6	2.7		
			Riley Co., KS /KSPMC		74		10	100	3			5.6	2.9		
					78		9	90	5			5.0	3.5		
					79		6	60	7			3.5	2.5		
					80		5	50	5			4.0	3.0		
					81										Entry removed

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
F1 15 1-5	RIAM2	9082687	*Ribes americanum*	07	07	3	3	100				0.3	0.5		
			American black currant		08	5	5	100				0.5	0.6		1,2 – replants
			/Big Sioux Nursery		09		5	100				0.6	0.6		
			Watertown, SD		10		5	100		6	1	1.0	0.9		
			/NDPMC		11		4	80		5	1	1.2	1.0		
					12		4	80				1.0	0.9		Not adapted
F1 13 8-18	RIAUV	9004405 (PMK-2347)	*Ribes aureum* Pursh var. *villosum*	78	78	3	3	100	7			.03	0.3		
					79	(27)	2	67	5			0.3	0.5		
			golden currant		80		2	67	3			0.5	1.1		
			Wyandotte Co., KS		83		2	67	3			1.3	1.3		
F2 9 1-5	RIBES	PM-K-1690	*Ribes* sp.	72	73	1	1	100	5			0.3	0.2		
			Red Cross currant		74		0								
			/HPHRS												
F1 17 1-20	ROHIF8	443387	*Robinia hispida* var. *fertilis*	69	70	20	19	95	1			2.0	1.8		
			'Arnot' bristly locust		71		19	95	1			3.8	2.5		
			New York /NYPMC		72		19	95	1			4.3	3.2		
					73		19	95	1			5.5	3.3		
					74		19	95	1			6.7	3.5		
					75		19	95	1			5.8	4.0		
					76		19	95	3			5.2	3.7		
F1 13 4-10	ROHIF8	443387	*Robinia hispida* var. *fertilis*	87	87	(20)	20	100				0.4	0.5		Seeded rod-row
			'Arnot' bristly locust		88	12	12	100				0.6	0.8		Some seedlings crowed out
			New York /NYPMC		89		12	100				2.0	1.5		
					93								3.2		Discontinued
C1 1 A-E	ROPS	PM-K-182	*Robinia pseudoacacia*	61	70	5	5	100	3			5.6	9.9	18	
			black locust		74		5	100	3			6.3	13.0	23	
			/KSU Extn Forestry		78		5	100	3			7.0	14.0		
			/KSPMC												
C1 16 B-E	ROPS	PM-K-182	*Robinia pseudoacacia*	61	70	4	4	100	3			6.3	10.9	22	
			black locust		74		4	100	3			5.2	13.7	27	
			/KSU Extn Forestry		78		4	100	3			6.5	15.5		
			/KSPMC												
C1 15 A-E	ROPS	PM-K-183	*Robinia pseudoacacia*	61	70	5	5	100	5			5.4	10.9	15	
			black locust		74		5	100	5			5.7	14.0	17	
			Harmon, WV /MDPMC		78		5	100	5			3.0	14.5		
C1 14 A-E	ROPS	PM-K-184	*Robinia pseudoacacia*	61	70	5	5	100	3			5.7	11.2	18	
			black locust		74		5	100	3			6.6	14.6	23	
			Paris, IN /MDPMC		78		5	100	3			4.5	15.0		

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
C1 13 A-E	ROPS	PM-K-185	*Robinia pseudoacacia*	61	70	5	5	100	3			6.0	11.3	17	
			black locust		74		5	100	3			6.2	14.5	22	
			Paris, IN /MDPMC		78		5	100	3			1.5	15.0		
C1 12 A-E	ROPS	PM-K-186	*Robinia pseudoacacia*	61	70	5	5	100	4			4.5	10.6	16	
			black locust		74		5	100	3			5.3	14.9	20	
			Bryantsburg, IN /MDPMC		78		5	100	3			4.0	15.0		
C1 11 A-E	ROPS	PM-K-187	*Robinia pseudoacacia*	61	70	5	5	100	3			4.7	10.8	16	
			black locust		74		5	100	3			5.8	14.9	20	
			Bryantsburg, IN /MDPMC		78		5	100	3			4.5	15.0		
C1 10 A-E	ROPS	PM-K-188	*Robinia pseudoacacia*	61	70	5	5	100	3			4.6	11.0	17	
			black locust		74		5	100	3			5.7	14.6	21	
			Bryantsburg, IN /MDPMC		78		5	100	3			4.0	15.0		
C1 9 A-E	ROPS	PM-K-189	*Robinia pseudoacacia*	61	70	5	4	80	3			5.5	11.9	17	
			black locust		74		4	80	3			6.4	15.2	25	
			Bryantsburg, IN /MDPMC		78		4	80	3			5.0	15.0		
C1 8 A-E	ROPS	PM-K-190	*Robinia pseudoacacia*	61	70	5	5	100	3			6.1	11.2	17	
			black locust		74		5	100	3			5.4	15.1	21	
			Huttonsville, W. VA /MDPMC		78		5	100	3			6.0	15.0		
C1 7 A-E	ROPS	PM-K-191	*Robinia pseudoacacia*	61	70	5	5	100	4			5.5	11.3	16	
			black locust		74		5	100	3			5.4	15.5	21	
			Bryantsburg, IN /MDPMC		78		5	100	3			5.0	15.0		
C1 6 A-E	ROPS	PM-K-192	*Robinia pseudoacacia*	61	70	5	3	60	6			3.6	9.7	11	
			black locust		73		2	40							
			Long Island, NY /MDPMC		74		2	40	5			5.3	11.0	13	
					78		2	40	5			3.0	11.0		
C1 5 A-E	ROPS	PM-K-193	*Robinia pseudoacacia*	61	70	5	5	100	3			5.4	12.2	19	
			black locust		74		5	100	3			6.5	14.5	24	
			Townsend's Draft, W. VA /MDPMC		78		5	100	3			5.5	15.0		
C1 4 A-E	ROPS	PM-K-194	*Robinia pseudoacacia*	61	70	5	5	100	3			5.1	11.9	16	
			black locust		74		5	100	3			5.7	14.2	21	
			Townsend's Draft, W. VA /MDPMC		78		5	100	3			5.0	14.0		

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Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
C1 3 A-E	ROPS	PM-K-195	*Robinia pseudoacacia*	61	70	5	3	60	6			2.8	10.1	13	
			black locust		74		3	60	7			4.4	10.5	13	
			Bartow, W. VA /MDPMC		78		3	60	5			3.7	13.0		
C1 2 A-E	ROPS	PM-K-196	*Robinia pseudoacacia*	61	70	5	4	80	4			5.9	11.5	20	
			black locust		74		4	80	3			6.7	10.1	25	
			Blackwood, VA /MDPMC		78		4	80	3			6.0	15.0		
F1 13 11-15	ROCA3	M1-7111	*Rosa canina*	68	70	5	5	100	3			2.3	1.9		
			dog rose		71		5	100	3			3.2	2.5		
			/MOPMC		73		5	100	3			2.7	2.6		
					74		5	100	7			2.9	2.6		
					75		5	100	7			4.0	2.9		
F1 6 1-20	ROFE4	MICH-1221	*Rosa fedtschenkoana*	67	70	20	19	95	6			2.0	1.8		
			'Regel' rose		71		19	95	6			2.5	1.5		
			/MIPMC		73		12	60	7						
					74		4	20	9			0.9	0.9		
					75		0								
F1 13 6-10	ROFE5	MICH-1222	*Rosa ferruiginea*	68	70	5	5	100	7			1.1	1.2		
			redleaf rose		71		5	100	5			1.5	1.4		
			/MIPMC		73		5	100	5			1.7	1.5		
					74		5	100	7			1.1	1.3		
					75		0								
C1 9 F-J	RUMU	MICH-114	*Rosa multiflora*	61	70	5	5	100	5			4.1	2.7		
			multiflora rose												
			/MIPMC												
C1 10 F-J	RUMU	MICH-115	*Rosa multiflora*	61	70	5	5	100	5			4.2	2.5		
			'Salzman' multiflora rose												
			/MIPMC												
C1 12 F-J	RUMU	MICH-120	*Rosa multiflora*	61	70	5	5	100	7			3.8	2.1		
			'Clare' multiflora rose												
			/MIPMC												
C1 13 F-J	RUMU	PM-K-168	*Rosa multiflora*	61	70	5	5	100	5			4.1	2.7		
			multiflora rose												
			/KSU Extn Forestry												

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
F1 8 1-20	RUMU	COMMERCIAL	*Rosa multiflora*	67	70	20	20	100	4			3.6	1.8		
			multiflora rose		71		20	100	4			4.3	2.4		
			/KSU Extn Forestry		74		20	100	1			5.2	2.9		
					75		20	100	3			5.2	3.4		
					76		20	100	3			5.3	3.4		
					78		20	100	3			5.0	3.2		
F1 7 1-20	ROSA5	9013560 (MICH-1217)	*Rosa multiflora x rugosa*	67	70	20	20	100	1			4.0	2.4		
			multiflora rose		71		20	100	1			4.7	2.4		
			/MIPMC		74		20	100	1			5.3	2.9		
					75		20	100	3			6.1	3.4		
					76		20	100	3			6.3	3.4		
					78		20	100	3			7.0	3.3		
F1 22 14-18	RORU	384453	*Rosa rugosa*	82	83	4	4	100	4	4	2	0.6	0.3		Bloomed through September
			'Alba-Pena' rugosa rose			(5)									
			/MDPMC												
C1 11 F-J	ROSA	MICH-118	*Rosa rugosa x multiflora*	61	70	5	5	100	5			4.0	2.3		
			hybrid rose												
			/MIPMC												
F1 5 6-10	ROSES	9004459 (PM-K-504)	*Rosa setigera* var.	66	70	15	10	67	3			2.6	1.7		
			setigera		71		10	67	3			3.2	1.8		
			climbing rose		73		10	67	5						
			/UNL-Meade /KSPMC		74		10	67	7			3.0	1.4		
					75		10	67	5			2.8	1.3		
					76		10	67	3			3.2	1.5		
					78		10	67	3			3.0	1.5		
F1 13 16-18	ROSA	PM-K-1075	*Rosa sp.*	68	70	3	3	100	7			2.1	0.4		
			Ottawa Co., OK		71		3	100	7			2.4	0.5		
			/KSPMC		73		3	100	7			2.1	0.9		
					74		3	100	7			1.8	0.8		
					75		2	67	7			2.3	0.5		
C1 14 F-J	ROWI	9004406 (PM-K-164)	*Rosa wichuraiana*	62	70	5	4	80	6			2.1	0.3		
			wichura rose												
			/MOPMC												
F1 4 6-20	RUPA2	M1-5195	*Rubus parvifolius*	66	70	25	20	80	1			4.7	0.8		
			Japanese raspberry		71		20	80	1			6.1	0.8		
			/MOPMC		74		20	80	1			9.1	1.1		
					75		20	80	1			9.0	1.0		
					76		20	80	1			9.0	0.8		
					78		20	80	1			9.0	0.7		

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Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
G 17 K-O	RUPA2	PM-O-39	*Rubus parvifolius*	63	70	5	4	80	3			2.4	5.5		
			Japanese raspberry		73		4	80							
			Okla. State Nursery, Norman, OK		74										Entry removed 4/26/74
F1 1 20-21	SADI	PM-K-1074	*Salix discolor*	67	70	2	2	100	1			2.1	1.8		
			pussy willow		71		2	100	1			2.3	2.1		
			Manhattan, KS		74		0								
F2 22 1-175	SAIN3	PM-T-2917	*Salix interior*	74	74	160	160	100	1			3.5	2.2		
			sandbar willow		75	(175)	160	100	1				2.8		
			Clinton, OK /TXPMC		76										Entry removed
B1 3 1-20	SALIX	9069052	*Salix* sp.	06	06	7	7	100				0.3			
			Riverbend GP willow /MIPMC		07	(20)	6	86				0.8	0.6		Discontinued
													0.8		
G1 11 1-7	SACO28	434285	*Salix ×cottetii*	83	85	4	4	100	2	1	2	2.1	1.1		DB
			'Banker's' Cottet willow /MDPMC		86	(7)	4	100	2			2.4	1.5		
G1 12 1-8	SACO28	434285	*Salix ×cottetii*	83	85	5	5	100	1	1	1	1.9	0.8		Heavy DB
			'Banker's' Cottet willow /MDPMC			(8)	5	100	5			2.0	1.4		
F1 18 15-18	SARA2	PM-K-1272	*Sambucus racemosa*	69	70	4	4	100	3			3.0	1.8		
			red elderberry		71		4	100	3			2.4	2.1		
			/HPHRS		72		2	50	3			3.2	2.3		
					73		2	50	5			2.6	2.6		
					74		2	50	9			1.5	2.1		
					75		0								
F1 12 16-20	SARA2	MICH-1343	*Sambucus racemosa*	68	70	5	2	40	5			1.4	1.5		
			red elderberry /MIPMC												
F1 19 1-11	SAMBU	PM-K-1274	*Sambucus sp.*	69	70	11	11	100	1			2.4	1.9		
			elderberry		71		11	100	1			4.4	2.7		
			/HPHRS		72		10	91	3			4.1	3.0		
					73		9	82	3			4.6	3.3		
					74		5	45	9			0.1	1.5		
					75		0								
A 26 1-11	SASAD	9034675 (PMT-3354)	*Sapindus saponaria drummondii*		75	11	10	91							
					78		10	91	5			1.3	2.4		
			western soapberry /TXPMC		81		10	91	3	5	3	1.6	3.6		Top growth winter killed; irregular growth

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Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
F1 11 16-20	SHAR	PM-ND-10	*Shepherdia argentea*	68	70	5	5	100	3			1.7	1.9		
			silver buffalo berry		71		5	100	1			2.9	2.9		
			/NDPMC		73		5	100	1			4.0	3.7		
					74		5	100	3			5.3	4.0		
					75		5	100	3			4.9	4.0		
					76		5	100	3			5.2	4.3		
					77		0	0							Died – summers too hot
F1 27 1-3	SHAR	9050431	*Shepherdia argentea*	02	02	2	2	100	6	6	7	0.1	0.6		Browse
			silver buffalo berry		03		2	100	3			0.3	1.0		
			North Dakota /NCRPIS		04		2	100	5			0.8	1.8		MD
					05	1	1	100				1.2	2.1		No. 1 - Disked out
					06	(2)	1	100				1.5	2.7		
					07		1	100				1.9	3.2		
					11		1	100				2.6	4.4		
					12		1	100					4.4		Poor form
F2 21 1-10	SILA20	9050578	*Sideroxylon lanuginosum*	13	13	8	8	100				0.07	0.1		
			gum bully		14	(10)	8	100				0.8	0.1		
			Kingfisher Co., OK /KSPMC		15		8	100				1.2	2.3		
E3 21 8-10	SOSO2	9050023	*Sorbaria sorbifolia*	90	90	3	3	100	4			0.4	0.5		
			Ural false-spirea		91		3	100				1.0	1.1		
			Czechoslovakia /NCRPIS		92		3	100				2.1	1.4		Stem breakage
					93		3	100					1.6		
					94		3	100					1.7		
					99		3	100	6			3.3	1.5		1-3 – dead branches
					04		3	100				2.7	1.3		Discontinued
F1 6 1-10	SOSO2	9050265	*Sorbaria sorbifolia*	97	97	10	10	100	3						
			Ural false spirea		99		10	100	2				1.5		
			North Korea /NCRPIS		00		10	100				1.9	1.6		
					01		10	100	3				1.7		
					02		10	100	6			2.3	1.5		40% die back; heavy flowering
					07		8	80				1.5	0.8		Discontinued
F1 7 1-10	SOSO2	9050267	*Sorbaria sorbifolia*	97	97	10	10	100	5						Insect damage
			Ural false spirea		99		10	100	4	9			1.4		
			China /NCRPIS		00		10	100				1.8	1.6		
					01		10	100	7				1.8		
					02		10	100	7			2.2	1.7		50% die back; heavy flowering
					07		10	100				1.8	0.9		Discontinued

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot	Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
F1	9 1-10	SOSOS	9050266	*Sorbaria sorbifolia* var.	97	97	10	10	100	9						
				stellipila		99		10	100	2				1.4		
				Ural false spirea		00		10	100				2.2	1.5		
				South Korea /NCRPIS		01		10	100	5				1.7		
						02		10	100	5			2.4	1.6		30% die back; mod. Flowering
						07		9					4.0	1.1		Discontinued
F1	8 1-10	SORBA	9050264	*Sorbaria* sp.	97	97	10	10	100	1						Wind damage
				false spirea		99		10	100	1				2.1		
				Poland /NCRPIS		00		10	100				2.5	2.2		
						01		10	100	1				2.1		No. 3 - winter injury
						02		10	100	3			2.8	2.2		15% die back; mod. Flowering
						07		9	90				2.5	2.1		Discontinued
F1	5 1-10	SOTO7	9050268	*Sorbaria tomentosa*	97	97	10	10	100	2						
				Lindley false spirea		99		10	100	7				1.5		
				Poland /NCRPIS		00		10	100				2.3	1.5		
						01		10	100	9				1.5		
						02		10	100	5			2.2	1.5		20% die back; few flowers
						07		7	70				1.0	1.0		Discontinued
F3	3 1-10	SOAL9	NY-3823	*Sorbus alnifolia*	66	70	10	4	40	7			1.0	1.6		
				densehead mountain ash		71		4	40	7			1.0	2.0		
				/NYPMC		74		4	40	7			1.4	2.8		
						75		4	40	7			1.5	3.7		
						76		4	40	5			2.1	4.9		
						78		4	40	5			5.0	6.3		
G1	15 1-2	SOAR9	399409	*Sorbus aria*	77	77	2	2	100	5				0.2		
				chess-apple		78		2	100	3			0.2	0.5		
				Yugoslavia /NCRPIS		79		2	100	5			0.4	0.4		
						80		1	50	5			0.2	0.6		No. 2 - dead
						81		1	50	5			0.4	0.8		
						83		1	50	8	5	3	0.4	1.1		
F3	24 1-5	SOAU	PM-K-1603	*Sorbus aucuparia*	73	73	5	4	80	4			0.5	1.1		
				European mountain ash		74		4	80	4			0.8	2.2		
				/MOPMC		75		4	80	1			1.3	3.0		
						76		4	80	3			1.8	3.7		
						78		4	80	3			2.8	5.0		
F3	21 1-10	SOAU	PM-K-1676	*Sorbus aucuparia*	72	72	10	9	90	5			0.3	0.7		
				European mountain ash		73		10	100	5			0.2	1.3		
				Forrest Keeling Nursery,		74		10	100	3			0.8	1.7		
				Elsberry, MO		75		10	100	3			0.7	2.7		
						76		10	100	5			1.2	2.8		
						78		10	100	5			2.1	3.8		

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
F1 26 1-5	SOAU	9050429	*Sorbus aucuparia*	02	02	5	5	100	6	7	4	0.2	0.5		Browse
			European mountain ash		03		3	60	5			0.4	0.9		
			Ukraine /NCRPIS		04		2	40	3			0.5	1.2		
					05		2	40				0.9	1.8		
					06		2	40				1.2	2.4		DD
					07		2	40				1.5	3.0		
					11		2	40		2	2	3.1	4.3		No. 2 – MD, severe
					12		2						4.6		No. 1 - mostly dead
F1 24 6-7	SOTO9	358440	*Sorbus torminalis*	73	73	2	2	100	5			0.1	0.5		
			wild service tree		74		2	100	3			0.2	0.7		
			USDA-ARS-PSRD-PI-Sta.		75		2	100	3			0.3	1.7		
			/Glenn Dale, MD		76		2	100	3			0.8	2.4		
					78		2	100	3			1.2	3.0		
F1 26 6-10	SOTO9	9050430	*Sorbus torminalis*	02	02	5	5	100	5	5	6	0.2	0.6		Browse
			wild service tree		03		5	100	6			0.2	0.7		
			Ukraine /NCRPIS		04		5	100	3	6	6	0.2	0.9		No. 2 - girdled by deer
					05		5	100				0.3	1.4		
					06		5	100				0.4	1.8		
					07		5	100				0.4	1.9		
					11		5	100		4	3	0.8	3.5		No. 5 – MD, severe
					12		5	100					3.6		
F1 27 6-10	SOTO9	9050432	*Sorbus torminalis*	02	02	4	4	100	7	1	2	0.2	0.5		Browse
			wild service tree		03		4	100	8			0.2	0.4		No. 9 - replanted
			Ukraine /NCRPIS		04		3	60	5	5	5	0.2	0.6		No. 3 - DD
					05		3	60				0.3	1.0		
					06		3	60				0.4	1.4		
					07		3	60				0.4	1.7		
					11		3	60				1.1	2.0		
					12		3	60				1.4	3.2		
F2 16 1-6	SPDO	9050665	*Spiraea douglasii*	14	14	3	3	100					0.3		
			rose spiraea		15	(6)	2	67				0.4	0.6		
			British Columbia, CN /NCRPIS												
F1 23 1-5	SPFL9	9050417	*Spiraea flexuosa*	01	01	5	5	100	2			0.6	0.8		WC; IN - LCB
			spiraea		02		5	100	6	6	2	0.4	0.5		DB, heavy
			northern Mongolia		03		5	100	5			0.5	0.6		Fall flowers - 3 plants
			/NCRPIS		04		5	100	6			0.4	0.6		
					05		4	80				0.5	0.5		No. 5 - gone
					06		4	80				0.6	0.7		
					11		4	80	7	6	1	1.1	1.0		Scorch
					12		4	80				1.5	1.1		

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
HQ2 2/16	SYOBD	9050510	*Syringa oblata* spp.	76	76	1	1	100							
			dilatata		06		1	100				7.3	2.7		
			Korean early lilac		10		1	100				6.3	2.8		
			/HPHRS		15		1	100					1.9		
F2 26 1-5	SYPE4	9006225	*Syringa pekinensis*	73	73	5	5	100	3			0.8	0.7		
			Peking lilac		74		5	100	3			1.6	1.3		
			/NDPMC		75		5	100	3			2.1	2.3		
					76		5	100	3			3.1	3.2		
					78		5	100	3			4.4	4.0		
					79		5	100	1			4.4	5.0		
					81		5	100	1			5.5	4.9		Flowers showy
					82		5	100	1	6	4	6.5	5.8		
					83		5	100	1	3	2	7.0	6.1		
					93		5	100					6.7		
					02		5	100					7.7		
					07		5	100					7.9		
					12		4	80					6.2		
F2 23 1-5	SYREA	PM-ND-686	*Syringa reticulata* subsp.	73	73	5	5	100	3			0.8	0.7		
			amurensis		74		5	100	3			1.6	1.3		
			Amur lilac		75		5	100	3			2.1	2.3		
			/NDPMC		76		5	100	3			3.1	3.2		
					78		5	100	3			4.4	4.0		
					79		5	100	1			4.4	5.0		
					80		5	100	1			5.4	4.9		
F1 12 6-10	SYVI3	PM-ND-83	*Syringa villosa*	68	70	5	5	100	7			0.4	0.6		
			late lilac		71		5	100	6			1.2	0.7		
			/NDPMC		73		5	100	3			0.9	1.1		
					74		5	100	3			1.1	1.4		
					75		5	100	5			1.3	1.6		
					76		5	100	5			1.5	1.5		
					78		3	60	5			1.3	1.5		
F1 15 1-11	SYVI3	9006228	*Syringa villosa*	89	89	11	11	100	1	9		0.2	0.5		
			'Legacy' late lilac		90		11	100	6	9	1	0.4	0.7		Frost damage, spring
			/ACM Manitoba, CN		91		11	100				0.5	0.9		
			/NDPMC		92		11	100		9		0.7	1.0		SR late February; FD; DD
					93		11	100		8		1.1	1.3		
					98		10	91	8						Discontinued

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
F1 28 1-6	SYVU	9050007	*Syringa vulgaris*	85	85	6	6	100	1	1	2	0.6	0.7		
			common lilac		91		6	100							Transplanted from Field G
			Phillips Co., KS /KSPMC		92		6	100		9		1.1	1.2		Powdery mildew
					93		6	100				1.5	1.5		No. 6 - leaves dried up early
					94		6	100							Mildew
					95		5	83					1.9		
					05		5	83					2.5		
					09		5	83					2.7		
F4 14 1-5	TADI2	9050542	*Taxodium distichum*	09	09	5	5	100				0.4	0.8		
			bald cypress		10		5	100				1.3	1.4		DD
			Real Co., TX /NCRPIS		11		5	100		1	3	1.9	1.9		BW
					12		5	100				2.5	2.4		DD
					13		5	100					3.2		
					14		5	100				3.5	3.5		
					15		5	100					4.1	9	
F2 16 1-5	TETRA25	9050584	*Tetradium* sp.	10	11	5	5	100				1.7	1.8		
			bee-bee tree		12		5	100				2.2	2.3		
			Provenance Unknown		13		5	100				3.0	3.0		
			/NCRPIS		14		5	100				3.0	3.2		
					15		5	100				3.2	3.6		DB
F4 18 1-10	THOC2	477011 (9005059)	*Thuja occidentalis*	82	83	10	10	100	5	5	3	0.5	0.7		
			'Affinity' northern white		93		10	100					4.0		
			cedar		96		10	100	3				4.7		
			/MIPMC		07		10	100					5.9		No. 3 – Comp.
					11		10	100					7.2		
F4 7 7-8	THPL	PM-K-1229	*Thuja plicata*	68	70	2	2	100	5			0.7	0.8		
			western redcedar		71		2	100	3			0.7	1.7		
			/HPHRS		73		2	100	3			1.3	1.6		
					74		2	100	3			1.6	1.8		
					75		2	100	3			1.8	2.1		
					76		2	100	3			1.9	2.1		

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot	Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
F3	6 6-10 6	TICO2	9050481	*Tilia cordata* littleleaf linden Ukraine /NCRPIS	03	03	2	2	100				0.2	0.4		
						04		1	50	5	4	5	0.5	0.7		
						05		1	50				0.8	1.1		
						06		1	50					1.7		
						07		1	50				1.3	2.4		
						08		1	50				2.0	3.0		
						11		1	50		2	3	4.0	4.7		
						13		1	50					5.4		
						14		1	50					5.4		
HQ1	3/1	TIEU3	9050505	*Tilia* X *euchlora* 'Redmond' Crimean linden /Plumfield Nursery, Fremont, NE	66	66	1	1	100							
						06		1	100				14.8	15.8	88	
						10		1	100				14.6	18.0	90	
						15		1	100				16.9	18.1		
G2	19 4-8	ULDAJ	PI 421614 (PMK-2256)	*Ulmus davidiana* var. *japonica* Japanese elm /USDA ARS Nursery Crops Res. Sta., Delaware, OH	77	77	5	5	100	3			0.7	1.6		
						78										Entry removed 3/78
B2 HQ2 (WINDBREAK)	3/1	ULDAJ	PI 421614 (PMK-2256)	*Ulmus davidiana* var. *japonica* Japanese elm /USDA ARS Nursery Crops Res. Sta., Delaware, OH	77	77	1	1	100							
						78		1	100	3			0.2	2.8		
						79		1	100	3			2.8	3.2		
						80		1	100	1			3.7	3.7		
						81		1	100	1	3	3		4.1	5	
						82		1	100	1	3	3	4.8	4.7	6	
						83		1	100	1	2	3	4.5	6.0	9	
						06		1	100					19.3	75	
						11		1	100	9				16.5	74	Declining
P	22 1-5	ULMUS	PI 566597	*Ulmus* hybrid 'Patriot' elm US National Arboretum /NCRPIS	01	01	5	5	100					1.0		
						02		5	100	1	2	2	0.7	1.3		Medium browse
						03		5	100				0.8	1.1		Severe rubbing and browse
						04		5	100			7	1.0	1.6		damage
						05		5	100				1.5	2.3		DB, heavy
						06		5	100		3	7	2.1	2.9		
						10		5	100					6.8		
						11		5	100					7.0		
						15		5	100					9.6		

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Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
C1 20 G-H	ULMUS	BN-11371 (PM-K-172)	*Ulmus laevis* Russian elm Orenburg Steppe Zone /Russia/MDPMC	62	70	2	1	50	5			2.7	3.5		
					73		1	50							
C1 20 F	ULMUS	BN-11370 (PM-K-171)	*Ulmus laevis* Russian elm Caucasus mountains /Russia /MDPMC	62	70	1	1	100	3			7.0	7.0	5	
					73		1	100							
					74										Entry removed 4/26/74
G1 1 W'-B	ULPA	PI 250278	*Ulmus parvifolia* 'Elsmo' Chinese elm Rochester, NY /MOPMC	91	91	10	10	100				0.1	0.5		
2 W'-B					92		10	100					0.6	2	
					93		10	100				0.6	1.0	2	
					94		10	100	2			0.8	1.1		DB
					95		10	100				1.1	1.4		1 destroyed by deer, heavy browse
					05		10	100					7.4		
					10		10	100					11.7		Canopy encroachment
					15		10	100					11.4		
F3 6 1-2	ULPA	9004437 (PM-K-1841)	*Ulmus parvifolia* Chinese elm Woodard, OK /SCS SO, Stillwater, OK /KSPMC	74	74	4	4	100	1			0.4	0.8		
G 1/ B-E	ULPA	9004437 (PM-K-1841)	*Ulmus parvifolia* Chinese elm Woodard, OK /SCS SO, Stillwater, OK /KSPMC	74	75	4	4	100							
					76		4	100							
					77		3	75	3			1.3	1.8		
					78		3	75	3			1.9	2.2		
					79		3	75	3			2.2	3.0		
					80		3	75	3			2.0	3.0		
					81		3	75	2				4.0	5	
					82		3	75	2	3	3	3.8	5.0	6	
					83		3	75	4			4.0	6.0		
					93		3	75						16	
					98		3	75					12.9		
					02		3	75					13.2		
					04		3	75					16.0		E – top missing
					07		3	75					17.8		

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Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
G 3/ A-E	ULPA	9013711 (PM-O-73)	*Ulmus parvifolia* Chinese elm /USDA ARS, Woodard, OK /KSPMC	63	70	5	5	100	3			4.6	6.4	11	
					74		4	80	3			5.6	9.1	18	
					78		4	80	3			5.0	15.0		
					79		4	80	3			6.5	14.5		
					80		4	80	3			5.8	14.0		
					81		4	80	3	3	3		13.0		
					83		4	80	3	3	4	6.0	13.0	28	
					93		4	80						35	
					97		4	80					15.7	39	
					02		4	80					17.0	42	
					07		4	80					18.5	44	D – top broken; E – main stem broken
					12		4	80							
F3 4 2-6	ULPA	486339	*Ulmus parvifolia* 'Dynasty' Chinese elm US National Arboretum /NCRPIS	02	02	3	3	100	4	1	3	0.2	0.6		
					03	5	5	100				0.3	0.8		Added 2 new plants
					04		5	100	2	2	2	0.7	1.6		Good clean foliage
					05		5	100				1.2	2.5		
					06		5	100					3.2		
					07		5	100					3.8		
C1 20 I-J	ULPR	PM-O-58	*Ulmus procera* English elm /SPRRS	62	70	2	2	100	6			3.2	4.2	5	
G 1 A-E	ULPU	PM-K-211	*Ulmus pumila* Siberian elm /KSU Extn Forestry	63	70	5	5	100	2			7.6	9.1	24	
					73		5	100							
					74										Entry removed 5/01/74
C1 21 J	ULMUS	260885 (BN-11372; PM-K-173)	*Ulmus pumila arborea* narrow Siberian elm /MDPMC	62	70	1	1	100	3			6.4	5.8	16	
G2 16 1-8	ULMUS	9004462 (PM-K-2012)	*Ulmus* sp. 'Sapporo Autumn Gold' elm /NCRPIS	76	76	8	8	100	3			1.1	1.3		
					77		8	100	3			2.7	1.7		
					78		8	100	1			4.2	3.2		
					79		8	100	1			6.0	4.0		
					80		8	100	1			6.3	5.2		
					81		8	100	1	1	3		6.7		
					82		8	100	1	3	3	9.3	7.8		
					83		8	100	1	3	3	9.0	8.6		
					86		8	100				9.1	12.0		
					00		8	100					15.5		
					05		8	100					17.1		
					10		8	100					18.5		
					15		8	100					19.1		

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Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
C1 22 F-J	ULMUS	9004439 (PM-K-174)	*Ulmus* sp.	62	70	5	5	100	4			4.1	6.7	13	
			'Offerle' elm		73		5	100							
			Edwards Co., KS		74										Entry removed 4/26/74
			/KSPMC												
G 2/ A-E	ULMUS	9004439 (PM-K-174)	*Ulmus* sp.	63	70	5	5	100	5			3.2	6.4	10	
			'Offerle' elm		74		4	80	5			4.5	9.9	14	
			Edwards Co., KS		78		4	80	3			5.0	10.5		
			/KSPMC		79		4	80	1			5.0	11.0		
					80		4	80	3			4.5	12.0		
					81		4	80	2				11.7	21	
					82		4	80	4	3	3	4.0	12.5	25	
					83		4	80	2			6.5	13.3	27	
					93		4	80						33	
					97		3	60							C – dead
					02		2	40					15.9	42	
					07		2	40					17.8	45	
					12		2	40						45	
G 4/ A-E	ULMUS	9004440 (PM-K-212)	*Ulmus* sp.	63	70	5	5	100	3			3.0	6.9	10	
			hybrid elm		74		5	100	4			4.4	10.1	15	
			/KSU Hort. Farm		78		5	100	3			4.0	11.0		
			Manhattan, KS		79		5	100	3			4.0	13.0		
					80		5	100	5			4.0	13.0		
					81		5	100	3				12.5	23	
					82		5	100	5	3	3	4.0	12.0	22	
					83		5	100	5			4.0	12.5	24	
					93		5	100						31	
					97		5	100					14.3		
					02		5	100					14.9	37	B – top dead
					07		5	100					16.0	40	
					12		5	100						44	
F3 15 6-10	ULTH	9050503	*Ulmus thomasii*	06	06	5	5	100					0.7		
			rock elm		07		5	100				0.3	0.7		
			Dixon Co., NE /NCRPIS		08		5	100				0.9	0.9		
					09		5	100				0.3	0.7		
					10		5	100		7	2	0.3	0.7		
					11		5	100	8	7	3	0.4	0.6		DB
					14		5	100				0.4	0.6		No. 2 - DB
					15		5	100				0.4	0.4		

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
F3 20 1-5	ULHO	341756 (PM-K-1467)	*Ulmus* X *hollandica* 'Groeneveld' Holland elm hybrid /NCRPIS	71	71	5	5	100	3			0.9	1.6		
					72		5	100	3			1.1	1.7		
					73		4	80	4			1.8	2.4		
					74		4	80	4			2.1	3.3		
					75		4	80	5			2.3	4.3		
					76		4	80	5			2.9	4.7		
					77		4	80	3			3.4	5.0		
					78		4	80	3	3	1	3.9	5.5		
					79		4	80	3			4.0	6.5		
					80		4	80	3			4.7	7.6		
					81		4	80	2	3	3		7.0		
					82		4	80	3	5	3	5.6	8.0	14	
					83		4	80	1	2	5	5.2	8.5	16	
					86		4	80	5			4.6	12.1		
					89		4	80	3		9				
					95		3	60					11.0	29	No. 1 – top dead
					05		3	60					12.1		
					11		2	40					14.4		
					15		2	40					12.6		
F1 21 15-19	VAMA	PM-ND-252	*Vaccinium macrocarpon* American cranberry /NDPMC	70	70	10	6	60	5				0.2		
					71		6	60	3			0.4	0.6		
					72		6	60	3			0.7	0.9		
					73		6	60	5			1.1	1.2		
					74		6	60	5			1.4	1.6		
					75		6	60	3			2.3	2.7		
					76		6	60	3			2.3	2.9		
B1B2 3 11-20	VIDE	9034676	*Viburnum dentatum* southern arrowwood Forrest Keeling Nursery, Elsberry, MO /KSPMC		73	10	9	90	5			0.3	0.4		
					74		9	90	5			0.3	0.5		
					78		9	90	3			1.1	1.1		
					81		9	90	3	3	2	2.2	1.8		
G 3 F-J	VILA	PM-K-219 (K-177)	*Viburnum lantana* wayfaringtree /KSPMC	63	70	1	1	100	3			2.7	2.6		
G 11 E	VILA	PM-K-219 (K-177)	*Viburnum lantana* wayfaringtree /KSPMC	63	70	1	1	100	3			2.7	2.6		
					74		1	100	3			3.4	2.7		
					78										Entry removed 3/78

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
F2 18 1-6	VILA	9034677 (PM-K-1680)	*Viburnum lantana* wayfaringtree Forrest Keeling Nursery, Elsberry, MO /KSPMC	72	72	6	6	100	7			0.1	0.2		
					73		5	83	5			0.4	0.5		
					74		5	83	5			0.7	1.0		
					75		4	67	3			1.0	1.4		
					76		4	67	3			1.2	1.7		
					78		4	67	3			2.2	2.3		
					79		4	67	1			2.0	2.3		
					80		4	67	1			2.2	2.6		
					81		4	67	1			2.5	2.7		Clean foliage
					83		4	67	3	3	2	3.6	3.3		
					93		4	67					3.7		
					96		4	67	5				3.3		
B1B2 3 1-10	VILA	9034678	*Viburnum lantana* wayfaringtree Forrest Keeling Nursery, Elsberry, MO /KSPMC		73	10	10	100	5			0.1	0.3		
					74		10	100	3			0.3	0.6		
					78		10	100	3			1.3	1.6		
					81		10	100	3	1	1	2.4	2.3		
F2 20 6-10	VIBUR	9050609	*Viburnum mongolicum* Mongolian viburnum Asia /AA-FCRS, Morden, Manitoba, CN /NCRPIS	11	11	5	5	100				0.4	0.8		
					12		5	100				0.6	0.7		
					13		5	100				0.8	1.0		
					14		5	100				0.9	1.2		
					15		5	100				1.2	1.3		
G3 22 1-8	VIOP	399414	*Viburnum opulus* European cranberrybush /NCRPIS	77	77	8	8	100	5			0.4	0.3		
					78		8	100	3			0.7	0.8		
					79		8	100	1			1.3	1.2		
					80		8	100	1			1.5	1.2		
					81		8	100	1			2.0	1.8		Drought stressed
					83		8	100	2		3	3.0	2.6		
					85		8	100	1	1	3	3.3	2.7		
					93		8	100					4.0		
					96		8	100	1				4.1		
					01		8	100	7				4.6		
G3 23 1-8	VIOP	399415	*Viburnum opulus* European cranberrybush /NCRPIS	77	77	8	8	100	5			0.2	0.3		
					78		8	100	3			0.5	0.5		
					79		8	100	5			0.9	0.9		
					80		8	100	3			1.0	1.2		
					81		8	100	5			1.4	1.2		No. 1, 2, 5 – top dead, drought
					83		8	100	2		3	2.4	2.3		
					85		8	100	3			2.5	2.5		
					93		8	100					3.2		
					96		8	100	2				3.5		
					01		8	100	7				3.5		

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
G3 24 1-8	VIOP	399416	*Viburnum opulus*	77	77	8	8	100	5			0.3	0.3		
			European cranberrybush		78		8	100	3			0.6	0.8		
			/NCRPIS		79		8	100	3			1.0	1.1		
					80		8	100	5			1.3	0.9		
					81		7	87	5			1.6	1.3		No. 1 – dead; 2-4 top dead, drought
					83		7	87	3		3	2.2	2.5		
					85		7	87	2	1	3	2.5	2.5		
					93		7	87					3.1		
					96		7	87	4				3.3		
					01		7	87	9				3.3		
F1 21 15-19	VIOPA2	9006234 (PMND-552)	*Viburnum opulus*	70	70	6	6	100	5			0.5	0.6		
			var. *americanum*		71	(10)	6	100	3			1.3	1.5		
			American cranberrybush		74		4	67	3			2.8	3.4		
			/NDPMC		78		4	67	1			2.7	3.5		
					79		4	67	1			3.5	3.7		
					80		4	67	1	3	3	4.0	3.5		Fruit attractive
					83		4	67	1	3	3	4.8	4.0		
					93		4	67					3.6		
F1 13 1-5	VIRU	M1-7177	*Viburnum rufidulum*	68	70	5	3	60	5			0.3	0.5		
			blackhaw		71		3	60	5			0.8	0.9		
			/MOPMC		73		3	60	3			1.7	1.8		
					74		3	60	3			2.1	2.2		
					75		3	60	3			2.3	2.8		
					76		3	60	3			3.1	3.1		
					78		4	80	3			3.8	3.3		
F1 22 1-5	VIRU	9050482	*Viburnum rufidulum*	03	03	4	4	100	7			0.5	0.4		
			'Royal Guard' southern		04	(5)	3	80	6			0.3	0.3		
			blackhaw		05		3	80				0.4	0.6		
			Holden Arboretum		06		3	80					0.8		
			/NCRPIS		07		3	80				0.8	1.6		
					08		3	80				1.2	1.6		
					11		3	80		1	2	0.9	3.0		
					12		3	80				1.2	3.3		
					13		3	80					3.6		
F1 22 6-10	VIRU	9050483	*Viburnum rufidulum*	03	03	5	5	100	6			0.4	0.4		
			southern blackhaw		04		5	100	5			0.3	0.5		
			ISU Hort. Farm /NCRPIS		05		5	100				0.5	0.7		
					06		5	100					0.8		
					07		5	100				1.0	1.3		
					08		5	100				1.4	1.6		
					11		5	100		2	2	2.6	2.7		
					12		5	100				3.2	3.0		
					13		5	100					3.3		

Table 1. Initial Evaluation Data: Study No. 20I010K – Miscellaneous Trees and Shrubs

Plot Location	PLT SYM	Accession Number	Species Origin/Source	YR PLT	YR REC	NO. EST	NO. SRV	PCT SRV	V	DI	IN	CAN COV	PLT HGT	PLT DBH	Plot Remarks
G 11 U-Y	VIAG	PM-O-122	*Vitex agnus-castus*	64	70	5	5	100	4			5.5	3.6		
			lilac chastetree		74										Entry removed 4/26/74
			/SPRRS												
G 12 U-Y	VIAG	PM-O-123	*Vitex agnus-castus*	64	70	5	3	60	7			2.3	2.1		
			lilac chastetree		74										Entry removed 4/26/74
			/SPRRS												
F1 23 6-10	XASO	9050418	*Xanthoceras sorbifolium*	01	01	5	5	100	3			0.3	0.6		WC; leaf cutter bee damage
			yellow-horn		02		5	100	4	7	3	0.4	0.6		DB, medium
			northern China /NCRPIS		03		5	100	4			0.8	0.9		No. 5 - die back; recovered summer
					04		5	100	5			0.9	1.1		
					05		5	100				1.2	1.3		
					06		5	100		2	1	1.8	1.8		
					08		5	100							First flowering and fruit production
					11		5	100					3.3		
					12		5	100							20 seedlings in canopy; abundant fruiting
G1 14 1-5	ZESE80	421616 (PM-K-2057)	*Zelkova serrata*	76	76	5	5	100	5			0.2	0.2		
			Japanese zelkova		77		5	100	3			0.7	1.2		
			OSU Hort. Farm,		78		5	100	1			2.3	2.8		
			Stillwater, OK		79		5	100	1			3.6	4.3		
					80		5	100	1			4.3	4.8		
					83		5	100	1	3	2	8.5	8.0		
					86		5	100	6	6	6	6.0	9.0		
					93		5	100					10.0		
					95		5	100					7.6		
G1 13 1-6	ZELKO	50530	*Zelkova sinica*	76	76	6	6	100	5			0.3	0.6		
			Chinese zelkova		77		0								
			PI Sta. Savannah, GA												
			/MDPMC												
F2 6 1-10	ZIZI	PMT-3302	*Ziziphus zizyphus*	75	75	10	10	100	5			0.3	0.6		
			common jujube		76		9	90	5			0.7	0.8		
			Dewey Co., OK /TXPMC		77		9	90	5			1.2	1.1		
					78		9	90	5			2.0	1.9		

Figure 1. Plot Map Field F. Study No. 20I010K – Miscellaneous Trees and Shrubs, 2015. ▲ North ▲

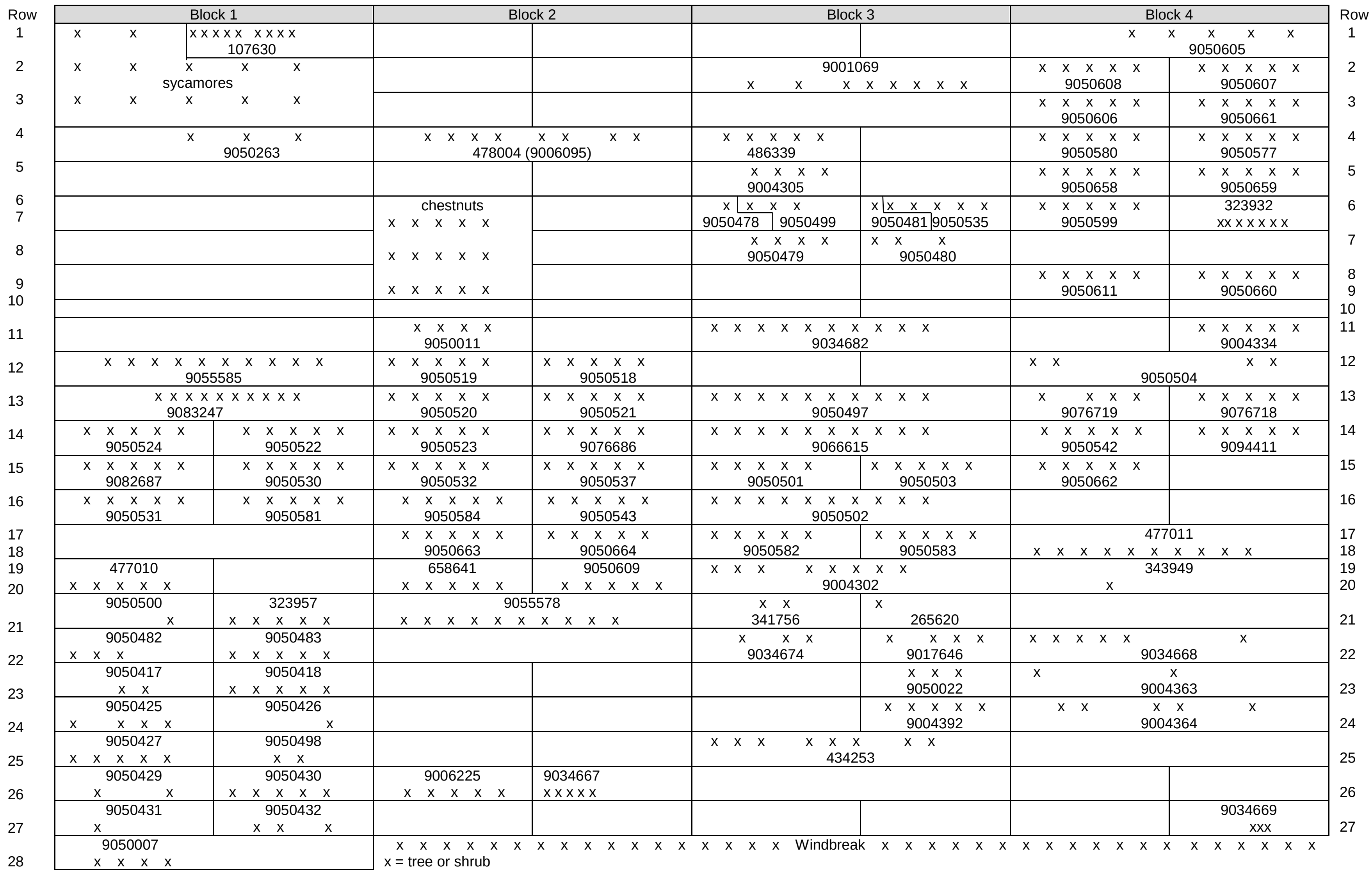
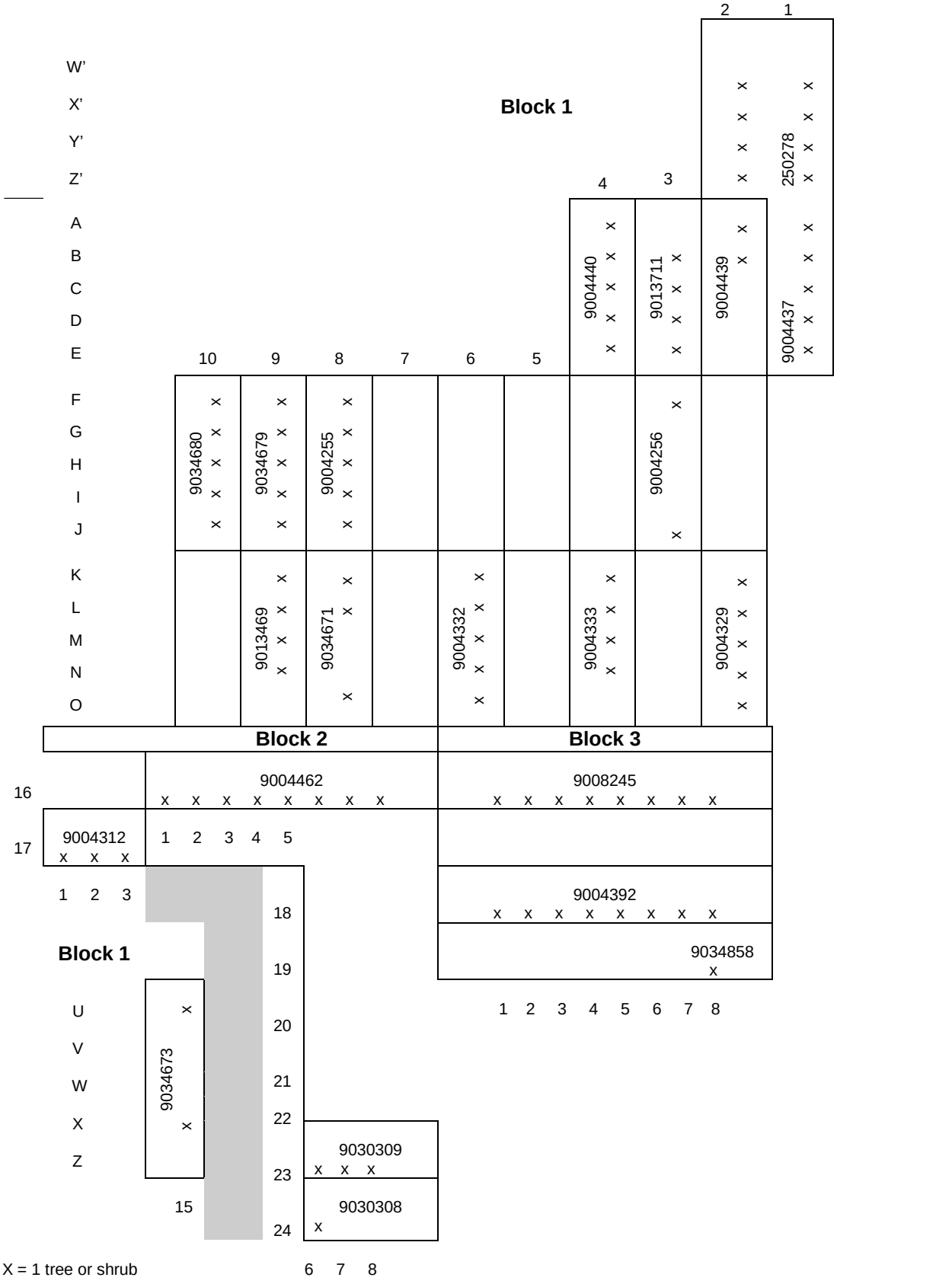
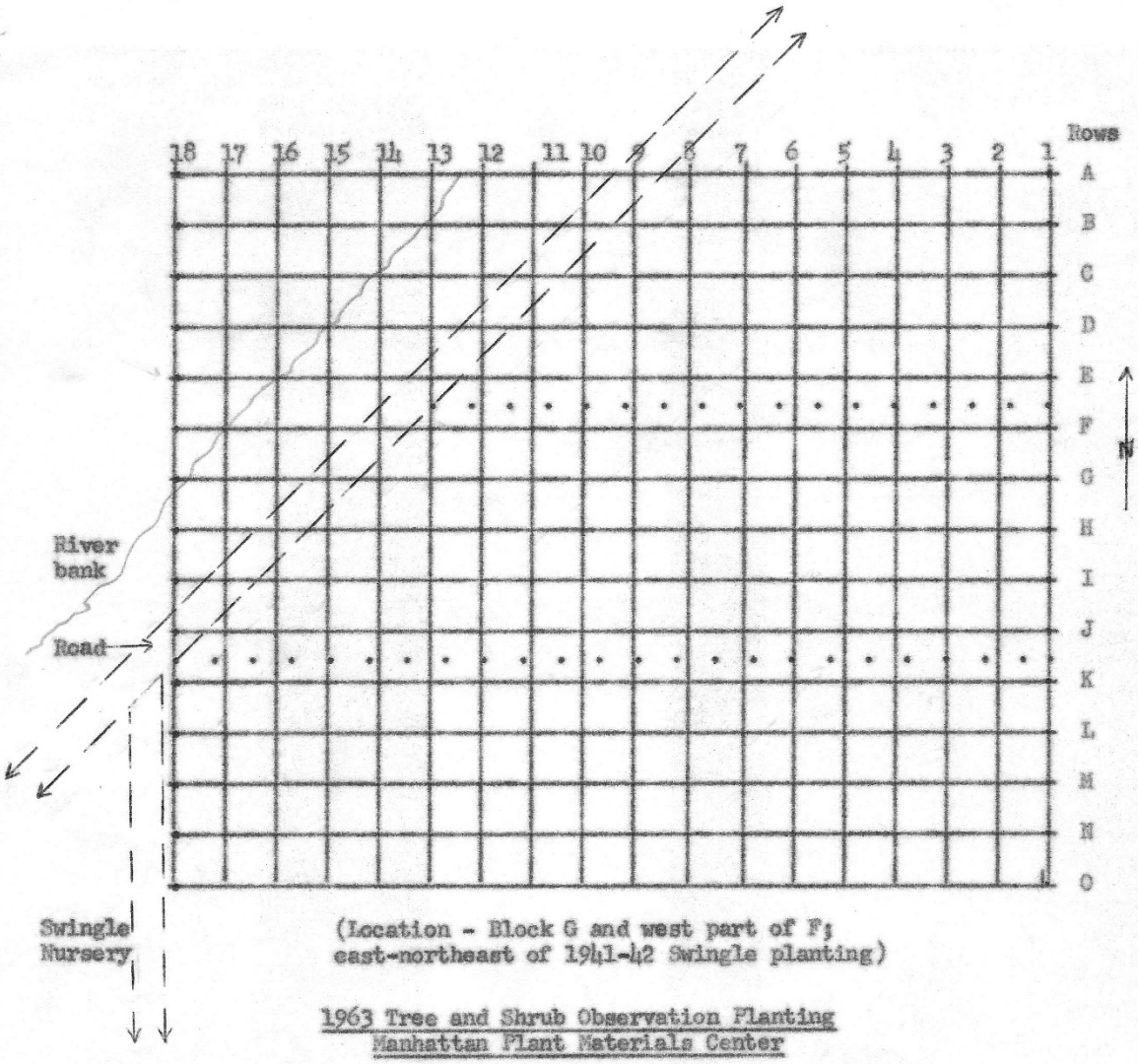


Figure 2. Plot Map Field G. Study No. 20I010K – Miscellaneous Trees and Shrubs, 2015. ▲ North ▲

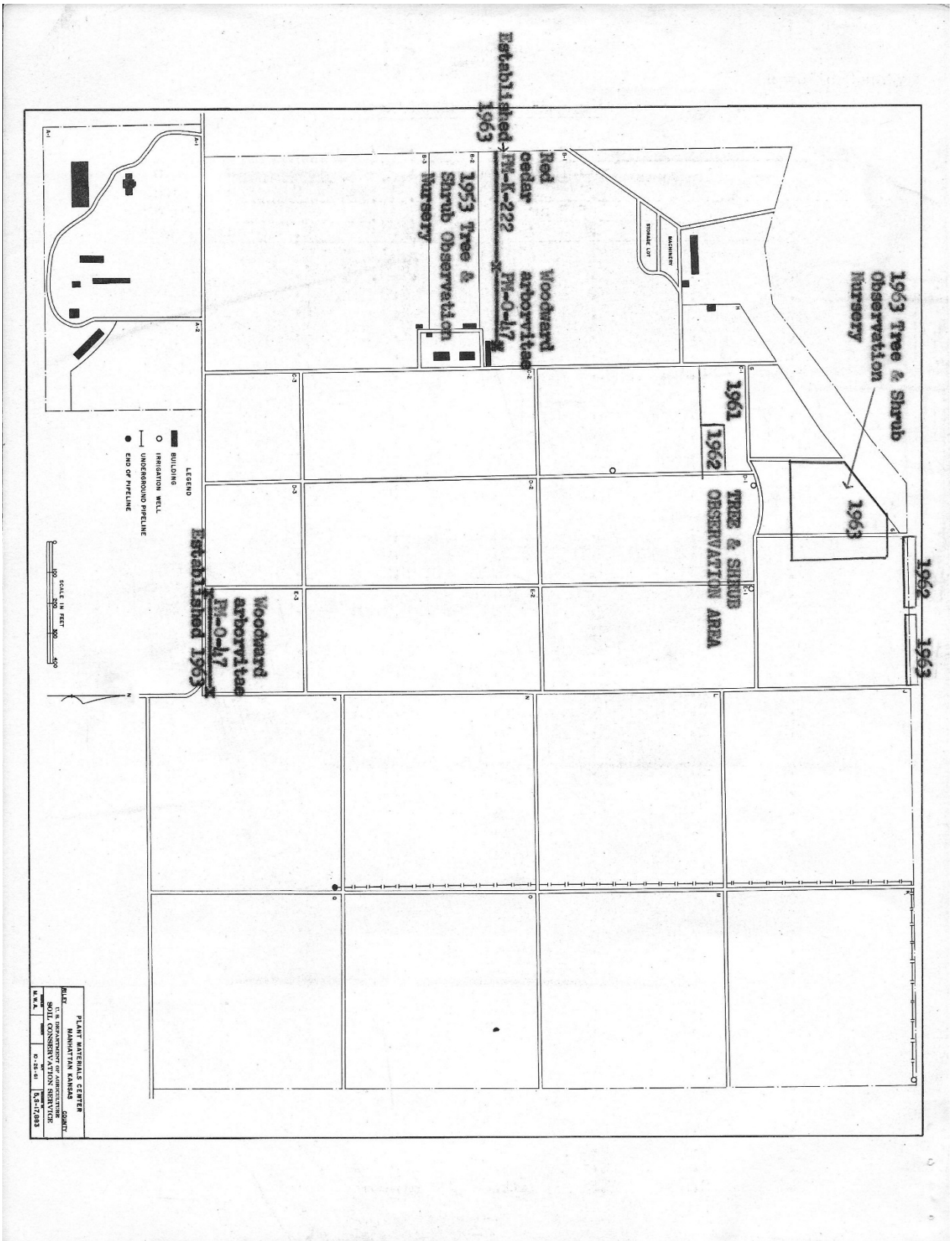




(Location - Block G and west part of F;
east-northeast of 1941-42 Swingle planting)

1963 Tree and Shrub Observation Planting
Manhattan Plant Materials Center

Spacing - 15 feet by 15 feet
Rows No. 1 to 18 from east to west; rows A to O from north to south.
Planting date - March 27 to April 22, 1963 by Louis Harrington and Robert D. Lippert


1963 Tree & Shrub Observation Nursery
1963
1962
1963
Established 1963
PM-K-222
Red cedar
Woodward arborvitae
PM-O-47
1963 Tree & Shrub Observation Nursery
1961
1962
TREE & SHRUB OBSERVATION AREA
Established 1963
Woodward arborvitae
PM-O-47
MACHINERY
STORAGE LOT
LEGEND
BUILDING
IRRIGATION WELL
UNDERGROUND PIPELINE
END OF PIPELINE
SCALE IN FEET
PLANT MATERIALS CENTER
MANHATTAN, KANSAS
SOIL CONSERVATION SERVICE

PLANT MATERIALS CENTER
MANHATTAN, KS
1964 - TREE & SHRUB OBS. NURSERY - 1964
BLOCK "G" & W½ "F"

	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	
P	PM-K 282 COMMERCIAL RUSS. OLIVE →																		P
Q		PM-K 282 COMM. SILVER MAPLE	PM-K 279 COMM. COTONEASTER	PM-K 203 SAWTOOTH OAK (POTTED)	PM-MM 512 SKUNKBUSH SUMAC	PM-O 117 RED CRAPEMYRTLE	PM-O 123 HARDY LILAC CHASTETREE	PM-O 122 LILAC CHASTETREE	PM-O 118 KOLKWITZIA AMABILIS	PM-K 284 AMUR PRIVET	PM-O 121 AMUR PRIVET	PM-O 70 QUIHOUI PRIVET	PM-O 119 FONTANESIA FORTUNEI	PM-O 120 FORESTIERA NEOMEXICANA	PM-K-288 FORSYTHIAS	PM-K 283 COMM. TART. HONEYSUCKLE	PM-O 71 AMUR HONEYSUCKLE	PM-K- → COMM. RUSSIANOLIVE	Q
R	PM-K 286 ↓	PM-K 364 RUSSIANOLIVE	PM-ND 363 RUSSIANOLIVE	PM-ND 353 LILAC JOSIKAEA	PM-ND 285 BOUNTY AM. PLUM	PM-ND 288 SOUTH DAK. AM. PLUM	PM-ND 284 MANHATTAN AM. PLUM	PM-ND 286 MANET AM. PLUM	PM-K 277 READS SELECT SCOTCH PINE	PM-K 278 FR. GREEN SCOTCH PINE	PM-K 285 COMM. POTTED AUST. PINE	PM-K 275 COMM. POTTED POND. PINE	PM-K 276 CONCOLOR WHITE FIR	PM-O 125 PINYON PINE (POTTED)	PM-O 48 WOOD. ONE-SEEDED JUNIPER	PM-O 116 COMM. ROCKY MT. JUNIPER (POTTED)	PM-K 280 COMM RED CEDAR	281 ↓	R
S																			S
T																			T
U																			U
V																			V
W																			W
X																			X
Y																			Y
Z			↑				PM-K COMM.	K-301 LILAC									↓	↓	Z
	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	

ROW #1 - N.E. CORNER WEST TO #18

PLANT "A" NORTH TO SOUTH TO "Z"

15' x 15' SPACING

BY: ROBERT D. LIPPERT
PMT-SCS

Photo Gallery

Celtis laevigata (sugarberry) in fall color in Field F-1, with a sycamore in the background.

Thuja occidentalis ("Affinity" northern white cedar) which is a release from Roselake, Michigan in Field F-4.

Malus sp. ("Magenta" crabapple on the left and Midwest" crabapple on the right). These releases are in the landscape near the office.

Woody plant entries in Field F-1, which is primarily dedicated to medium to small trees and shrubs.

Physocarpus opulifolius ("Center Glow" ninebark) is an example of an NC-7 trial planting.

Quercus alba (white oak) in full fall color at the PMC in Manhattan, Kansas.

Cotinus coggygria (smokebush) in fall color.

Aesculus glabra (Ohio buckeye) is one of the older groups of plantings at the Manhattan PMC.

Pinus sylvestris var. mongolica (Mongolian pine) is interesting because of possible resistance to pine wilt.

Sorbus torminalis (wild service trees) display a columnar form desirable in landscape plantings. It has a colorful fall foliage, which is also an asset.

This accession of betula nigra (river birch) has long been thought of as a potential plant release.

Tanya Ralinina, a Russian interpreter, stands in front of the old Swingle Tree Nursery, which dates to the early days of the tree research at the PMC. Tanya accompanied Dr. Gelmut Mattis on his visit to the United States.

Dr. Gelmut Mattis from Russia stands under one of the Quercus robur (English oak) trees that are under observation at the Manhattan PMC.

John M. Row, Agronomist at the Manhattan PMC, stands next to one of the Sorbaria sorbifolia (Ural false-spirea) plants.

Geographic origin study of Fraxinus pennsylvanica (green ash).

A young platanus occidentalis var. glabrata (smooth sycamore) in Field F-3.

A colorful ptelea trifoliata (common hop-tree) in the fall at the Manhattan PMC.

The photinia pyrifolia (red chokeberry) proves to be quite colorful in the fall, hence the species name "pyrifolia."

Shining sumac in flower in Field F-2. (Field F-3 plantings can be seen in the background.)

Mature Rhus copallinum (shining sumac) in colorful fall foliage.

Photo Gallery Notes

Legend: PD = picture date
YP = year planted

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Celtis laevigata (sugarberry), accession 9050263, YP 1997, PD 2012, in fall foliage in front of sycamore (upper left picture).

Thuja occidentalis ("Affinity" northern white cedar), YP 1982, PD 2009, a Rose Lake PMC release (upper right picture).

Malus sp. ("Magenta" crabapple on the left), YP 1977, a Rose Lake PMC release and *Malus mandshurica* ("Midwest" crabapple on the right) a Bismarck PMC release, PD 2011 (middle left picture).

Field F-1, woody plant entries, *Xanthoceras sorbifolium* (yellowhorn), accession 9050418, YP 2001, and in foreground, *Viburnum rubidulum*, accession 9050483, YP 2003, PD 2006 (middle right picture).

Physocarpus opulifolius ("Center Glow" ninebark), in full bloom, YP 2008, PD 2013 (lower left picture).

Quercus alba (white oak), accession 9050532, in fall foliage, YP 2008, PD 2014 (lower right picture).

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Cotinus coggygria (smokebush), accession 9050427, YP 2002, PD 2014 (upper left picture).

Aesculus glabra (Ohio buckeye), accession 9030309, in full bloom, YP 1981, PD 2010 (upper right picture).

Pinus sylvestris var. *mongolica* (Mongolian pine), 2 entries from Bismarck PMC, YP 2009, PD 2012 (middle left picture).

Sorbus torminalis (wild service tree), accession 9050432, YP 2002, PD 2012 (middle right picture).

Betula nigra (river birch), accession 9034682, YP 1971, PD 1994 (lower left picture).

Tanya Ralinina, Russian interpreter, standing in front of Swingle Tree Nursery, PD 1994 (lower right picture).

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Visiting scientist, Dr. Gelmut Mattis (Deputy Director, All-Union Research Institute of Agroforest Amelioration [VNIALMI], Volgograd, Russia, PD 1994 (upper left picture).

John M. Row, Agronomist, has taken measurements and collected observational data on trees and shrubs at the Manhattan PMC for 28 years. He stands next to *Sorbaria sorbifolia* (Ural false-spirea), accession 9050023, YP 1990, PD 1994 (upper right picture).

Geographic origin study of *Fraxinus pennsylvanica* (green ash), located in Field C-1, YP 1961, PD 1994 (middle left picture).

Platanus occidentalis var. *glabrata*, smooth sycamore, accession 9050583, YP 2010, PD 2014 (middle right picture).

Ptelea trifoliata (common hop-tree), YP 2007, PD 2012 (lower left picture).

Photinia pyrifolia (red chokeberry), accession 658641, YP 2011, PD 2014 (lower right picture).

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Woody plant entries, shining sumac, Field F-2 foreground and Field F-3 plantings in the background PD 2010 (upper left picture).

Rhus copallinum ("Morton Prairie Flame" shining sumac), accession 9050537, YP 2009, PD 2014 (upper right picture).

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