

# **G. ZANDBERGEN-TERWEGEN**

SASSENHEIM - HOLLAND

**1969**

## Introducing a new concept . . . .

The flower bulb growers and exporters of Holland joined together some 40 years ago to finance and engage in all activities deemed necessary and valuable to promote the sale and distribution of Holland flower bulbs. We are proud to be members of this trade group and to actively participate in its work, while at the same time retaining our independence so far as commercial transactions are concerned.

One of the activities of our group, initiated some years ago, was the production of a joint catalogue. Over the course of years the catalogue has been improved by the addition of marketing and cultural information and has become a valuable source of information for many of you. This year the amount of information to be added made it necessary to drastically change the entire format. As a result, we have the pleasure to present to you in 1969 — not a catalogue — but a BULB MANUAL.

We have changed the name because we realize that what we have here is much more than just a catalogue — more than just a list of types and varieties of bulbs and their prices. We are convinced that this publication will be a valuable source book for all those interested

in flower bulbs; either as a flower producer or a horticultural supply dealer.

Although the types and varieties of bulbs described in this publication are considerable, they obviously cannot include all that are in cultivation. To do so would have required an encyclopedia in the true sense of the word. Every effort has been made to list those varieties that have a substantial demand but we must emphasize that some varieties have been omitted which will, no doubt at some time become important in the future.

Since much of this information will be valid for some years to come, we have decided to produce the BULB MANUAL as a loose leaf book. Each year you will be supplied with new pages to be inserted so as to keep the MANUAL up-to-date. The replacement pages will consist of our PRICE LIST and a description of new promotional material. From time to time correction pages, no doubt, will be issued whenever they are found to be necessary.

So you see, this MANUAL is truly a new concept. It is a combination of a service manual and a price list. In a sense, it represents our true function; we offer to supply you with flower bulbs of the finest quality and, at the same time, to give you every possible assistance in production and marketing.

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**Garden Section**

**Garden Section**

# Selling assistance



Successful marketing in the modern era requires the proper coordination of the essential elements from primary production to the ultimate sale to the consumer. It is no longer possible for the bulb grower or ourselves as wholesale supplier to just carry out our marketing function without regard to your efforts as retailers. We became convinced of this many years ago and this is the reason why we joined with our colleagues in Holland, growers and exporters, to sponsor an all-round Selling Assistance Program.

For the past 40 years the Holland flower bulb industry has consistently staged the most complete sales promotion program on behalf of its customers. We take pride in the fact that no other segment of commercial horticulture has even come near the consistency and scope of the Holland bulb promotion program.

Each year our efforts aim at two basic objectives. They are to pre-sell the consumer and to help you in your own selling efforts. To achieve these goals we use various tools. Here are some of them:

- ☆ National advertising in the United States and Canada using magazines and newspapers.
- ☆ Public service programs on radio and television with a view towards educating consumers in bulb gardening.
- ☆ Supplying newspapers and magazines with stories and pictures on bulb gardening.
- ☆ Made available to newspapers a free color mat service.
- ☆ Provided rotogravure editors with the most complete library of transparencies ever established by any industry.
- ☆ Financed a cooperative advertising program which materially assisted retailers in their local advertising efforts.
- ☆ Cooperated with national and community groups to further the cause of gardening in general and bulb gardening in particular.

Needless to say, these are only a few of the highlights of the work engaged in by the Netherlands Flower-bulb Institute with a view towards assisting our retail customers. The promotional program has maintained its effectiveness not only because of its tremendous scope but by reason of the fact that as a total effort it has been dynamic in nature.

Although most of the activities listed above will continue since they are basic tools, all will be changing from year to year.

Each year the sales promotion program is reviewed and major changes made in some activities and minor changes in others. At the present time thorough investigation is taking place of such possibilities as:

- ☆ Television advertising in major markets.
- ☆ A Field Service to help retailers at the Point-of-Purchase.
- ☆ Retailer merchandising clinics to be held in various regions of the U.S. and Canada.

We can assure you that when new directions are decided on they will be communicated to you. In many instances this will be done by ourselves personally. In every instance we know that the Institute will get the information to you. As a means of communication the Institute publishes the HOLLAND BULB QUARTERLY and a copy is mailed to every retailer every 3 months. If you have not been getting your copy let us know and we will make sure you are put on the mailing list.

Just one reminder - if you want detailed information on any of the industry's promotion programs please contact:

NETHERLANDS FLOWER-BULB INSTITUTE  
29 BROADWAY, NEW YORK, N.Y. 10006  
TELEPHONE: 212-943-6253

# Sales aids

## Spring Flowering Bulbs

For most retailers the most important task is to communicate to the consumer that he can buy the best Holland Bulbs at their store and that now is the time to do so. Many of you use different media to accomplish this task and in each instance the Institute has valuable material for you.

- ☆ **ADVERTISING:**
  - Newspaper ad mats
  - Radio commercials
  - TV scripts, photos and slides
- ☆ **OUTDOOR AND INDOOR DISPLAY**
  - Full color posters and streamers
  - Transparent acetate streamer
  - Full color pictures of over 600 varieties of spring and summer flowering bulbs
- ☆ **DIRECT MAIL ADVERTISING**
  - Mail Stuffers
  - 12-page magazine replete with color illustrations

Another task of the retailer is to supply his customers with accurate and complete information on how to get the best results. For this purpose we have:

- ☆ Simple and easy to read planting charts
- ☆ Full color instructional folders
- ☆ Indoor forcing booklets
- ☆ Bulb Information Desk

And we should not forget the 3 lb. and 5 lb. paper bags for those who have bulk displays.

## Fall sales aids check list

- FT-68 Transparent Acetate Streamer ((10 1/2" x 14"))
- FPH-67 Fall Poster Hyacinth (13 3/4" x 21 3/4")
- FPT-67 Fall Poster Tulip (13 3/4" x 21 3/4")
- FPD-67 Fall Poster Daffodil (13 3/4" x 21 3/4")
- FPC-67 Fall Poster Crocus (13 3/4" x 21 3/4")
- FS-68 Fall Streamer (11" x 33 1/2")
- GG-68 Holland Bulb Garden Guide Poster (19 1/4" x 29 3/4")
- FB-68 Fall Color Instructional Folder
- PC-68 Planting Chart (packed in hundreds)
- MS-68 Direct Mail Stuffer
- MF-68 Direct Mail Folder
- IB-69 Indoor Forcing Booklet
- FD-3 Fall Paper Bags 3 lb.
- FD-5 Fall Paper Bags 5 lb.

**HOLLAND BULB GARDEN GUIDE**

10 triumph tulips  
50 muscari

18 darwin hybrid tulips

6 daffodils  
50 muscari

5 pink hyacinths

4 SIMPLE STEPS

1. This is a bulb... 2. F...

**FLOWERING SCHEDULE**  
Under normal conditions, the order of bulb flowering is:

Galanthus (Snowdrop)	Trumpet Daffodil	Ball
Eranthis (Winter Aconite)	Tulip	Ball
Via Reuchasta	Single Early and Double Early	Tall
Chionodoxa (Glow of the Snow)	Hyacinth	Peak
Puschkinia libanetica	Medium-cupped daffodil	Old
Tulip Species: Kasperianskaya, Postelsiana, etc.	Tulip	Soil
Muscari (Grape Hyacinth)	Triumph Darwin Hybrid	Out

GG-68 Holland Bulb Garden Guide

Genuine Imported

**DUTCH BULBS**

FT-68 Transparent Acetate Streamer

**Height**

26  
24  
22  
20  
18-20  
16  
14  
12  
10  
8  
6  
3

**Depth**

2  
4  
6

soil line

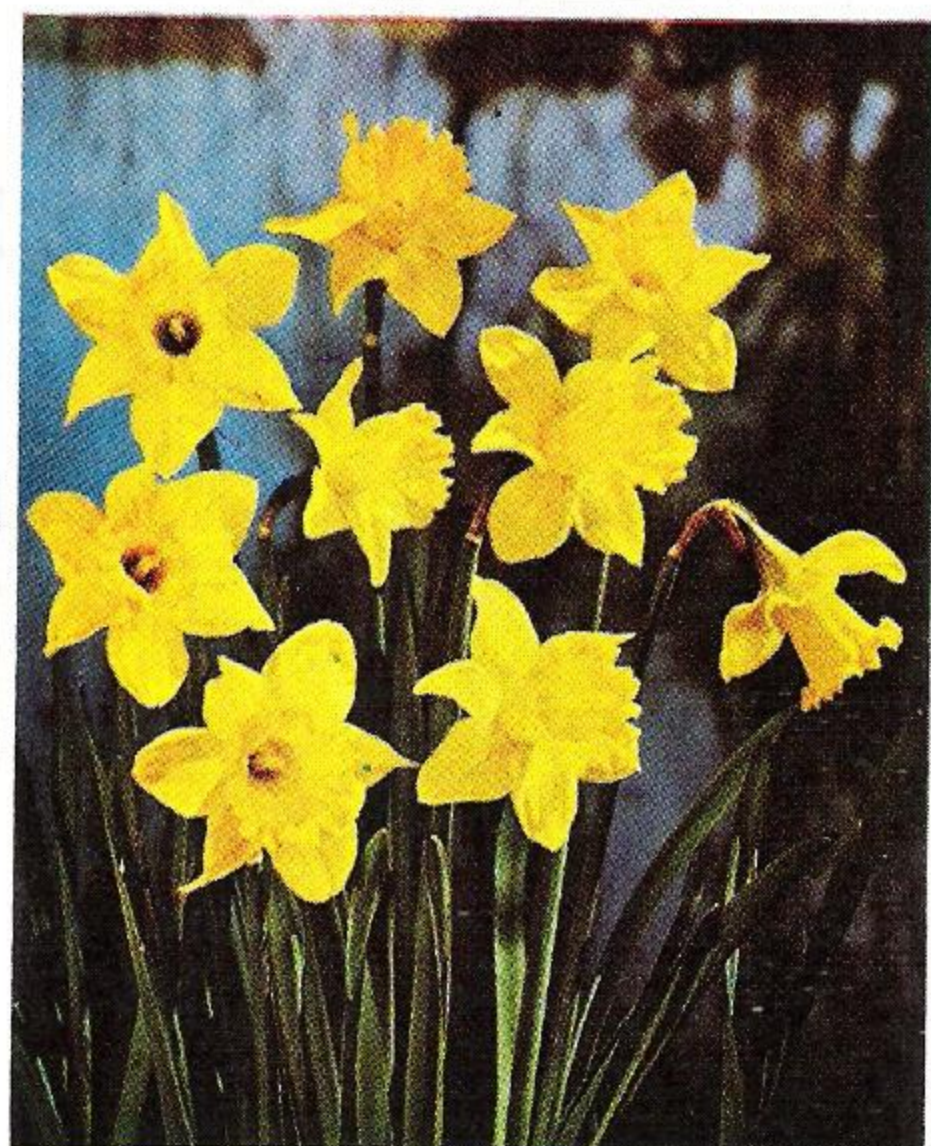
MINOR BULBS HYACINTH DAFFODILS TULIPS - early mid-season late

PC-68 Planting Chart



## Color prints

We have available full color pictures of over 225 summer flowering bulbs and 380 of spring flowering bulbs. The size of most pictures is 6" x 8½", with Gladiolus a somewhat larger size - 6¾" x 14".

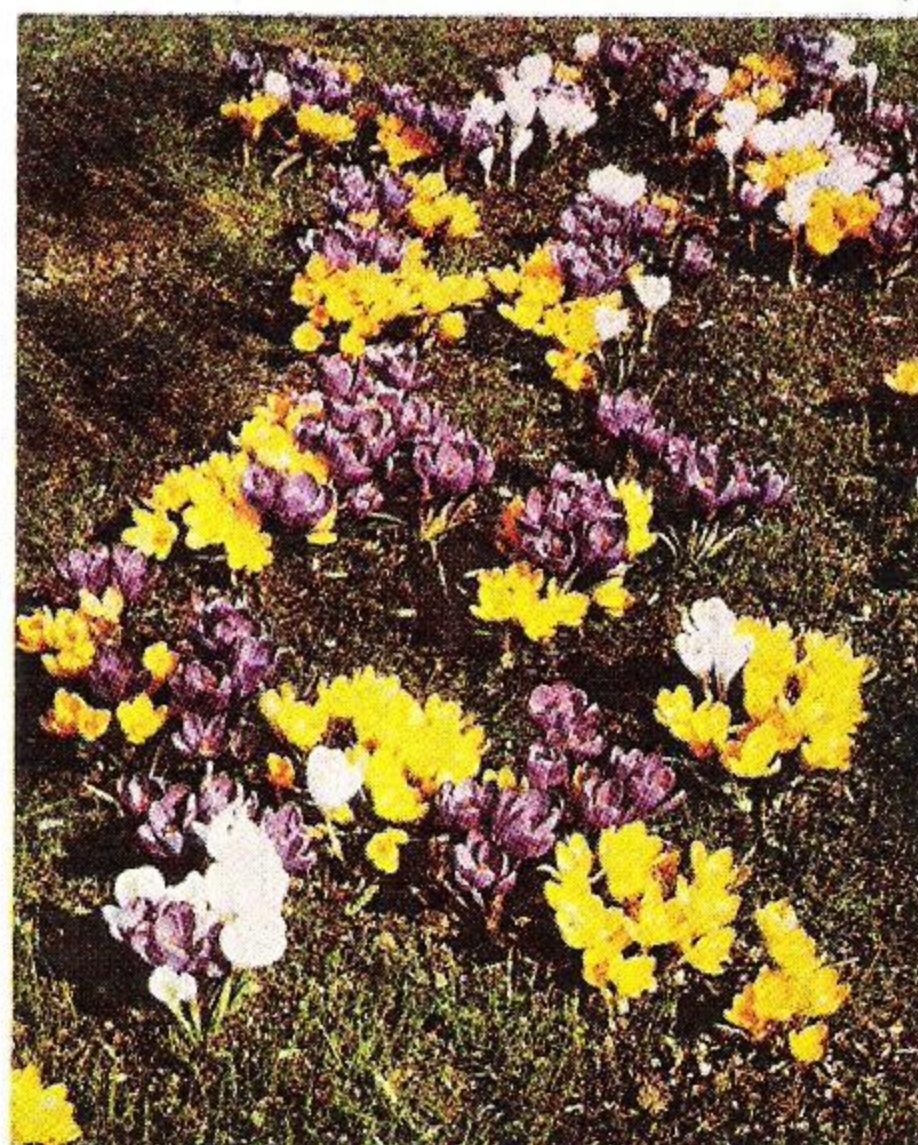


## DUTCH DAFFODILS

ON SALE HERE



FPD-67  
Fall Poster  
Daffodil



## DUTCH CROCUS

ON SALE HERE



FPC-67  
Fall Poster  
Crocus

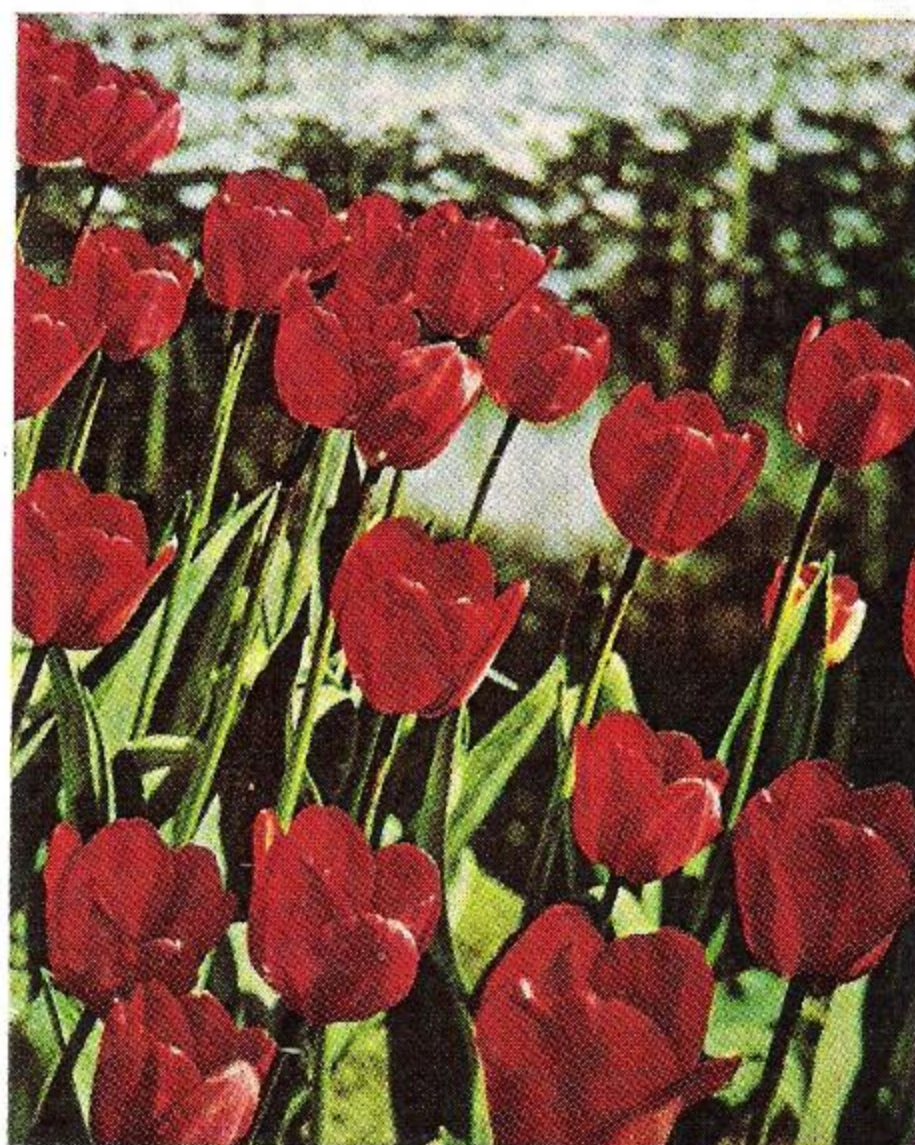


## DUTCH HYACINTHS

ON SALE HERE



FPH-67  
Fall Poster  
Hyacinth



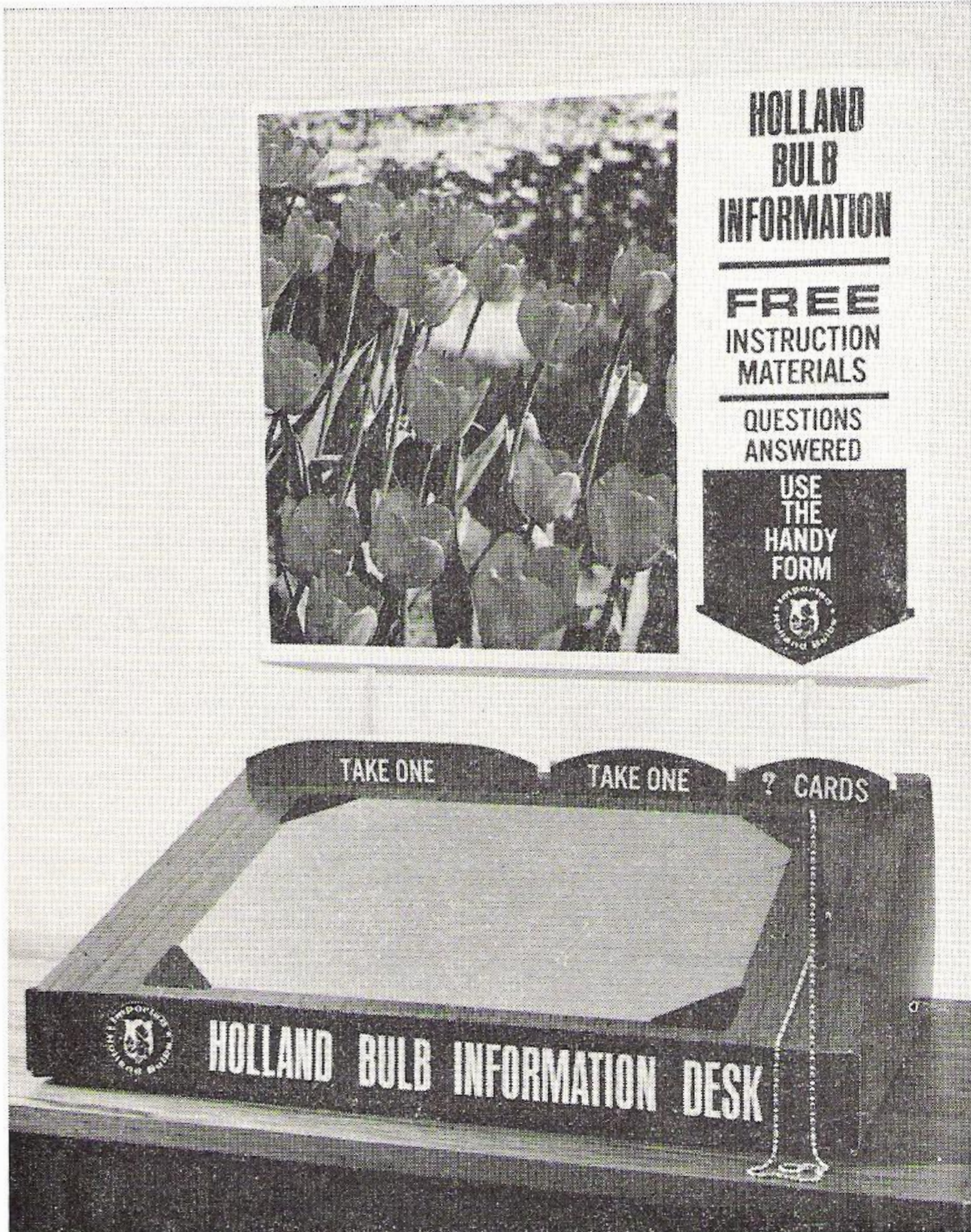
## DUTCH TULIPS

ON SALE HERE



FPT-67  
Fall Poster  
Tulip

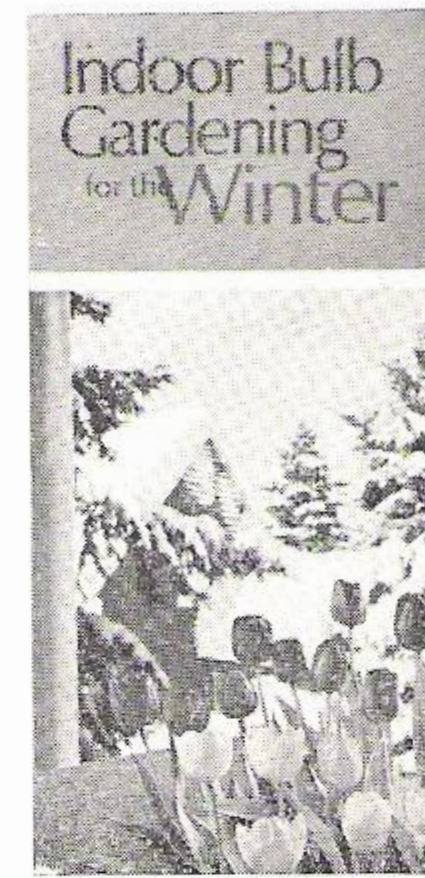
# Sales aids



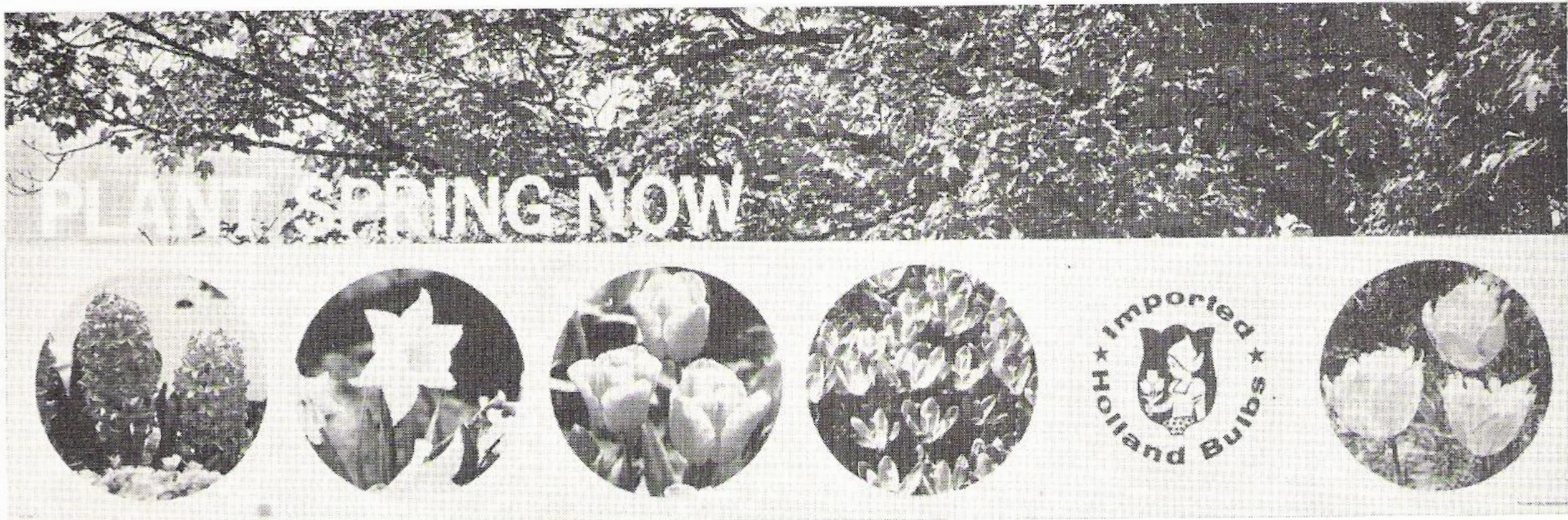
Holland Bulb Information Desk



FB-68 Fall Color Instructional Folder

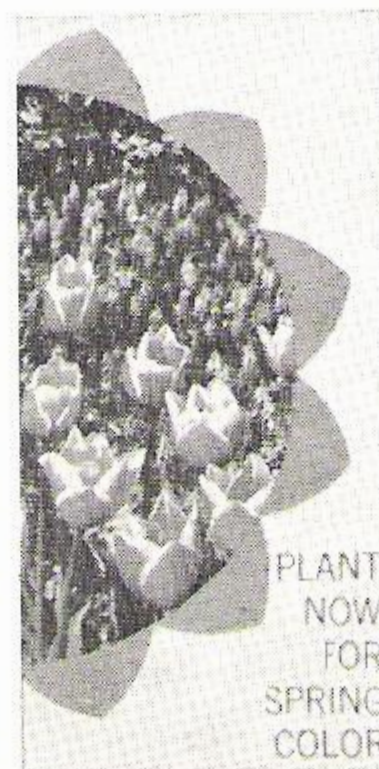


IB-69 Indoor Forcing Booklet



FS-68 Fall Streamer

FD-3 or FD-5 Paperbags



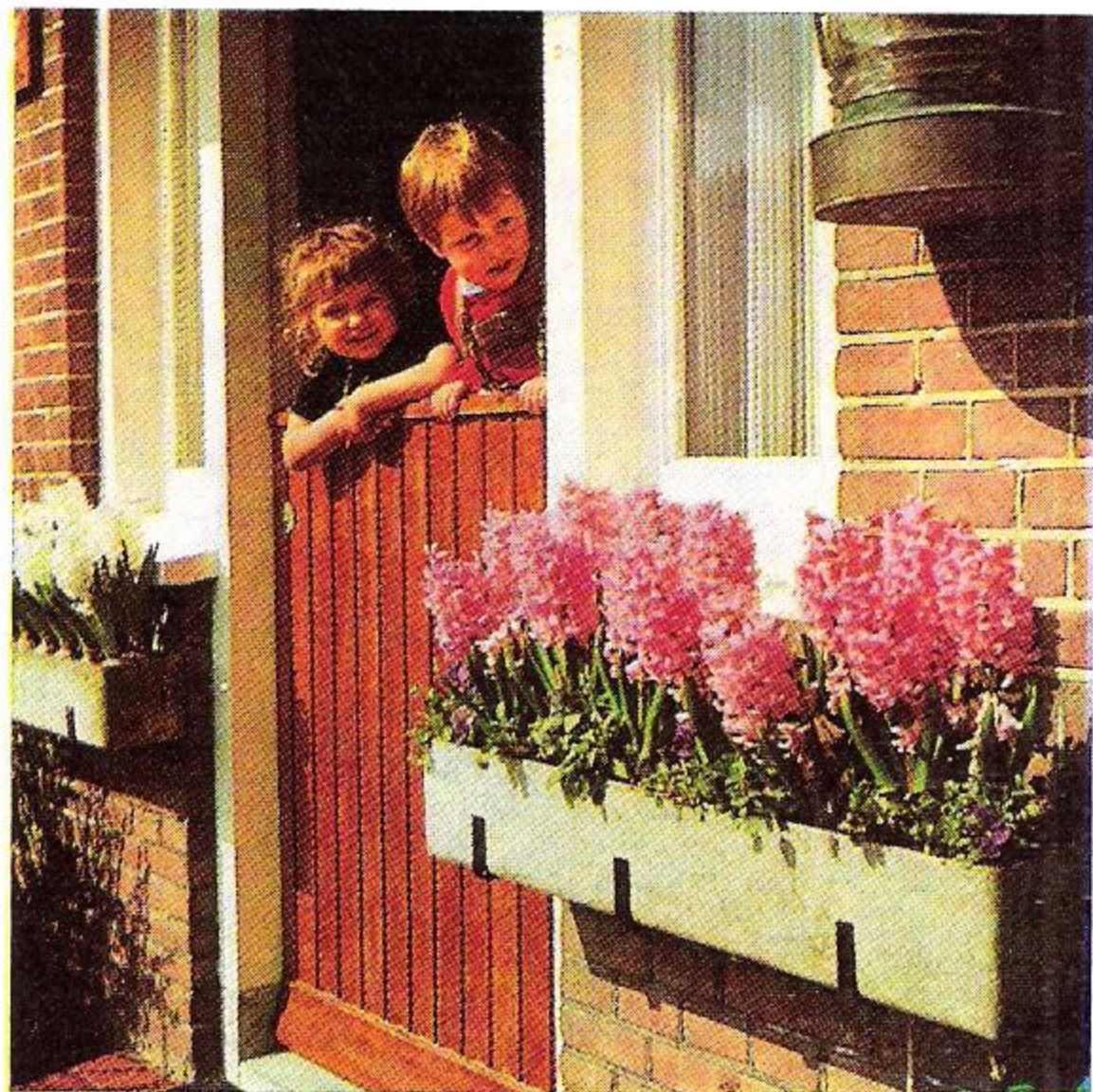
MS-68 Direct Mail Stuffer



MF-68 Direct Mail Folder



## Window boxes and ornamental planters



Many kinds of bulbs are very suitable for use in window boxes or ornamental planters. These containers should have adequate drainage holes,  $\frac{3}{4}$ —1" in diameter and preferably a layer of broken flower pots or pebbles at the bottom. The soil to be used must be light and porous and should not come higher than one inch under the rim of the container, to allow for watering. Never let the soil dry out completely.

## Tulips in the South

Tulips require a certain amount of "Winter-cold" for their proper development. In areas in the South with very mild winters Tulips do not get enough "cold", resulting in unequal and very short growth. (Ground temperature not lower than 50° F.)

For better results it is advisable to precool the bulbs; this can be done by placing the bulbs in a refrigerator with a temperature of about 40° F. for six weeks. Normal household refrigerators have this temperature in the vegetable compartment at the bottom of the fridge. The best period for pre-cooling Tulips is from October 1st till the middle of November.

In autumn the bulbs are planted in the containers, their tops just peeping out of the soil. They are planted rather close together, about half their diameter apart. The planted containers are then covered with pure sand, peat-moss or vermiculite and placed in a cool place or buried outside. A basement where the temperature during the winter period does not go over 40° F is very suitable. Keep moist. Outside the containers should be buried under a layer of soil, 4—5" deep and then covered with salt hay, leaves or straw.

When frosts are not anymore expected, place the containers in their proper places and remove the sand or peat-moss. From now on water regularly and soon the plants will burst into flower.

For special effects minor bulbs can be planted underneath tulips, hyacinths or daffodils. Suitable for this purpose are Chionodoxa, Eranthis, Galanthus, Muscari and Scillas. Many annuals are effective for interplanting with bulbs. After the winter period they are planted between the sprouts of the bulbs and with a bit of planning they will flower together with the bulbs. Violas, Forget-Me-Nots and Wallflowers are very useful for this purpose.

The most suitable bulbs for windowbox gardening are: Hyacinths, short growing Single Early and Double Early Tulips, many kinds of Species Tulips, short growing Daffodils and Narcissi and a host of minor bulbs.



# Bulb retailers operating guide

If you wish to have a highly successful selling season you must be prepared for all the mechanics of merchandising long before your bulb shipment arrives. To achieve a "sell-out" season every detail of the retail operation should be carefully planned and coordinated.

## Before the bulbs arrive

**PLAN YOUR ADVERTISING SCHEDULE:** Decide how you will use your budget. Set up your newspaper schedule to take advantage of the Institute's ads in your market. Contact your newspaper, radio or TV stations well in advance of the season. The advertising managers can help you get the most out of your budget and can advise you on frequency discounts. In preparing your ad budget remember to take into consideration the N.F.I. Cooperative Advertising Program, which can double the effectiveness of your advertising.

**PREPARE YOUR ADVERTISING MESSAGE:** By preparing your message well in advance of the selling season you can avoid the last minute rush with the usual errors. The Institute can help you with ad mats or pictorial elements with which to prepare your own layout. If you are using radio we have prepared scripts and for TV suggested commercials and visuals.

**SUPPLY NEWSPAPERS AND STATIONS WITH EDITORIAL MATERIAL:** See that the newspapers, radio or TV stations that you are using for advertising receive a supply of editorial material to inform readers or listeners that Fall is bulb-planting time. This material is also available through the Institute.

**CHECK SUPPLY OF SALES AIDS:** Review your order for sales aids. Extra quantities can be ordered through us to arrive with the bulb shipment if contact is made early enough.

**MAIL A PRE-SEASON REMINDER TO CUSTOMERS:** Even your best customers will appreciate a reminder in advance of bulb-planting time. This message could be included in a Summer statement, or it could consist of a special mailing. Even a simple mimeographed message can be effective. Better still, make use of some of the mail stuffers and booklets available through the Institute.

**SELECT THE PROPER LOCATION FOR YOUR BULB DISPLAY:** The location of your bulb display is extremely important. Ideally, the location should be one that is in a well-trafficked part of the store where people can find and avail themselves of the bulbs with ease. This may mean that a Summer display will have to be moved to make room for the bulbs. When done early and gradually, it will be much easier on the entire operation of the store.

The display area should also take into consideration the fact that bulbs are living things. They

should be out of direct sunlight, away from sources of heat, and where they will not freeze.

**START PREPARING YOUR BULB DISPLAY.** First select a theme or idea. Something a little out of the ordinary can often be a great stimulant to customers. When you have such an idea, start gathering items needed or making props. This would also be the time to start constructing elements so they will be ready the moment bulbs arrive.

**HAVE ADEQUATE SIGNS PREPARED:** Both in-store and outdoor signs should be made in advance of the arrival of your bulbs. Be sure they are large enough to be seen. A more direct message with a minimum of cuteness and gimmicks is often the most successful approach.

**MAKE PLANS FOR SPECIAL EVENTS:** Any special events like a Holland bulb festival or special "bulb arrival" day should be planned early so that the proper advertising and promotion can be accomplished. Special events can be a most profitable venture.

## When bulbs arrive

**UNPACK BULBS IMMEDIATELY:** As soon as the bulbs arrive in the store the cartons should be opened immediately. This includes all bulbs, even those that may not be put into the display immediately.

**STORE BULBS PROPERLY AFTER OPENING:** If bulbs are not to be placed on display immediately they should be stored in a cool, dry place away from heat sources and out of sunlight. Always bear in mind that bulbs are living plants and should be treated as such.

**ORGANIZE BULBS IN THE DISPLAY:** When placing bulbs on display, place them in a logical order that will make purchasing easier for your customers.

**LABEL BULBS PROPERLY:** Label each group properly, and in manner so that the label will not be changed or moved either inadvertently or by a prankster. The most effective way of labeling is by using colored pictures of the flower. If you make your own labels, be sure to indicate the class as well as variety name. It will also be helpful to your customer if the label also includes some indication of the flowering time whether it be early, mid-season or late.

Pricing is extremely important. It is often thought by a customer that if the price is missing, the item is "too expensive". The mode of pricing, whether cost per individual bulbs, ten, dozen or 100, depends on your customers and your policy. There is no set rule as to the proper manner in which bulbs should be priced. But it is extremely important to have the bulbs properly and clearly marked so there is no doubt in the mind of your customer.

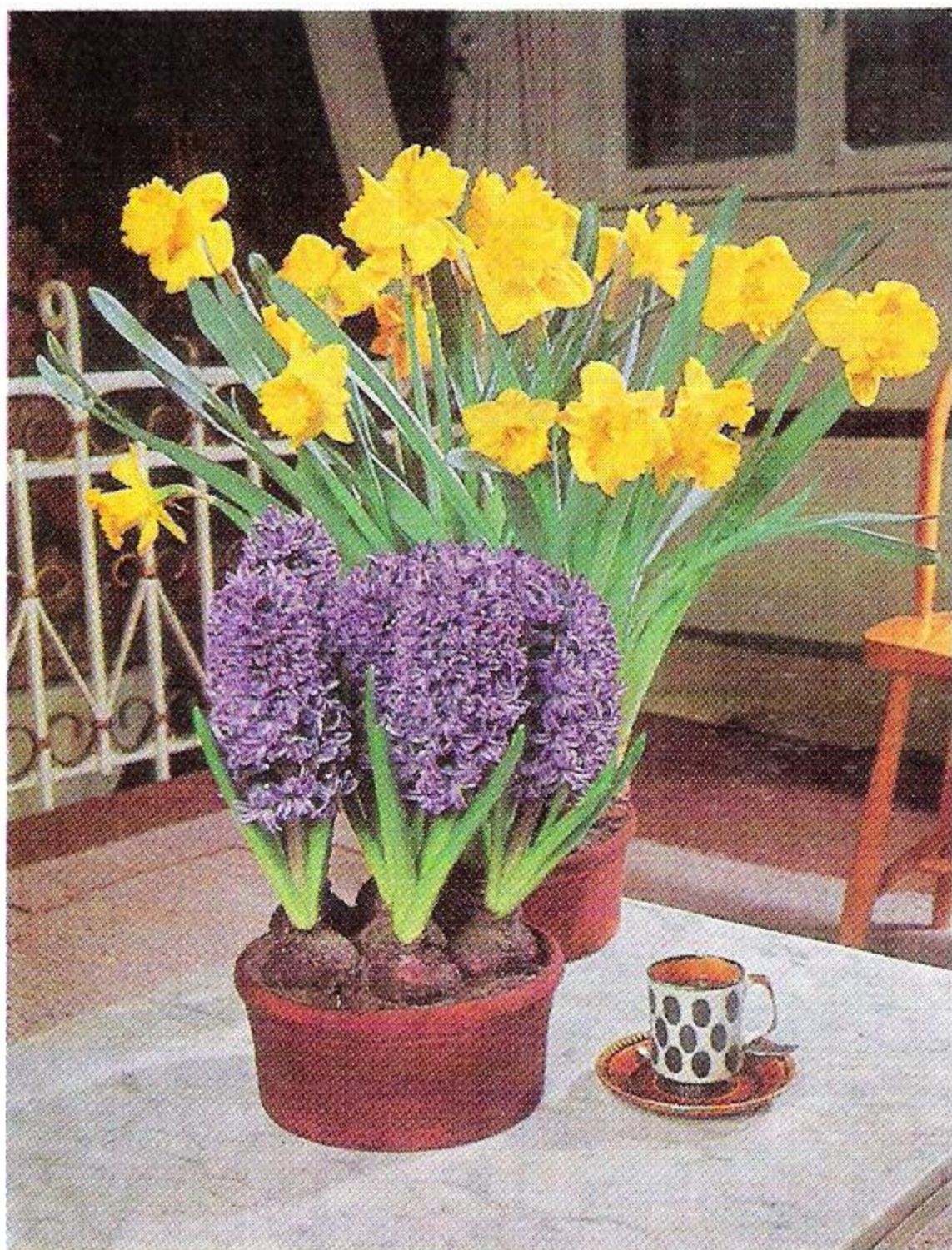
**CONSIDER RELATED ITEMS:** In the close proximity of your bulb display, it would be wise to have an assortment of trowels, bulb planters and even soil conditioners such as peatmoss to improve poor soils.

### During the selling season

**FAMILIARIZE YOURSELF WITH STOCK LOCATION:** Everyone involved with the sale of bulbs should be familiar with the location of all the stock. This not only holds true for those who are regularly employed, but also part-time people on weekends. Customers will receive a very favorable impression when they are immediately directed to the exact item they desire.

**KNOW EXACTLY WHAT YOU ARE SELLING:** There are thousands of different varieties of bulbs available today. Your selection of varieties represents only a small fraction. You should be completely familiar with the varieties, or at least the classes you have on display. You should know the colors - whether they are red, yellow, pink, etc. It is also helpful to know the blooming time of each variety to the extent that they are early, mid-season or late. You should also know which bulbs are best adapted for particular growing situations or culture. For instance, a customer may ask for bulbs to be used in a rock garden. A knowledge of the stock will make it easier to suggest substitutions if there is a special request.

**PLACE LITERATURE WHERE IT IS EASILY AVAILABLE TO CUSTOMER.** Planting charts, brochures and other literature designed to help the customer



should be prominently placed and made easily available to customers: The answers to most of your customers' questions will be found somewhere in one or more of these booklets.

**STUDY THE BOOKLETS YOURSELF:** By having a thorough knowledge of what is contained in all of the literature you are offering your customers, it will be easier for you to direct them to the information they request. It is not necessary to memorize the materials, but at least read them through so that you are familiar with the contents.

**BE READY TO ANSWER SPECIFIC QUESTIONS:** Although the answers to these questions can be found in the literature, following are some of the most frequently asked things about growing bulbs:

How deep should they be planted? Answer: Check the planting chart on Page 8 or the side of the special bulb bags. Generally, large bulbs should be planted 6 inches deep and apart, smaller bulbs 3 inches deep and apart.

Should bulbs be fertilized? Answer: None is needed for first year bloom. They can be given bonemeal or super-phosphate in the Spring for future blooms. Never use manure.

Do the bulbs have to be dug up in the Spring or can they be left in the ground? Answer: Not only can they be left in the ground, it is preferred in most instances. However, they can be dug after the foliage has completely ripened and turned brown.

How many years of flowering can be expected from the bulb? Answer: This depends a great deal on the bulb. Some will last longer than others. But the fading flower must be removed and the foliage left on to ripen fully and turn brown to rebuild the bulb. If foliage is removed, bulbs will not renew and no flowers will appear the next year.

Note any other special questions as they arise. They will often be repeated by other customers. Know the answer for a more effective selling job.

**KEEP DISPLAY NEAT:** At all times the bulb display should be kept neat. This will include removing the remains of excess skins that many accumulate in bins. Bulbs that become damaged during the selling season should also be removed so that only clean, healthy bulbs are on hand for the customer's choice.

**REPLENISH STOCK:** The most inviting display to a customer is one that is filled at all times.

### Closing out the season

Keep a record of those varieties that moved fasted as well as those your customers specially ask for. Note the date on which your stock was practically depleted. If this occurred weeks before the normal end of the planting season then you were under-stocked and should make note to remedy this for the next season.

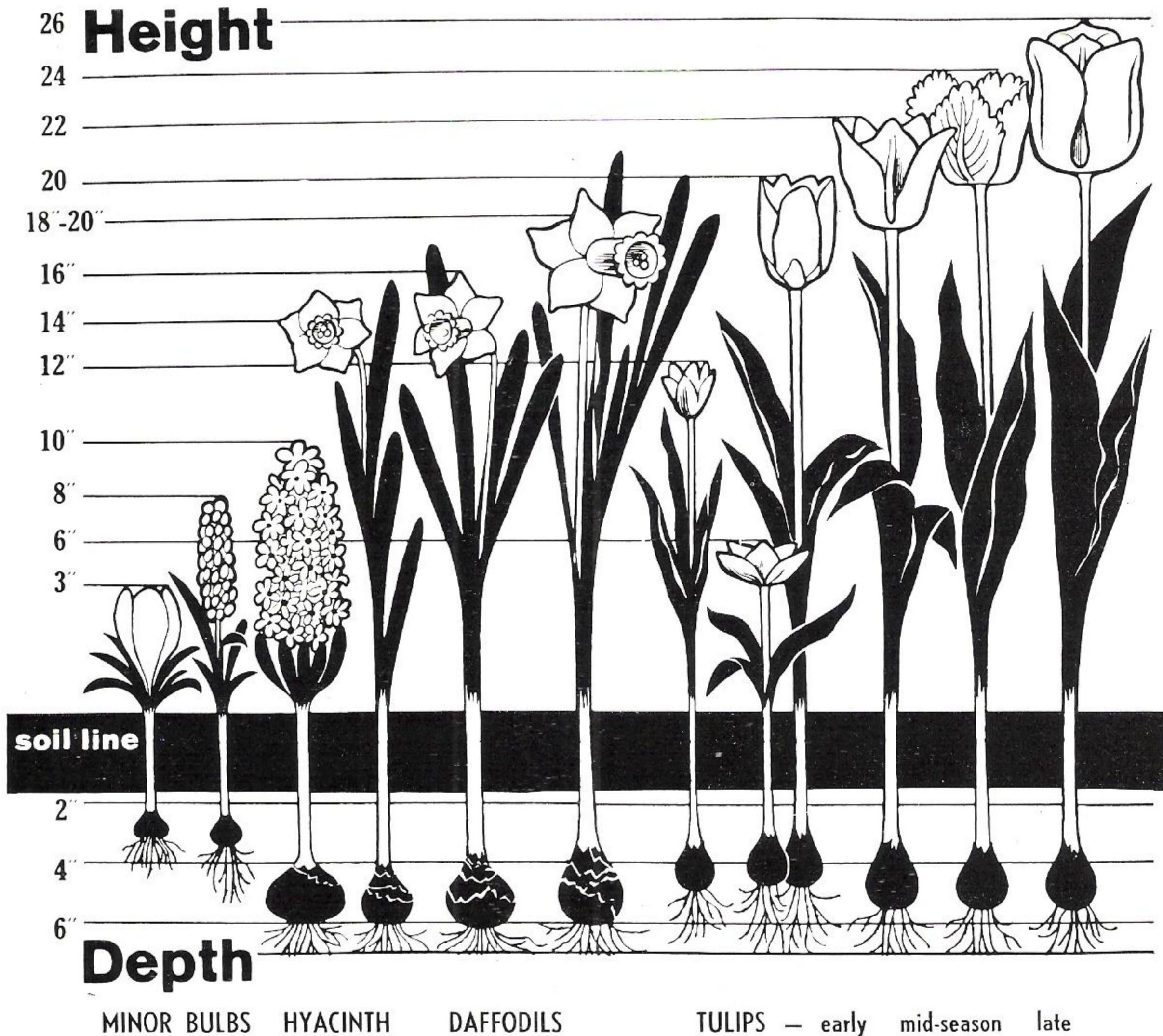
# Flowering schedule

Under normal conditions, the order of bulb flowering is as follows:

**Galanthus** (Snowdrop)  
**Eranthis** (Winter Aconite)  
**Iris Reticulata**  
**Chionodoxa** (Glory of the Snow)  
**Puschkinia libanotica**  
**Tulip Species:**  
 Kaufmanniana, Fosteriana, etc.  
**Muscari** (Grape Hyacinth)

**Trumpet Daffodil**  
**Tulip:**  
 Single Early and Double Early  
**Hyacinth**  
**Medium-cupped daffodil**  
**Tulip:**  
 Triumph, Darwin Hybrid

**Daffodil:**  
 Short-cupped, Poet's Narcissus, jonquil  
**Tulip:**  
 Parrot, Cottage, Lily-flowered, Double Late, Darwin, Breeder  
**Scilla Campanulata** (Spanish squill)  
**Dutch Iris**



## Three easy steps

1. Remove soil with spade or trowel to correct depth; set bulbs firmly in position with pointed ends up.
2. Replace the soil.
3. Water bed thoroughly immediately after planting.

Then you can walk away whistling, and before you know it... Spring flowers!

# SPRING FLOWERING BULBS

for Summer and Autumn delivery







## Hyacinths

■ Picture available

A conception among Springflowers for every flower-minded person and a name, associated with fragrance and grace of a stately plant.

The Hyacinth, originally introduced in Europe from East Asia in a much different form, has since been cultivated and adapted to the colder climate of our region and after years of experimenting it has now become a most versatile bulbous flower.

For not only in the garden, but also indoors and even more so in the greenhouse, Hyacinths lend the beauty of their flowers easily and without much care, as long as a few simple rules are observed.

### Blue

- BISMARCK, sky blue
- BLUE GIANT, blue
- BLUE JACKET, fine dark blue, compact spike
- DELFT BLUE, porcelain blue, compact spike
- KING OF THE BLUES, dark blue
- MARIE, very dark blue
- MYOSOTIS, light blue
- OSTARA, fine dark blue
- PERLE BRILLANTE, sky blue

### Red

- AMSTERDAM, cherry red, sturdy plant
- JAN BOS, beautiful scarlet
- LA VICTOIRE, carmine red

### Pink

- ANNA MARIE, clear pink
- CROWNPRINCESS MARGARET, light pink
- EROS, deep pink
- LADY DERBY, light pink, fine shaped bulb
- MARCONI, rose pink
- PINK PEARL, deep rosy pink
- QUEEN OF THE PINKS, bright rosy pink

### White

- ARENTINE ARENDSSEN, pure white
- CARNEGIE, pure white, compact spike
- COLOSSEUM, white
- L'INNOCENCE, pure white

### Yellow

- CITY OF HAARLEM, yellow
- YELLOW HAMMER, yellow

### Violet

- AMETHYST, soft violet
- LORD BALFOUR, purplish violet

We offer our Hyacinths in various sizes listed as follows:

#### TOP SIZE

Largest bulbs which the harvest produces, carefully selected, producing large flowers.

#### FIRST SIZE

Can also be used for single pots and is best size for growing on glasses.

#### SECOND SIZE

Recommended for planting 3 or more bulbs in a pan or for forcing in flats.

#### THIRD SIZE

Recommended for general purposes; bulbs are excellent for growing in pots, pans, and for gardening.

#### BEDDING SIZE

Popular for outside planting. Flowers are not heavy and will therefore stand rainy and windy weather better.

#### MINIATURE

Miniature Hyacinths produce graceful flowers and are very suitable for cutflower purposes.

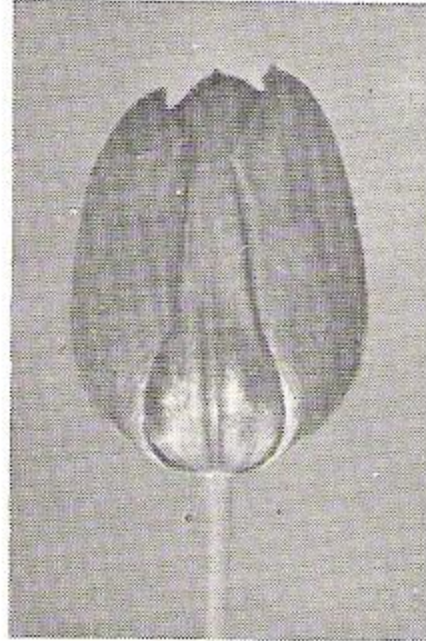


tulips



# Tulips

Tulips, gay aristocratic queens of Spring, are the most popular flowers in the world. There are tulips for every taste. They are available in many different classes or types and in numerous varieties. Most species Tulips, the Single Early and the Double Early Tulips are early-flowering; Mendel and Triumph Tulips are mid-season flowering and all other Tulips are late-flowering.

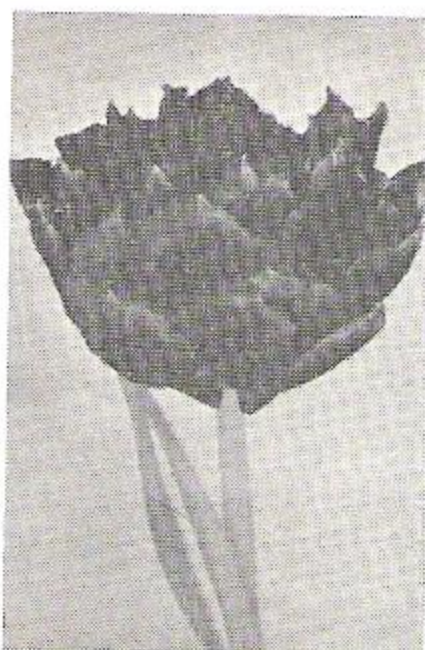


## Single Early Tulips

■ Picture available

Aside from the value of some varieties for early forcing, Single Early Tulips do create a striking effect in any garden with their bright and vivid colors. All varieties are short or medium long stemmed, which makes these Tulips ideal for bedding. They all flower early, which is an advantage when beds later on are needed for early annual plantings.

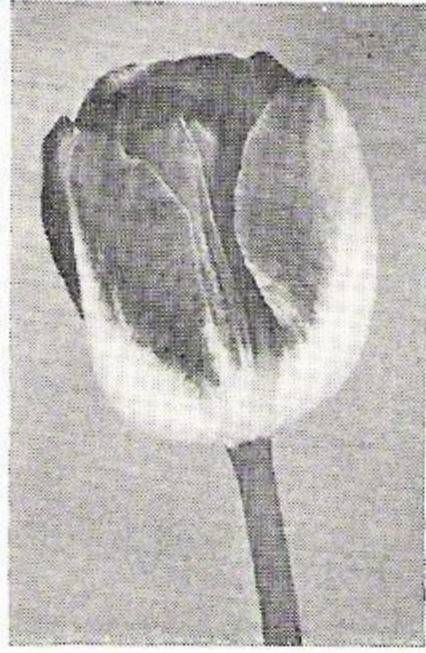
- BELLONA, pure golden yellow
- CASSINI, brownish red
- CHARLES, scarlet, yellow base
- CHRISTMAS MARVEL, cherry pink
- COULEUR CARDINAL, brilliant crimson, slightly dewed outside
- DOCTOR PLESMAN, glowing orange red
- GALWAY, orange red, base yellow
- GENERAL DE WET, orange, sweet scented
- IBIS, deep rose
- KEIZERSKROON, bright red with broad yellow border
- PRINCE CARNIVAL, red, flamed yellow
- PRINCE OF AUSTRIA, orange red, sweet scented
- SUNBURST, orange yellow, flushed red
- VAN DER NEER, clear deep violet
- SUPERFINE MIXED



## Double Early Tulips

The Double Early Tulips flower after the Single Early's. Undoubtedly they will catch everybody's fancy as these Tulips put a splash of color in the garden. Moreover, the sports of Murillo perform quite as well as Easter-pot-plants when Easter is not too late.

- BONANZA, carmine red, edged yellow
- CARLTON, deep scarlet, sturdy stem
- ELECTRA, deep carmine
- GOYA, orange red
- HOANGHO, pure yellow, strong stem
- HYTUNA, buttercup yellow, inside lemon yellow
- MARÉCHAL NIEL, golden yellow, flushed orange
- MR. VAN DER HOEF, pure golden yellow
- MURILLO SPORTS, in mixed colors, for bedding
- ORANGE NASSAU, deep orange red
- PEACH BLOSSOM, deep pink
- SCARLET CARDINAL, glossy scarlet
- SCHOONOORD, snow white
- STOCKHOLM, scarlet with yellow base
- TRIUMPHATOR, very deep pink
- VUURBAAK, scarlet
- WILLEMSOORD, carmine, edged white
- SUPERFINE MIXED



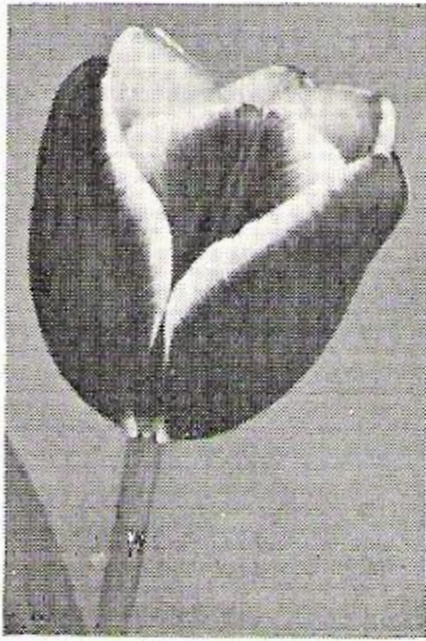
## Mendel Tulips

■ Picture available

These Tulips flower after the Single Early Tulips. They are of medium height and therefore very well suited for bedding. Mendel Tulips produce excellent cutflowers.

- ATHLEET, pure white
- BEAUTY OF VOLENDAM, white flamed red
- BING CROSBY, glowing scarlet
- GOLDEN OLGA, purple rose, edged yellow
- KRELAGE'S TRIUMPH, deep red

- OLGA, violet red, edged white
- ORANGE WONDER, bronzy orange
- PINK TROPHY, pink, flushed rose
- VAN DER EERDEN, lively red



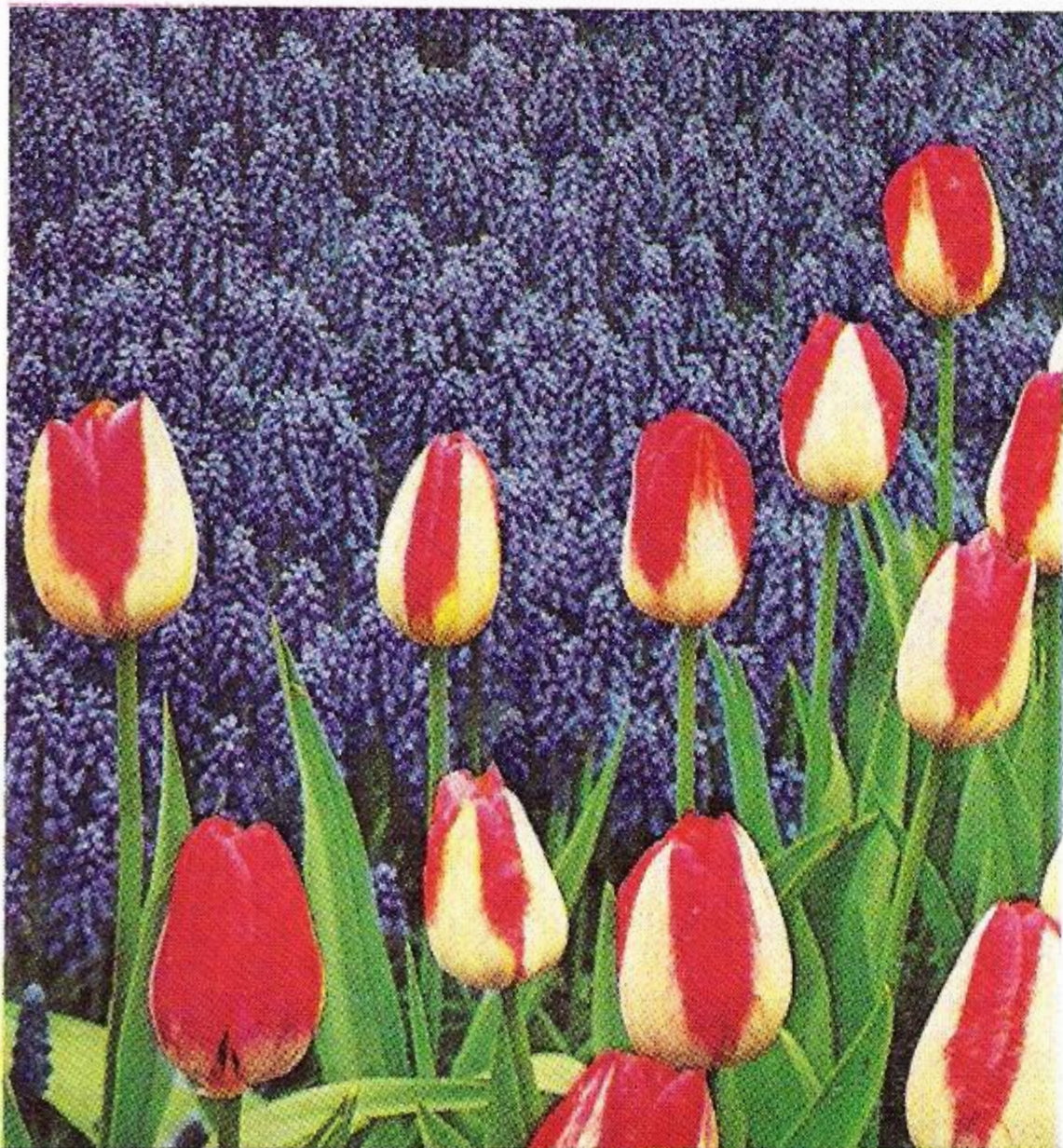
## Triumph Tulips

Originated by crossing Darwin Tulips with late flowering varieties of Single Early's, hence the flowering time of Triumph Tulips falls just in between.

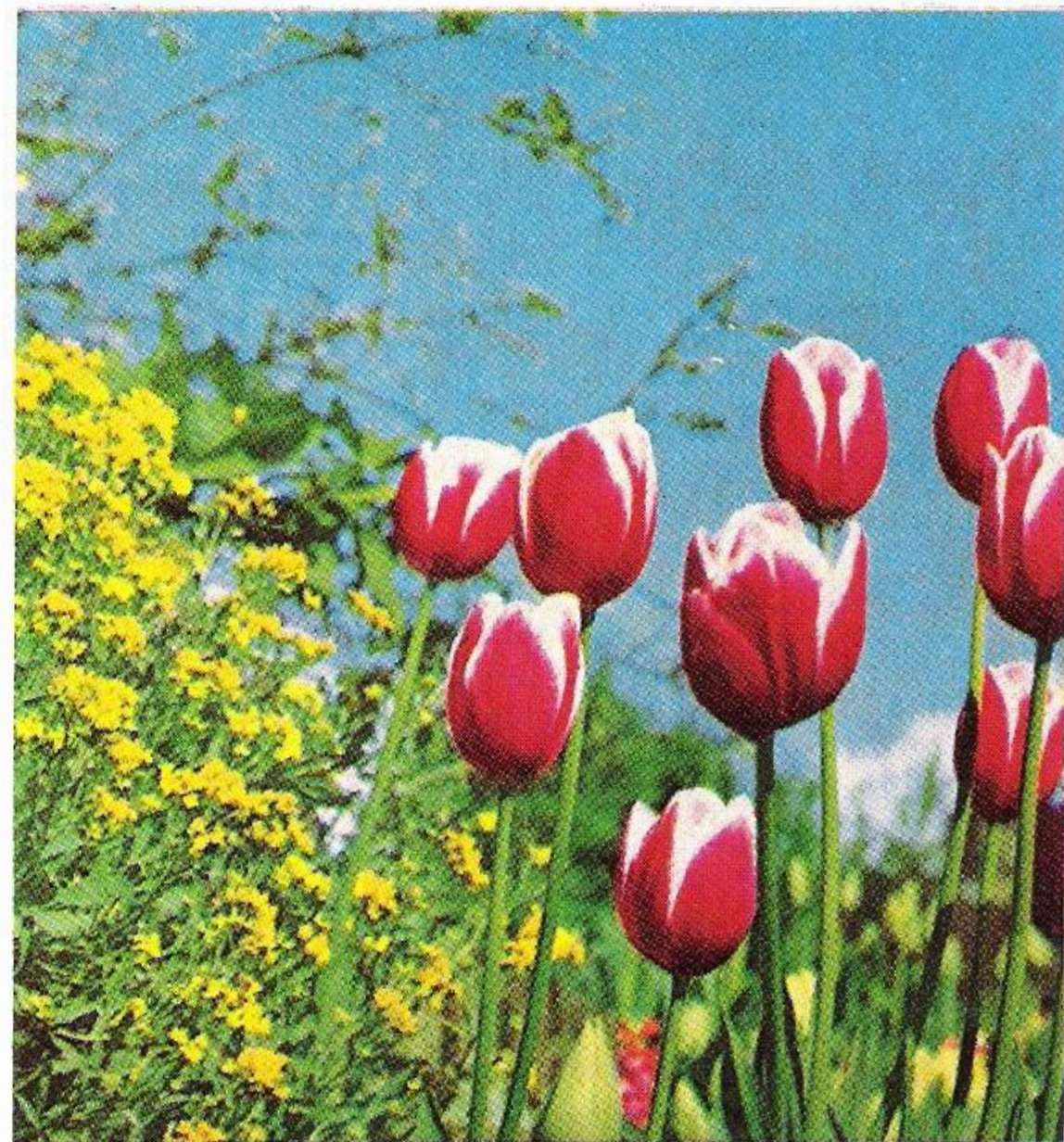
Characteristics are: sturdy stems of medium height with large flowers of heavy texture, many of them in two-toned colors.

- ABBÉ PIERRE, blood red
- ALBURY, currant red
- ATOM, deep red
- AUREOLA, bright red, edged yellow

- BINGHAM, golden yellow
- BLIZZARD, creamy white
- BRUNO WALTER, deep orange yellow, sweet scented



TRIUMPH TULIP "GARDEN PARTY"

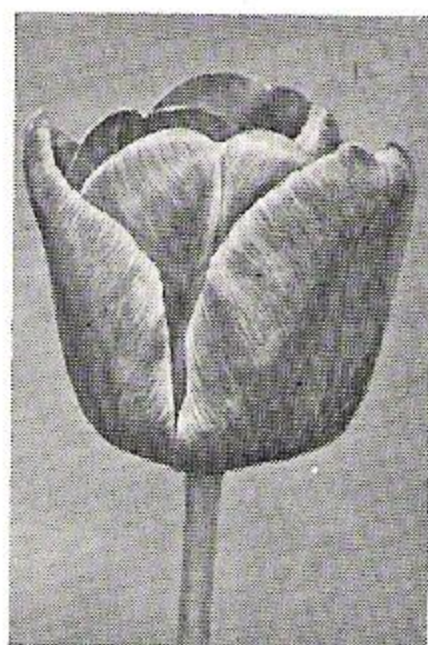


TRIUMPH TULIP "MERRY WIDOW"

## Triumph Tulips (continued)

■ Picture available

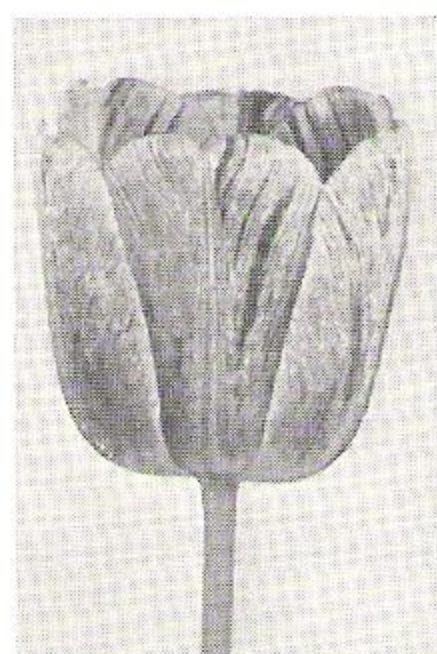
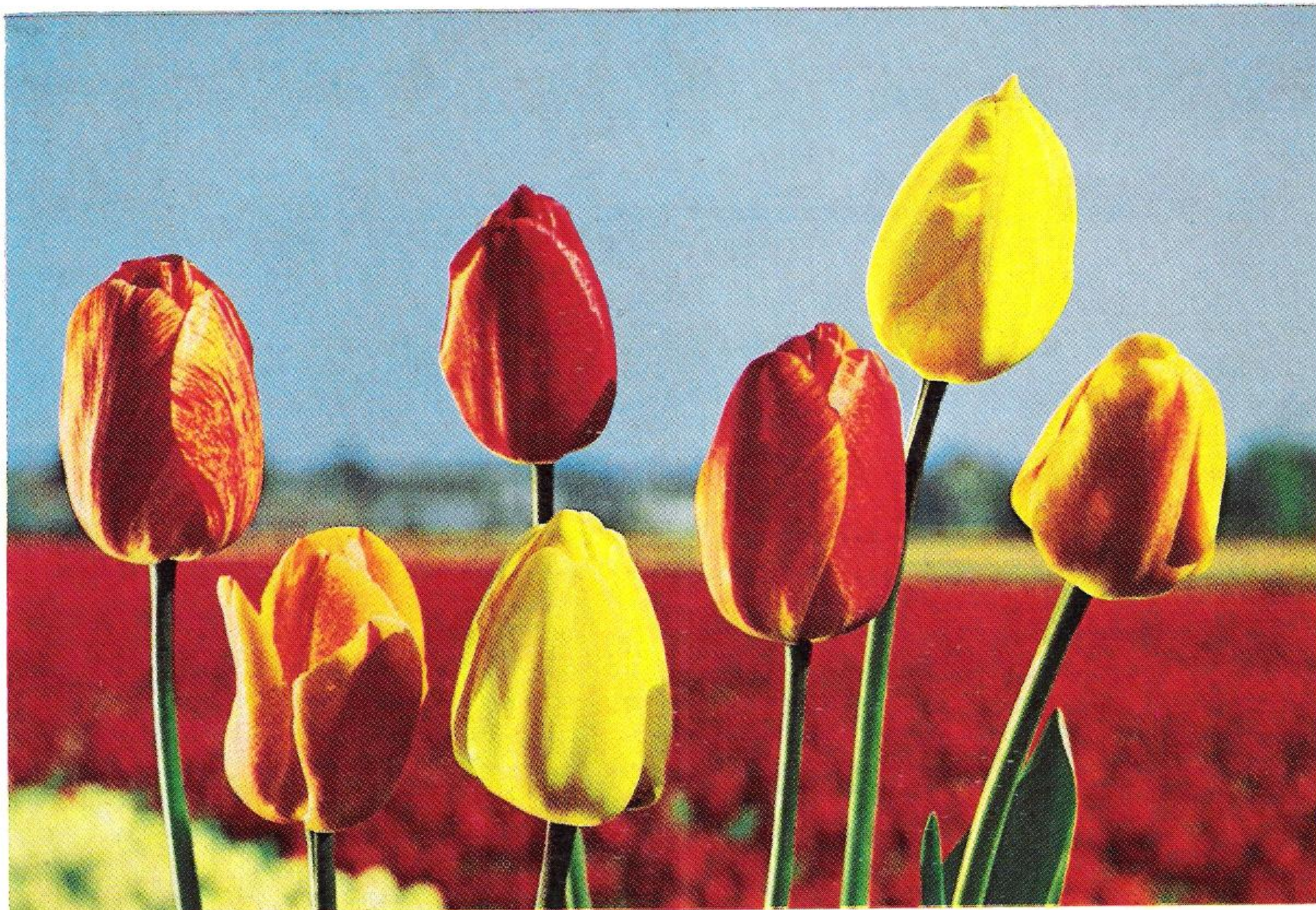
- CARL M. BELLMAN, cherry red, edged orange yellow
- CRATER, deep carmine red
- DENBOLA, cherry red, bordered white
- DUTCH PRINCESS, orange red, small yellow edge
- EDITH EDDY, soft cerise, white edge
- ELMUS, cherry red, white border
- EMMY PEECK, deep lilac rose
- FIRST LADY, violet rose
- GARDEN PARTY, white, broad carmine edge
- GOLDEN EDDY, red, edged orange
- INVASION, orange red, edged cream
- KANSAS, snow white, lemon yellow center
- KEES NELIS, blood red, edged orange yellow
- K & M's TRIUMPH, glowing scarlet
- KORNEFOROS, bright red
- LUSTIGE WITWE, (Merry Widow), violet red, edged white
- MADAME SPOOR, mahogany red, edged yellow
- MAKASSAR, dark canary yellow
- MIRJORAN, carmine red, broadly edged creamy white
- OLAF, scarlet
- ORIENT EXPRESS, vermilion
- ORNAMENT, yellow, egg shaped
- PARIS, orange red, edged yellow
- PAX, pure white
- PEERLESS PINK, pure satiny pink
- PRELUDIUM, rose, white base
- PRINCESS BEATRIX, scarlet, edged yellow
- PROMINENCE, dark red
- PURPLE STAR, purple
- RED GIANT, fine scarlet
- REFORMA, sulphury yellow, edged golden yellow
- RHINELAND, yellow and red
- ROBINEA, scarlet, flushed plum
- ROLAND, bright scarlet, edged ivory
- ROSE BEAUTY, deep pink, white base
- ROSE KORNEFOROS, rose
- SULPHUR GLORY, sulphur yellow
- SUNRAY, yellow, deeper towards edge
- TOPSCORE, geranium red
- VIRTUOSO, lilac rose
- FINE MIXTURE



## Darwin Tulips

Rather late flowering, the Darwin Tulips carry good-sized flowers of stately beauty and expressive colors on strong stems in addition a wide range of colors is available to choose from all good reasons for us to recommend these Tulips to home gardeners for planting in borders.

- ARISTOCRAT, dark violet rose, edged lighter
- ATTILA, light purple violet
- CLARA BUTT, clear self-colored pink
- COPLAND'S FAVOURITE, bright dark lilac rose
- COPLAND'S PURPLE, purple
- COPLAND'S RECORD, deep rose
- DUKE OF WELLINGTON, pure white
- FLYING DUTCHMAN, vermilion scarlet
- GANDER, pale magenta
- GOLDEN AGE, golden yellow, shaded orange
- GREUZE, violet purple
- INSURPASSABLE, lilac
- MAMASA, buttercup yellow
- NIPHETOS, ivory yellow
- PANDION, purple, edged white
- PAUL RICHTER, geranium red
- PHILIPPE DE COMINES, maroon black
- PINK ATTRACTION, silvery violet rose, paler at edges
- PINK SUPREME, pink
- PRIDE OF HAARLEM, cerise red
- PRINCE CHARLES, purple violet
- PRINCESS ELIZABETH, vivid rosy pink
- PRUNUS, pink
- QUEEN OF BARTIGONS, pure salmon pink
- QUEEN OF NIGHT, deep velvet maroon
- RED PITT, bright red
- REVEIL, rosy red, blue base, edged yellow
- ROSA VAN LIMA, lilac rose, edged salmon red
- ROSE COPLAND, rose lilac
- SCOTCH LASSIE, violet
- SUNDEW, red, fringed edge
- SUNKIST, deep golden yellow
- SWEET HARMONY, lemon yellow, edged ivory white
- THE BISHOP, bright violet blue
- WILLIAM PITT, cerise
- WIM VAN EST, rosy red
- SPLENDID MIXTURE

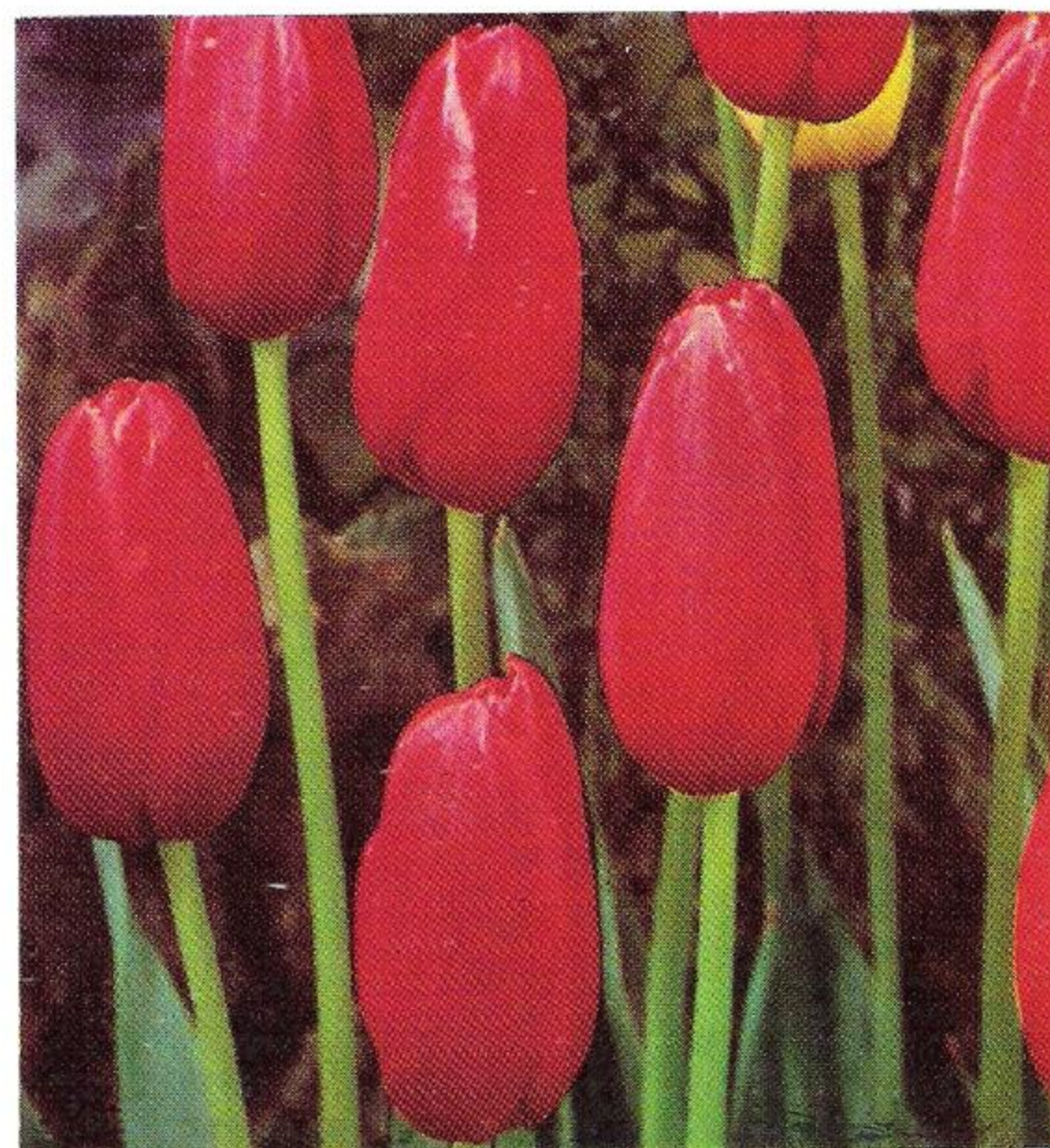


## Darwin Hybrid Tulips

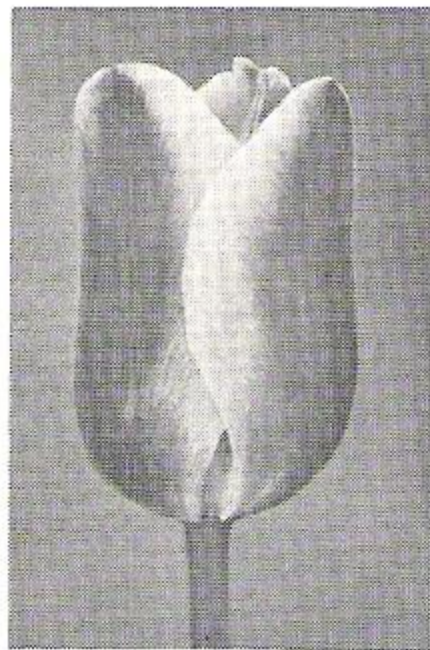
■ Picture available

The Darwin Hybrid, unparalleled in flowering size by any other, is a relatively new race of Tulips, which resulted from crossings of Darwin Tulips with Fosteriana types. Mother Nature not only provided the oversized flower with brilliant colors of exceptional clearness, but also gave it a plant of vigorous growth and strong stem, enough features for garden enthusiasts to put Darwin Hybrids on top of their lists. They also make ideal Tulips for later forcing and will perform well under cold glass.

- APELDOORN, orange scarlet, base black
- BEAUTY OF APELDOORN, yellow, flushed magenta, inside yellow
- DIPLOMATE, vermilion red
- DOVER, fiery poppy red
- EMPIRE STATE, tomato red
- GENERAL EISENHOWER, orange red
- GOLDEN APELDOORN, golden yellow
- GOLDEN SPRINGTIME, pure yellow
- GUDOSHNIK, yellow flushed red
- HOLLAND'S GLORY, orange scarlet, black base
- JEWEL OF SPRING, sulphur yellow
- LEFEBER'S FAVOURITE, glowing scarlet, yellow base
- OXFORD, scarlet, yellow base
- PARADE, scarlet, black base
- PRESIDENT KENNEDY, pure yellow, spotted red
- RED MATADOR, carmine scarlet
- SPRING SONG, bright red, flushed salmon, white base
- STRIPED APELDOORN, yellow heavily flushed red
- YELLOW DOVER, buttercup yellow



SINGLE LATE TULIP "HALCRO"



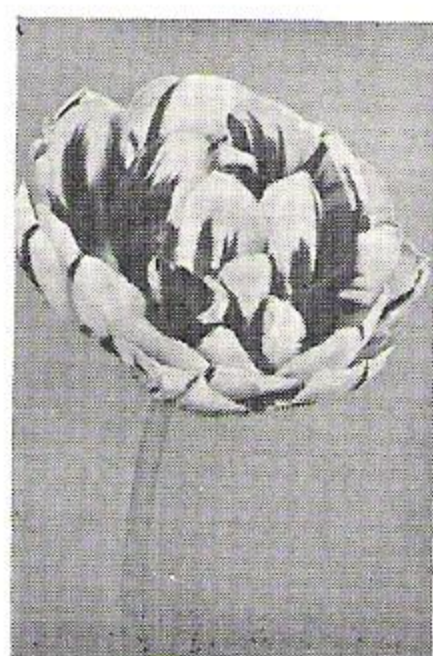
## Single Late or Cottage Tulips

■ Picture available

Original varieties of this class were cultivated in former cottage gardens in England. We still find proof of good taste and distinction of those traditional gardeners in many of the older varieties.

In recent years many new and improved cultivars have given this class of Tulips an almost completely new face and we proudly offer you the finest selection available.

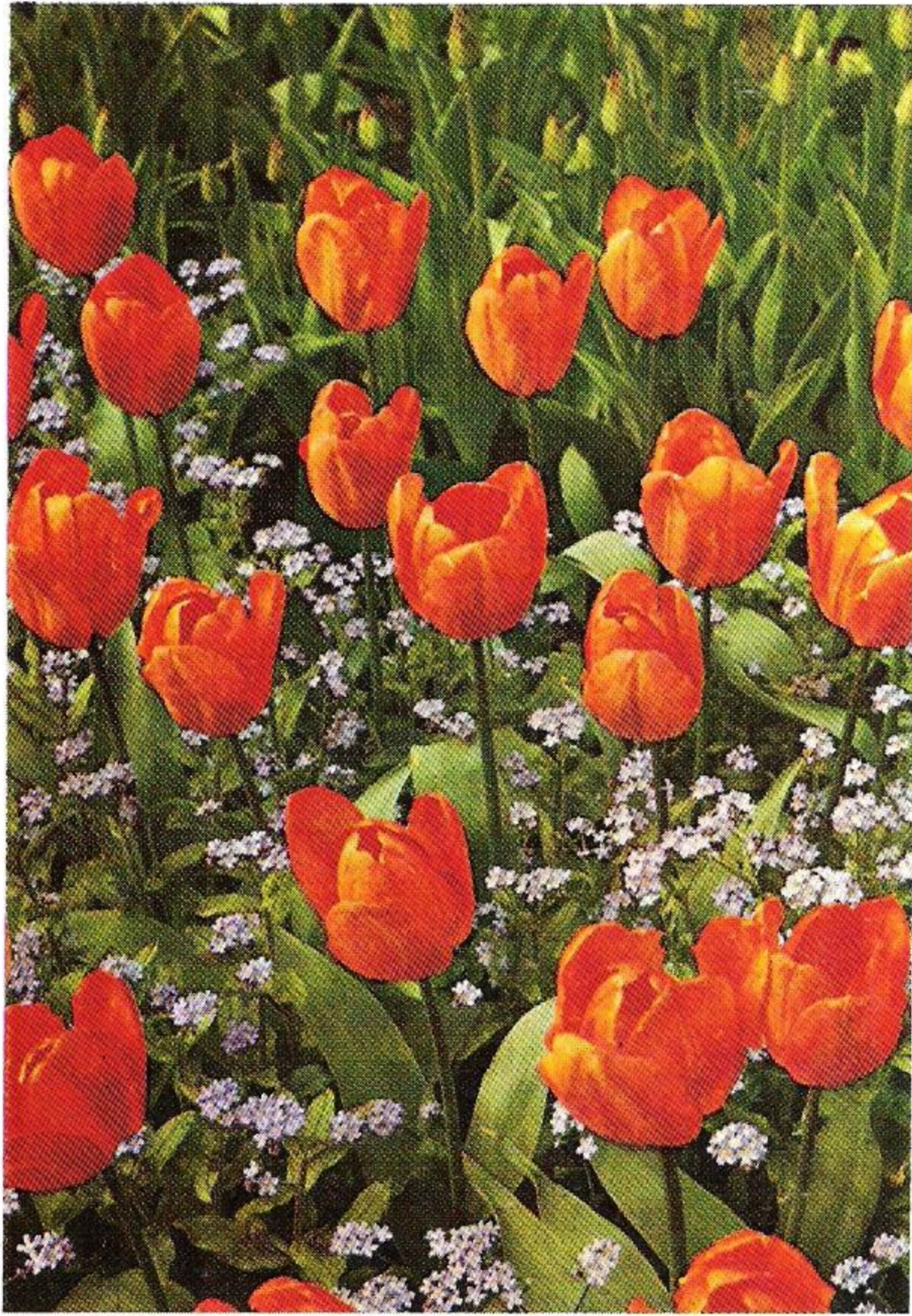
- ARTIST, inside salmon rose and green, outside purple and salmon rose
- ASTA NIELSEN, sulphury yellow
- BALALAIKA, glowing turkey red
- BOND STREET, yellow and orange
- FLAMING BEAUTY (Fireside), yellow, striped and flushed red
- GOLDEN HARVEST, deep lemon yellow
- GREENLAND, green, edged rose
- HALCRO, carmine red, base yellow
- HENRY FORD, carmine spotted white
- LINCOLNSHIRE, geranium red
- MAGIER, white, edged violet blue, passing to clear violet
- MARSHAL HAIG, bright scarlet with yellow base
- MAUREEN, marble white
- MEISSNER PORZELLAN, rose and white
- MRS. JOHN T. SCHEEPERS, yellow
- PALESTRINA, salmon pink, exterior green and salmon pink
- PRINCESS MARGARET ROSE, yellow, edged orange red
- RENOWN, light carmine red
- ROSY WINGS, radiant apricot pink
- SIGRID UNDSET, creamy white
- SMILING QUEEN, beautiful satiny pink with silvery edge
- WHITE CITY, (Mount Erebus), pure white, creamy anthers
- FINE MIXTURE



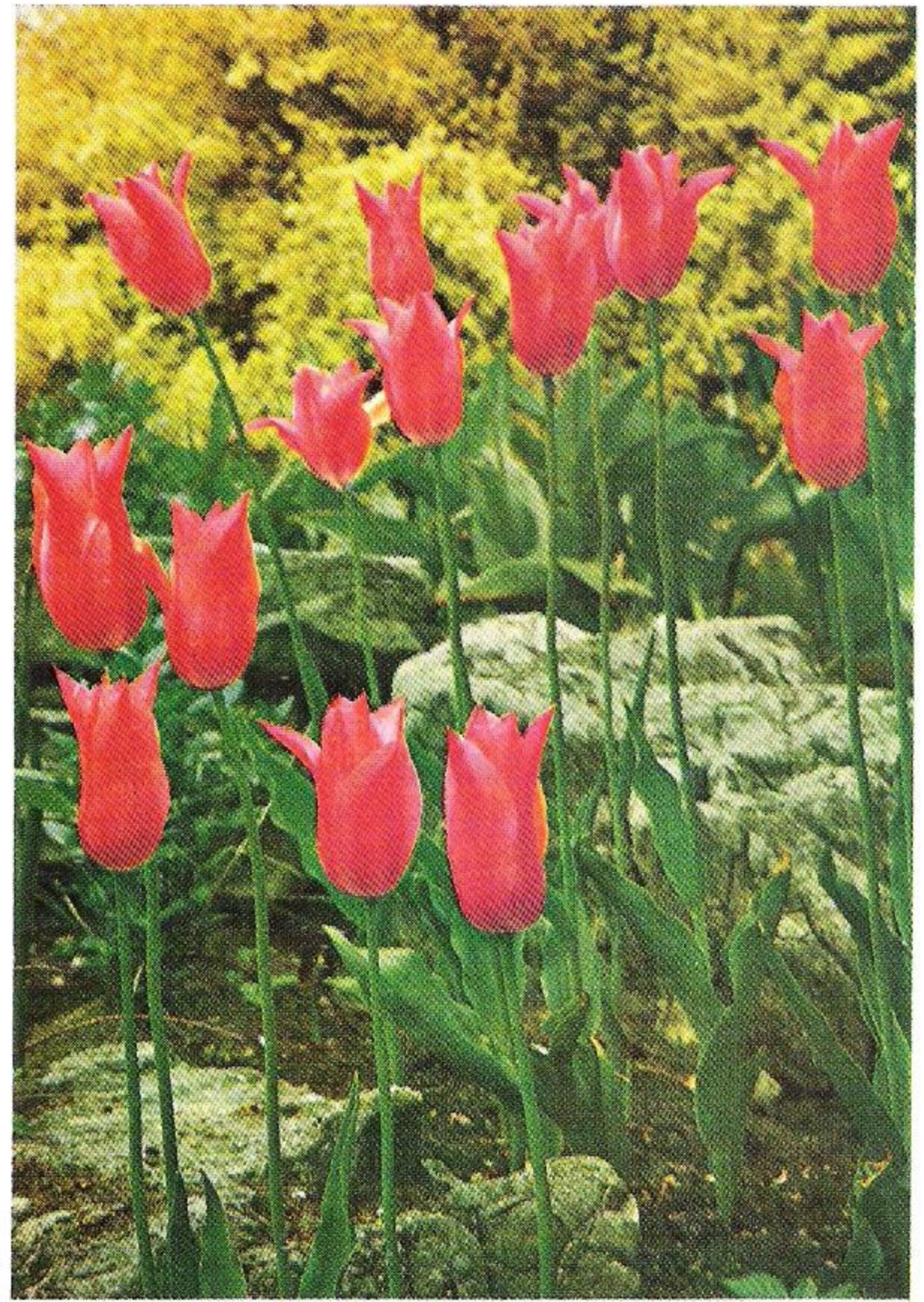
## Double Late or Peony-flowered Tulips

Because of their big peony-like flowers, these Tulips are commonly known as Peony-flowered Tulips. The beautiful large flowers are carried on long strong stems. They should be protected from strong winds and rain by planting them in a sheltered position in the border.

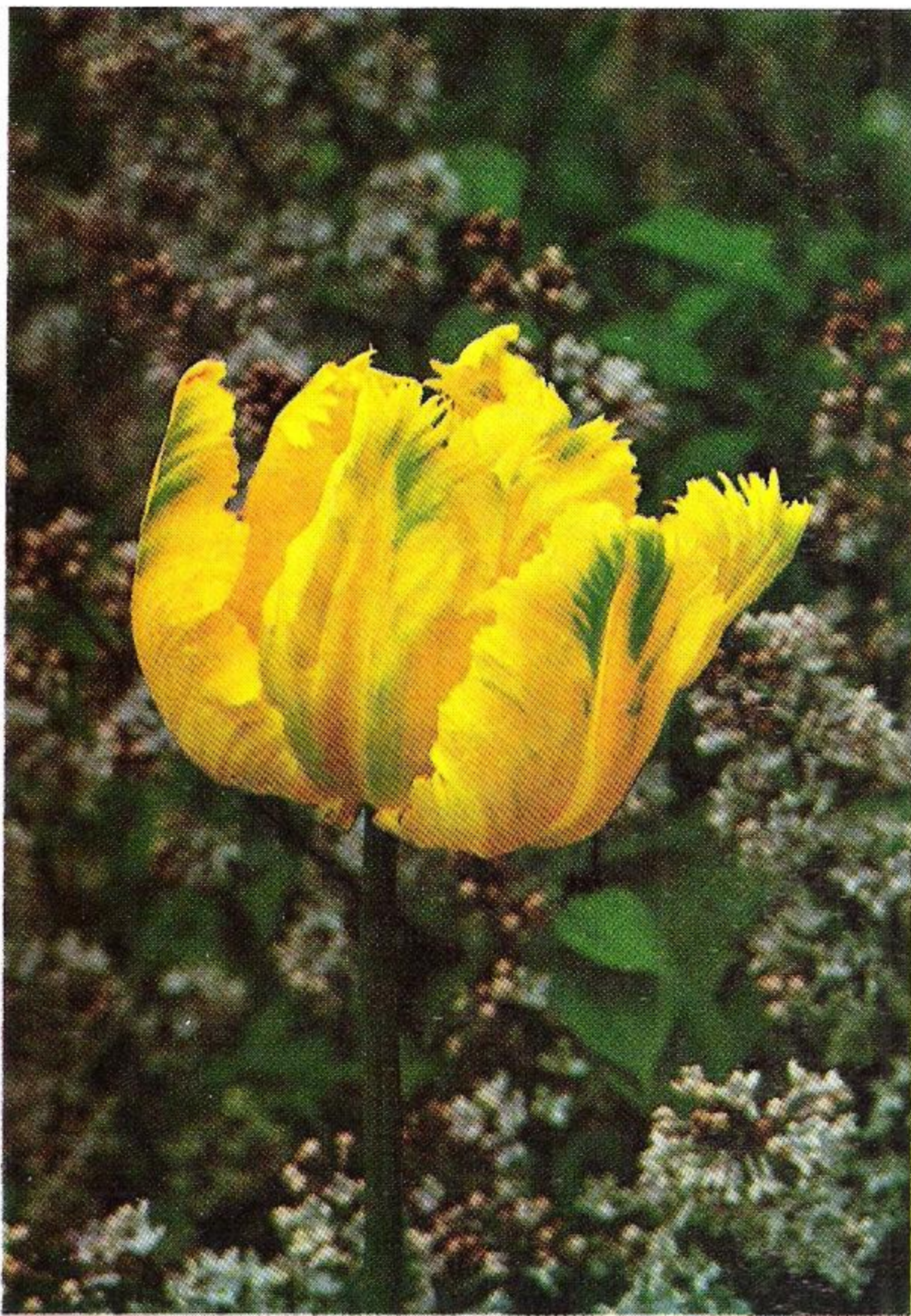
- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>■ ENGELENBURCHT, ivory white</li> <li>■ EROS, old rose</li> <li>■ GOLD MEDAL, deep yellow</li> <li>■ LILAC PERFECTION, lilac</li> <li>■ MAY WONDER, clear rose</li> <li>■ MOUNT TACOMA, pure white</li> </ul> | <ul style="list-style-type: none"> <li>■ NIZZA, yellow, striped and feathered red</li> <li>■ ORANGE TRIUMPH, orange red, flushed brown and narrow yellow edge</li> <li>■ SYMPHONIA, cherry red</li> <li>■ UNCLE TOM, very dark glittering red</li> <li>■ FINE MIXTURE</li> </ul> |
|--|--|



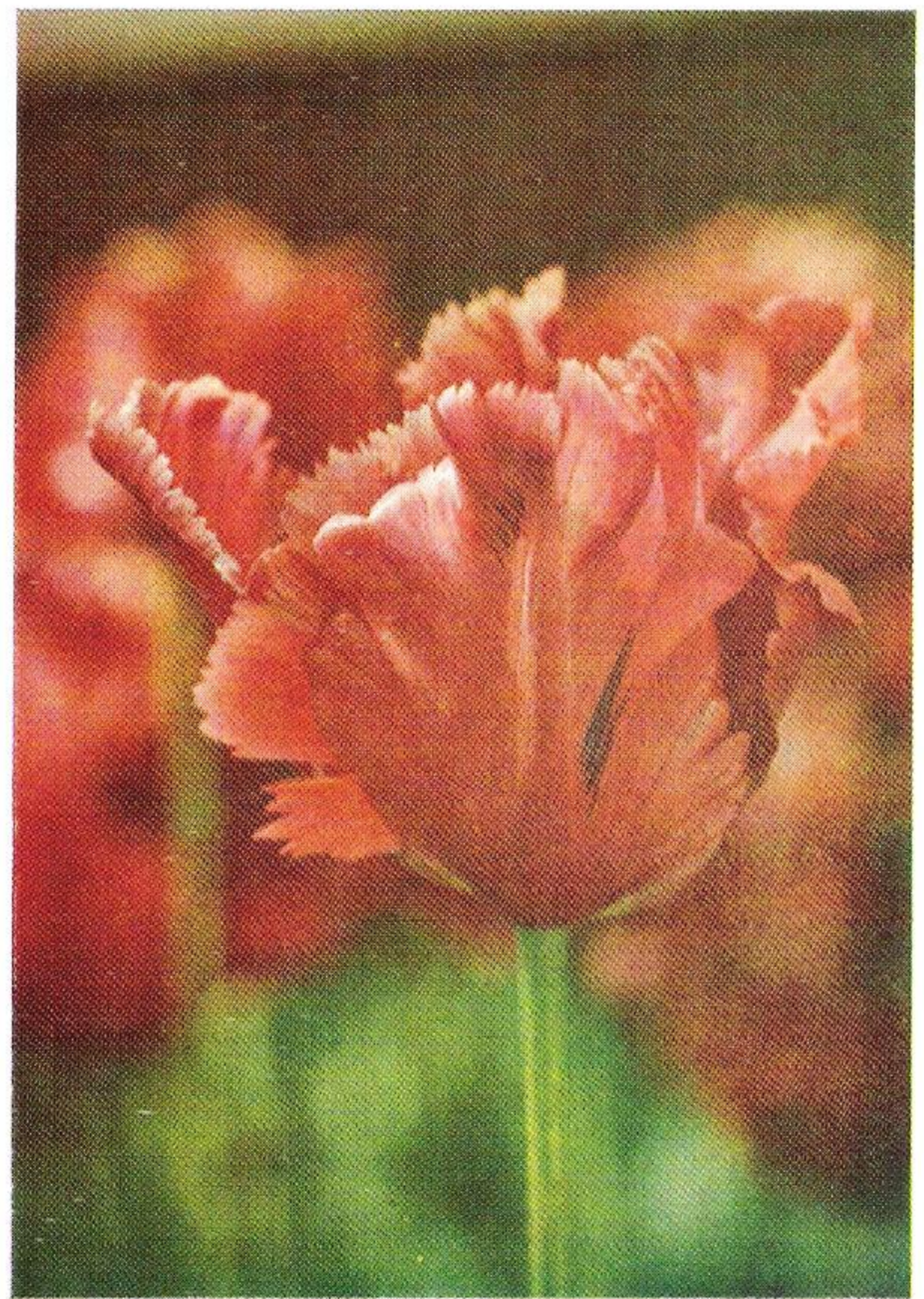
BREEDER TULIP "DILLENBURG"



LILYFLOWERED TULIP "MARIETTE"



PARROT TULIP "TEXAS GOLD"



PARROT TULIP "FANTASY"



## Breeder and Rembrandt Tulips

■ Picture available

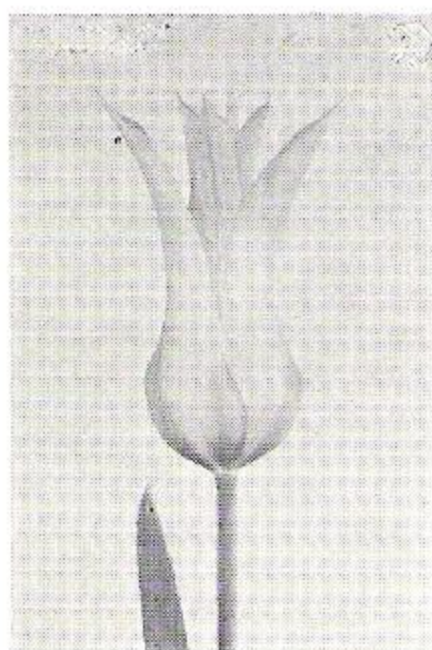
The attraction of these two classes of Tulips is their unusual coloring. Breeder Tulips are mostly single-colored and Rembrandt Tulips are beautifully flamed.

### Breeder Tulips

- DILLENBURG, glowing salmon orange
- ASSORTMENT OF OLD TIME VARIETIES

### Rembrandt Tulips

- CORDELL HULL, red, striped rose and white
- MONTGOMERY, white with carmine red edge



## Lily-flowered Tulips

This class of tulips originated by crossing Darwin Tulips with *Tulipa Retroflexa*, a species Tulips with reflexed petals. These Tulips with their gracefully pointed petals lend a very special touch to the garden. They are very distinct as cutflowers.

- ALADDIN, scarlet, edged yellow
- ALASKA, pure yellow, sweet scented
- CAPTAIN FRYATT, garnet red, violet blue center
- CHINA PINK, pink with white base
- DYANITO, bright red
- GISELA, soft pink
- LILAC TIME, intense violet purple

- MARIETTE, deep satin rose
- MAYTIME, reddish violet, creamy white edge
- QUEEN OF SHEBA, glowing brownish red, edged orange
- RED SHINE, deep red, striking blue base
- WEST POINT, primrose yellow
- WHITE TRIUMPHATOR, pure white
- FINE MIXTURE



## Parrot Tulips

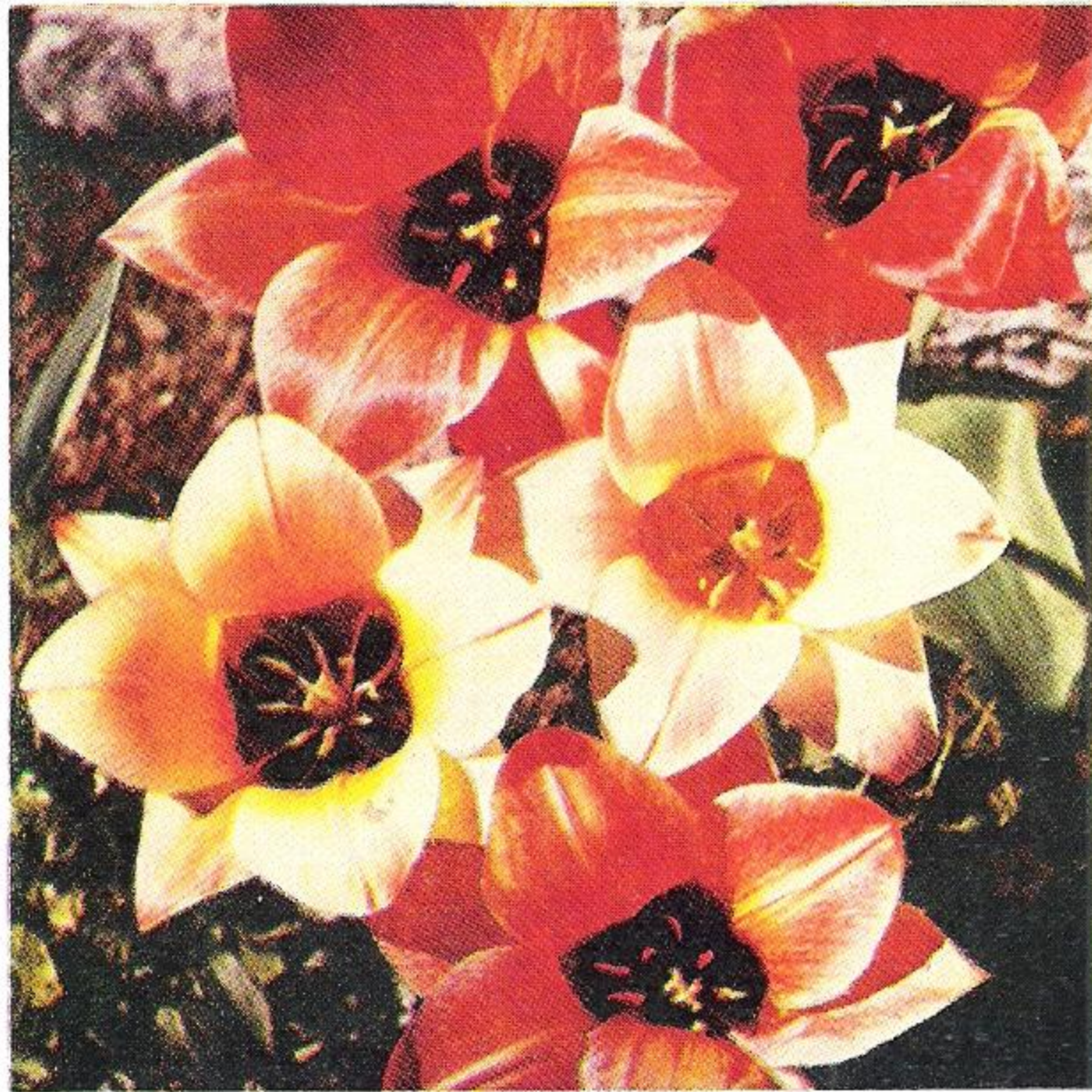
The ever increasing demand for Parrot Tulips is evident of a growing appreciation for these artistic and almost exotic flowers.

Most Parrot Tulips are late flowering and a sheltered location for planting should be selected in the garden, in order to protect the large and heavy blooms from rain and winds.

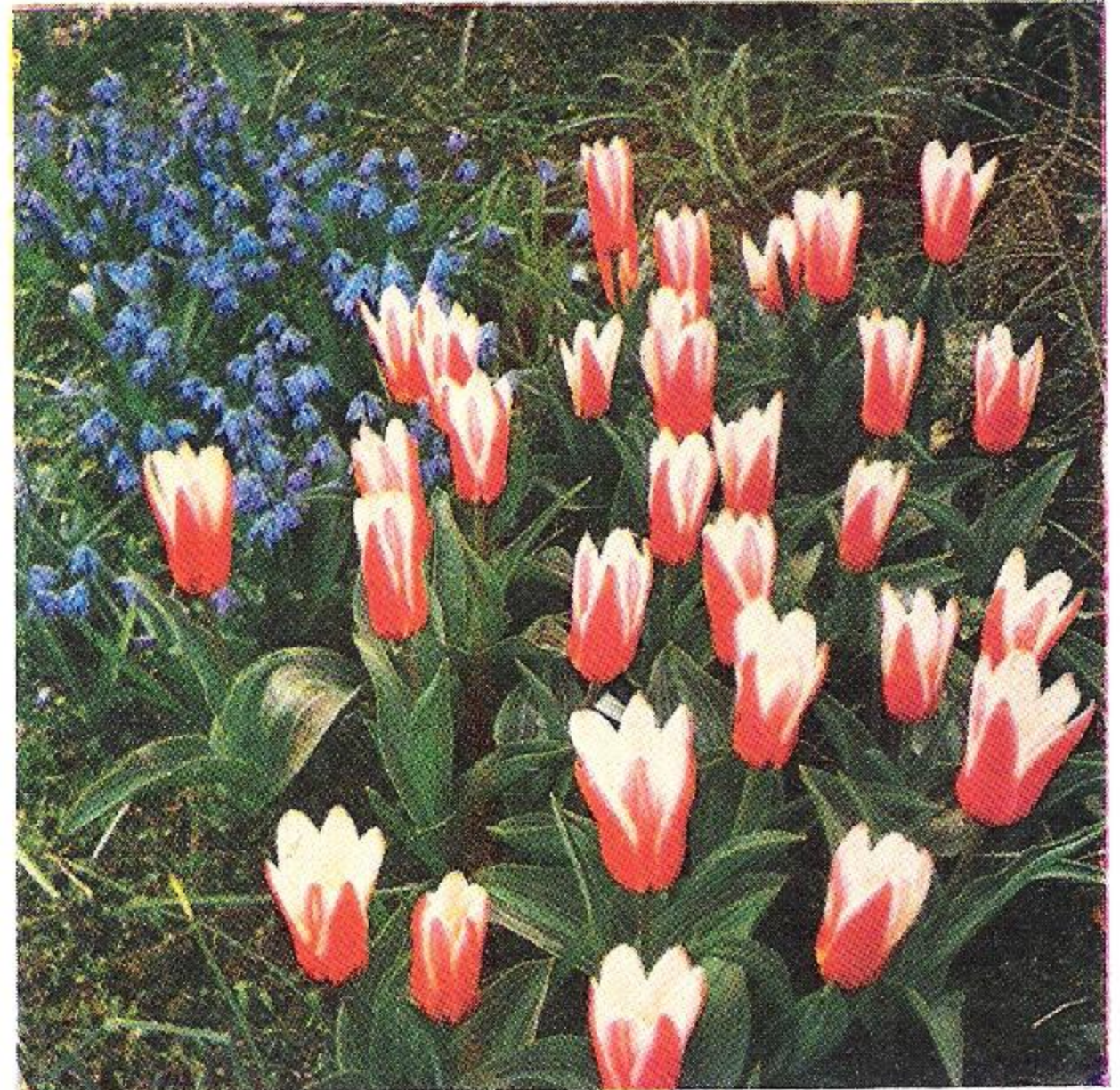
A little hint for table-decoration: a few Parrot Tulips placed in a shallow bowl or dish will create an artistic effect.

- BLACK PARROT, purplish black
- BLUE PARROT, rich bluish heliotrope
- COMET, orange red, edged yellow
- ERNA LINDGREEN, bright red
- FANTASY, lovely soft rose with green streaks, inside salmon rose
- FIREBIRD, fiery red, sport of Fantasy

- KAREL DOORMAN, cherry red, narrow yellow edge
- ORANGE FAVOURITE, bright orange and green, sweet scented
- RED PARROT, raspberry red
- TEXAS GOLD, deep yellow, narrow red edge
- WHITE PARROT, pure white
- MIXED VARIETIES



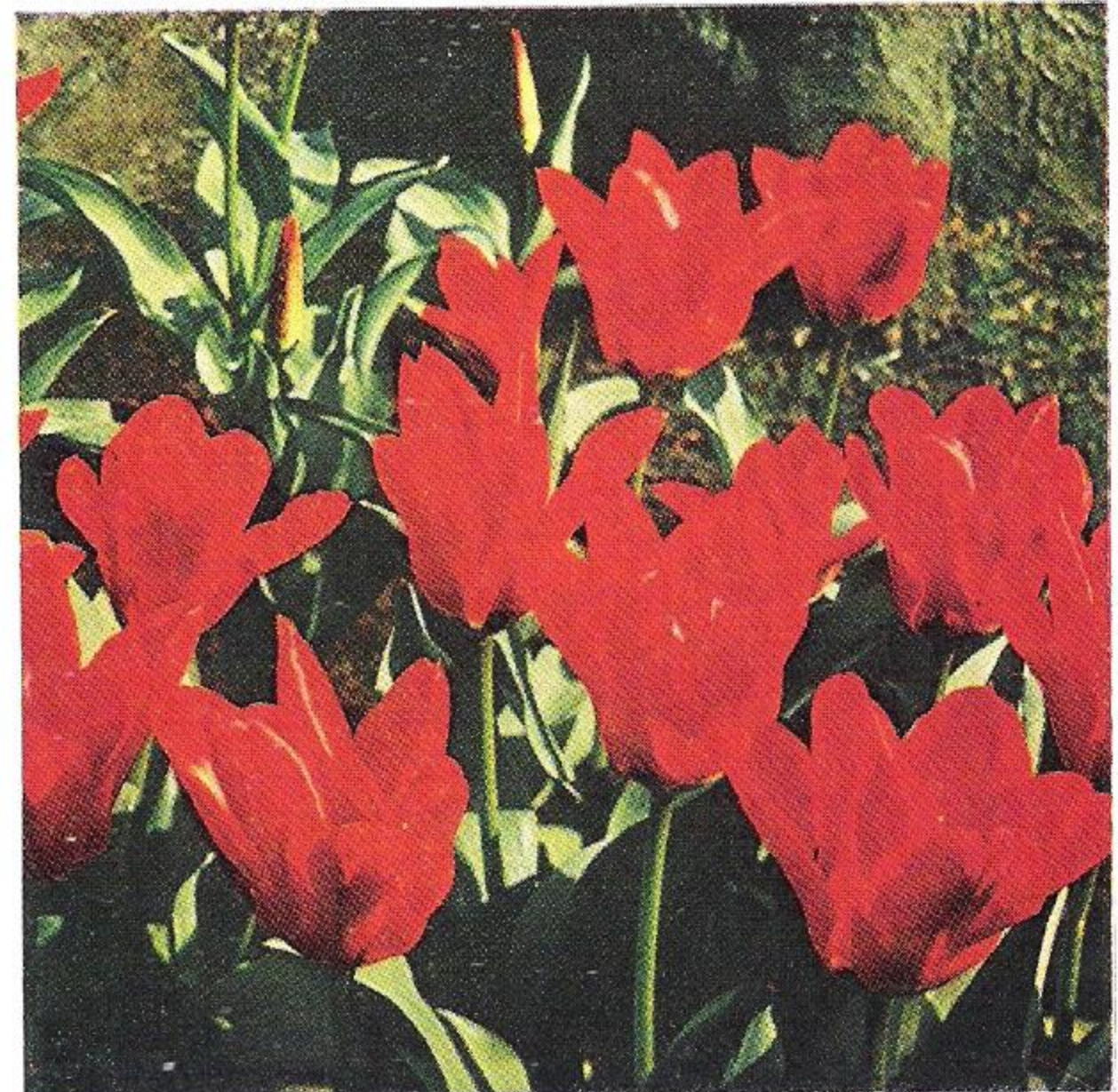
GREIGII TULIPS MIXED



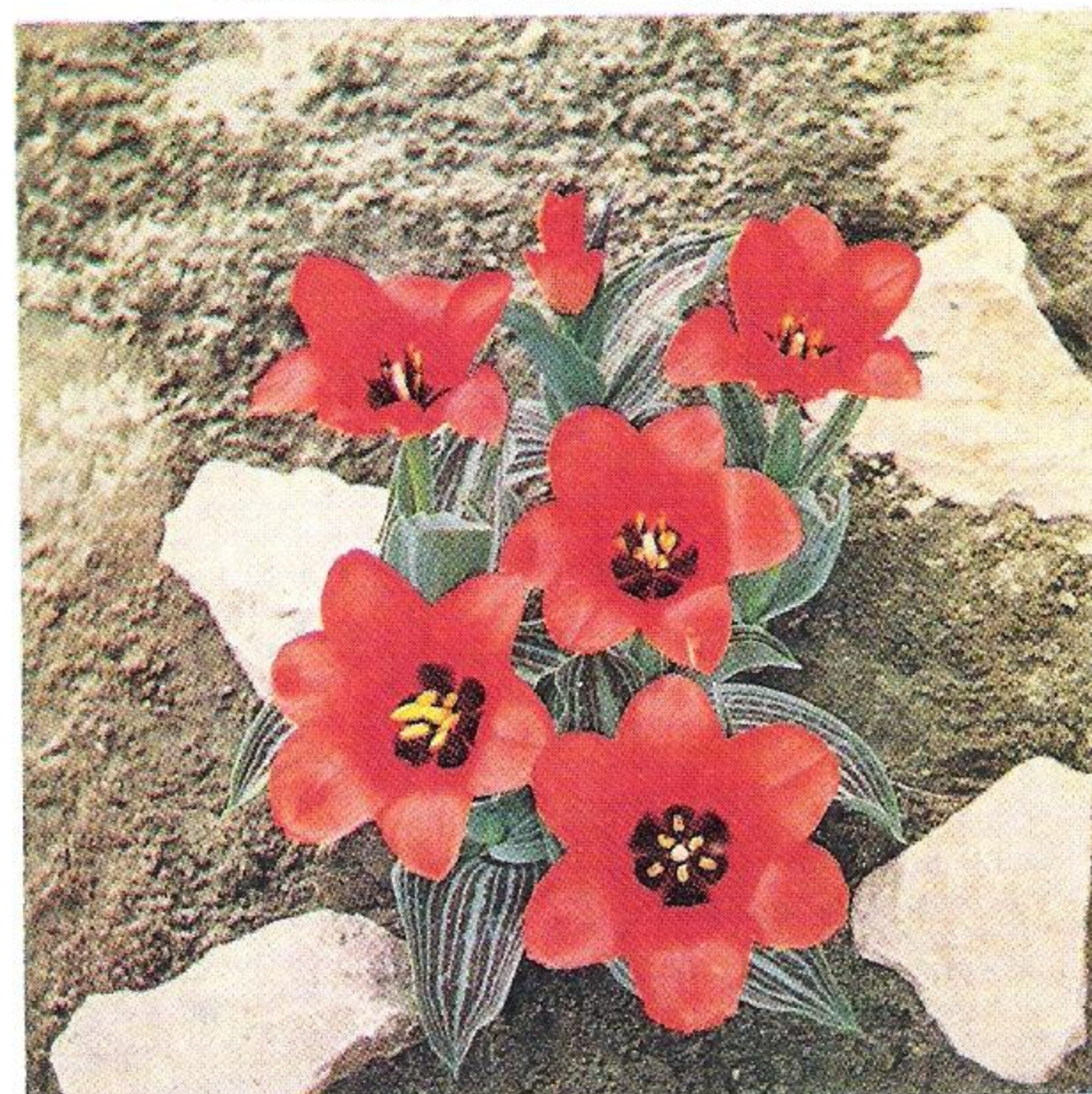
KAUFMANNIANA TULIP "HEARTS DELIGHT"



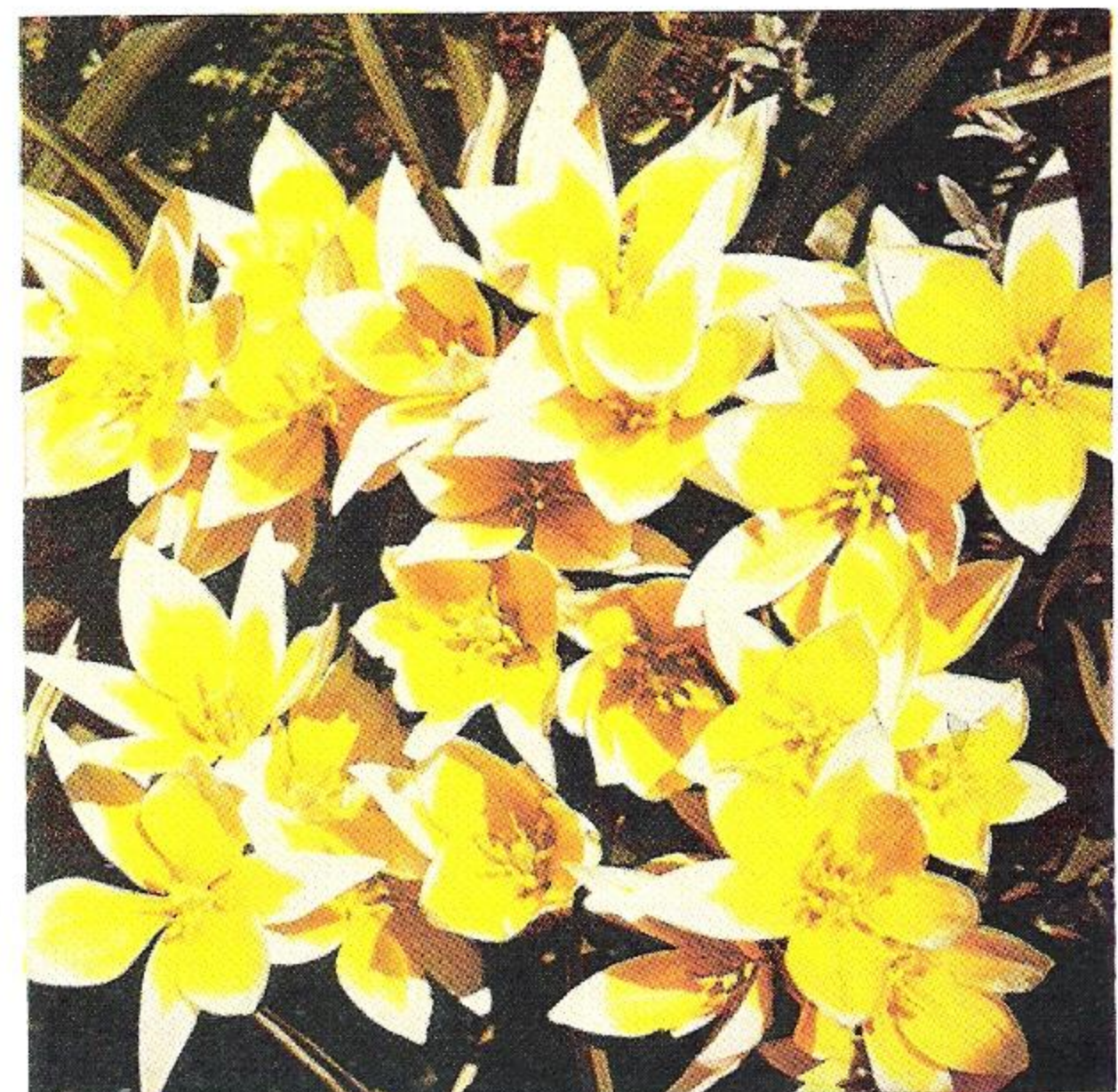
FOSTERIANA TULIP "CANDELA"



FOSTERIANA TULIP "RED EMPEROR"



GREIGII TULIP "RED RIDING HOOD"



TULIPA TARDA





## Tulipa Species

■ Picture available

The real gems for the rock gardens are found in this class because of their dwarf growing habit. The Kaufmanniana Tulips are the first Tulips to flower very early in spring. Fosteriana Tulips come a little later, followed by the Greigii Tulips, in which class some very tall exotic Tulips can be found. In the section Various Botanical Tulips there are many uncommon forms of Tulips.

### Fosteriana Tulips

- CANDELA, pure yellow
- CANTATA, vermilion red, foliage shiny green
- CZARDAS, orange scarlet with a yellow base
- EASTER PARADE, pure yellow inside, exterior yellow and red
- FEU SUPERBE, cardinal red, base black
- GALATA, orange red, yellow base
- PRINCEPS, scarlet, short and sturdy
- PURISSIMA, white
- RED EMPEROR (Mme Lefeber), dazzling vermilion red
- YELLOW EMPRESS, pure yellow
- ZOMBIE, yellow, flushed rose scarlet, base black

### Greigii Tulips

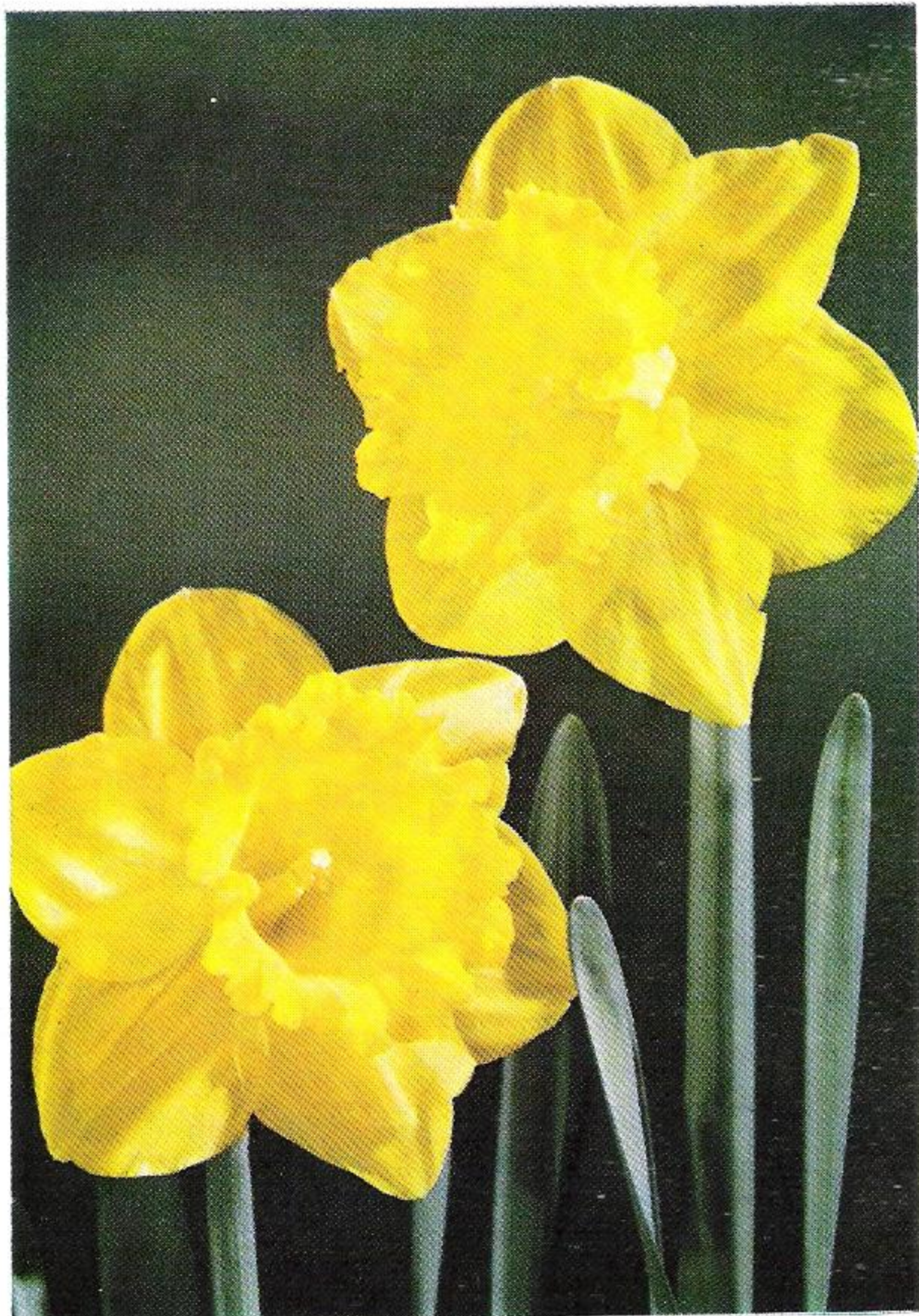
- CAPE COD, apricot edged yellow
- FAIRYTALE, tangerine red, leaves mottled
- GOLDEN DAY, lemon yellow tinged red, leaves mottled
- MARGARET HERBST (Royal Splendour), vermilion, leaves mottled
- ORIENTAL BEAUTY, vermilion red, base brownish black, variegated foliage
- ORIENTAL SPLENDOUR, lemon yellow inside, exterior carmine red, edged yellow, mottled leaves
- RED RIDING HOOD, scarlet, base black, variegated leaves
- YELLOW DAWN, old rose, broadly edged yellow
- ZAMPA, primrose yellow
- HYBRID MIXTURE

### Kaufmanniana Tulips

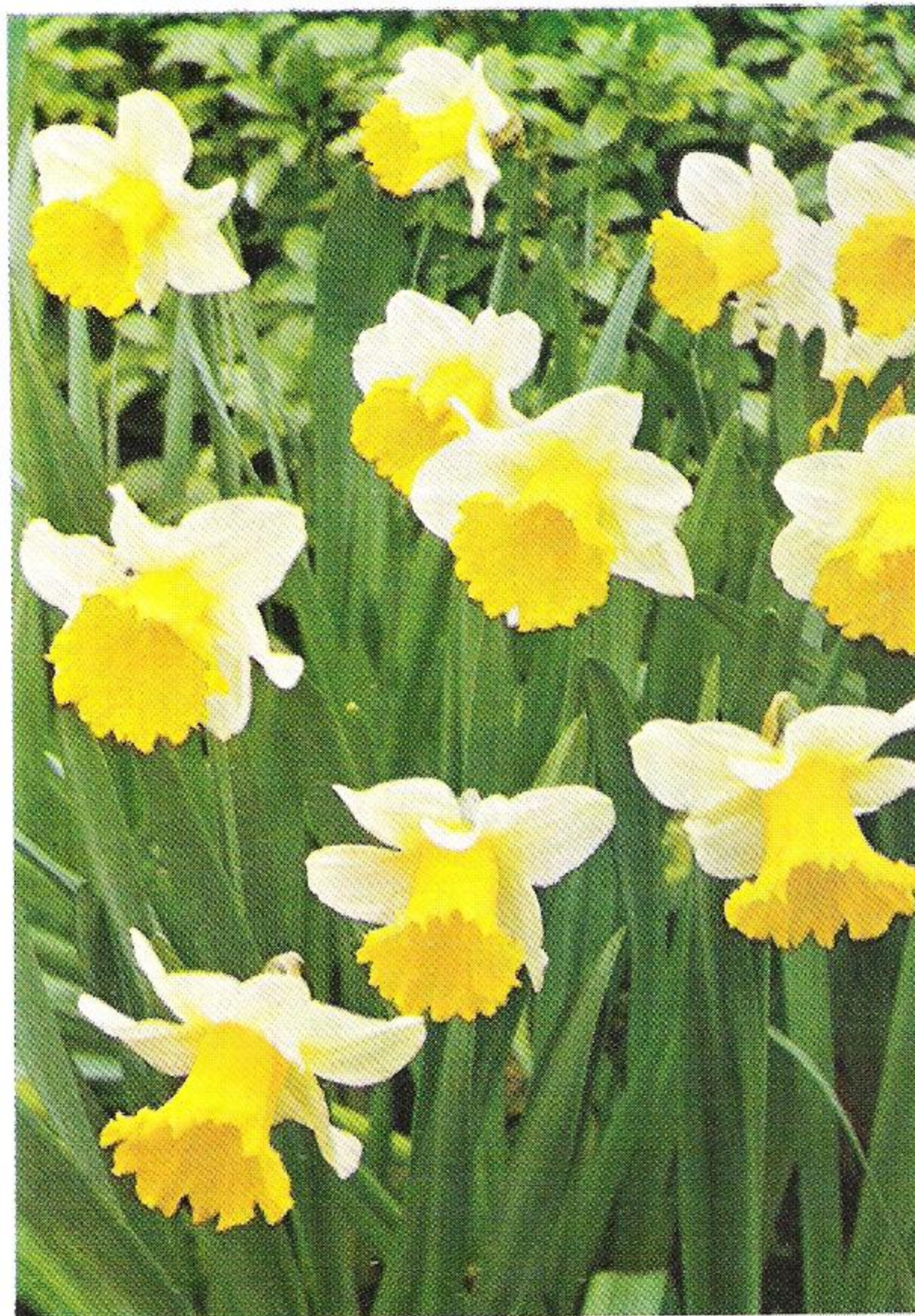
- KAUFMANNIANA, The Waterlily tulip, creamy white outside, shaded soft red, inside yellow
- ALFRED CORTOT, carmine red
- DAYLIGHT, scarlet, base black, leaves mottled
- GAIETY, white, outside red
- GIUSEPPE VERDI, carmine edged yellow, inside yellow, leaves mottled
- GOLD COIN (Goudstuk), deep carmine, edged yellow, inside golden yellow
- HEART'S DELIGHT, pale rose, base golden yellow, outside carmine red, edged pale rose, leaves mottled
- JOHANN STRAUSS, white, outside blotched red
- SHAKESPEARE, a mixture of salmon shades
- STRESA, red, edged yellow
- THE FIRST, carmine, edged white
- HYBRID MIXTURE

### Various Botanical Tulips

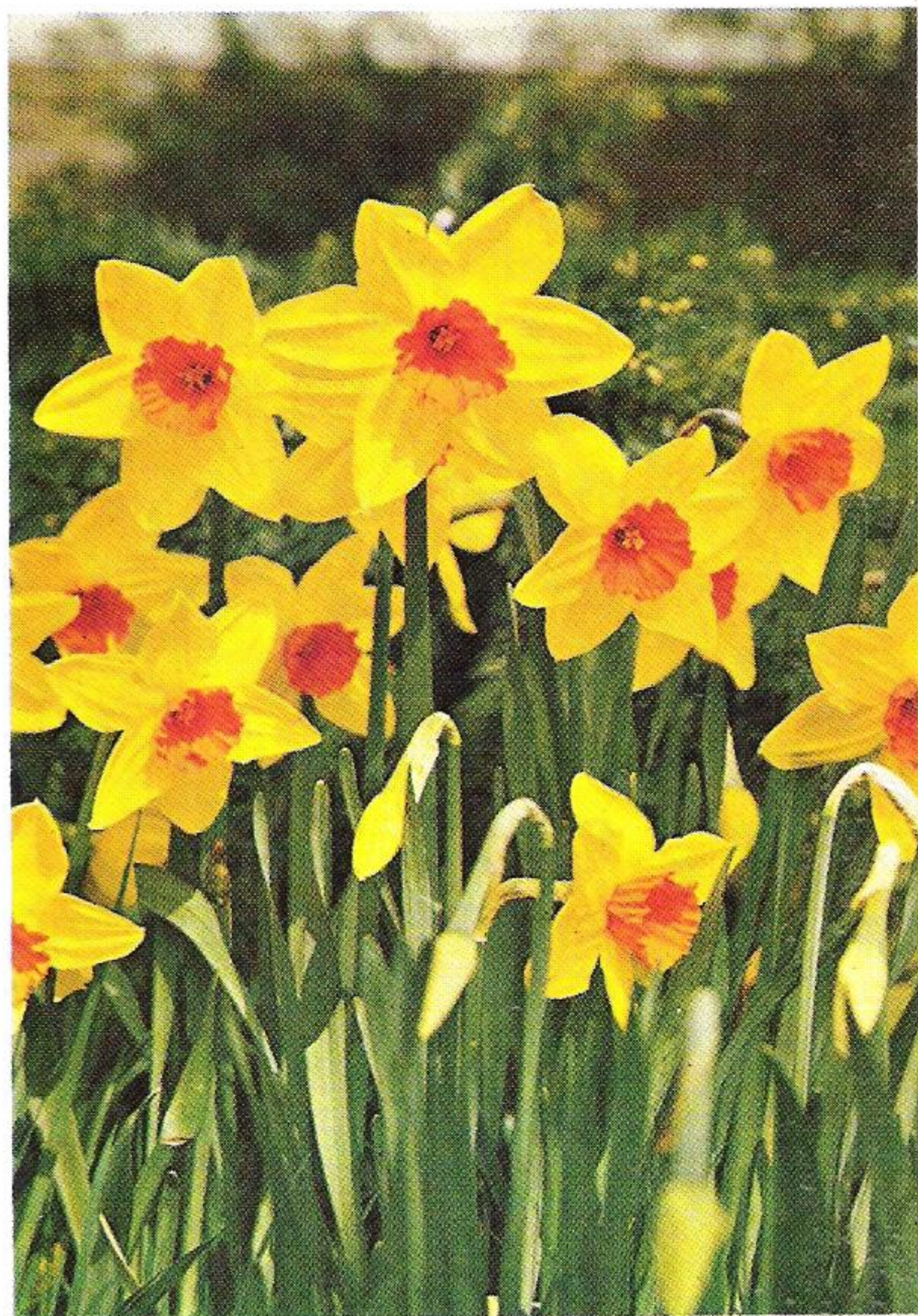
- ACUMINATA (Cornuta, Stenopetala), red and yellow, long pointed flower, twisted petals
- CHRYSANTHA, rosy red outside, yellow interior
- CLUSIANA, outer petals cherry red, inner petals white
- EICHLERI, fine vermilion
- MARJOLETTII, lemon yellow, rose base
- PEACOCK MIXTURE (Kaufmanniana x Greigii), very attractive for its different colors and variegated foliage
- PRAESTANS, lively orange scarlet, several flowers on a stem
- PRAESTANS FUSILIER, vermilion orange, bunch-flowering
- TARDA (Dasystemon), canary yellow and white, orange yellow center, bunch-flowering
- TURKESTANICA, white, orange yellow center, bunch-flowering



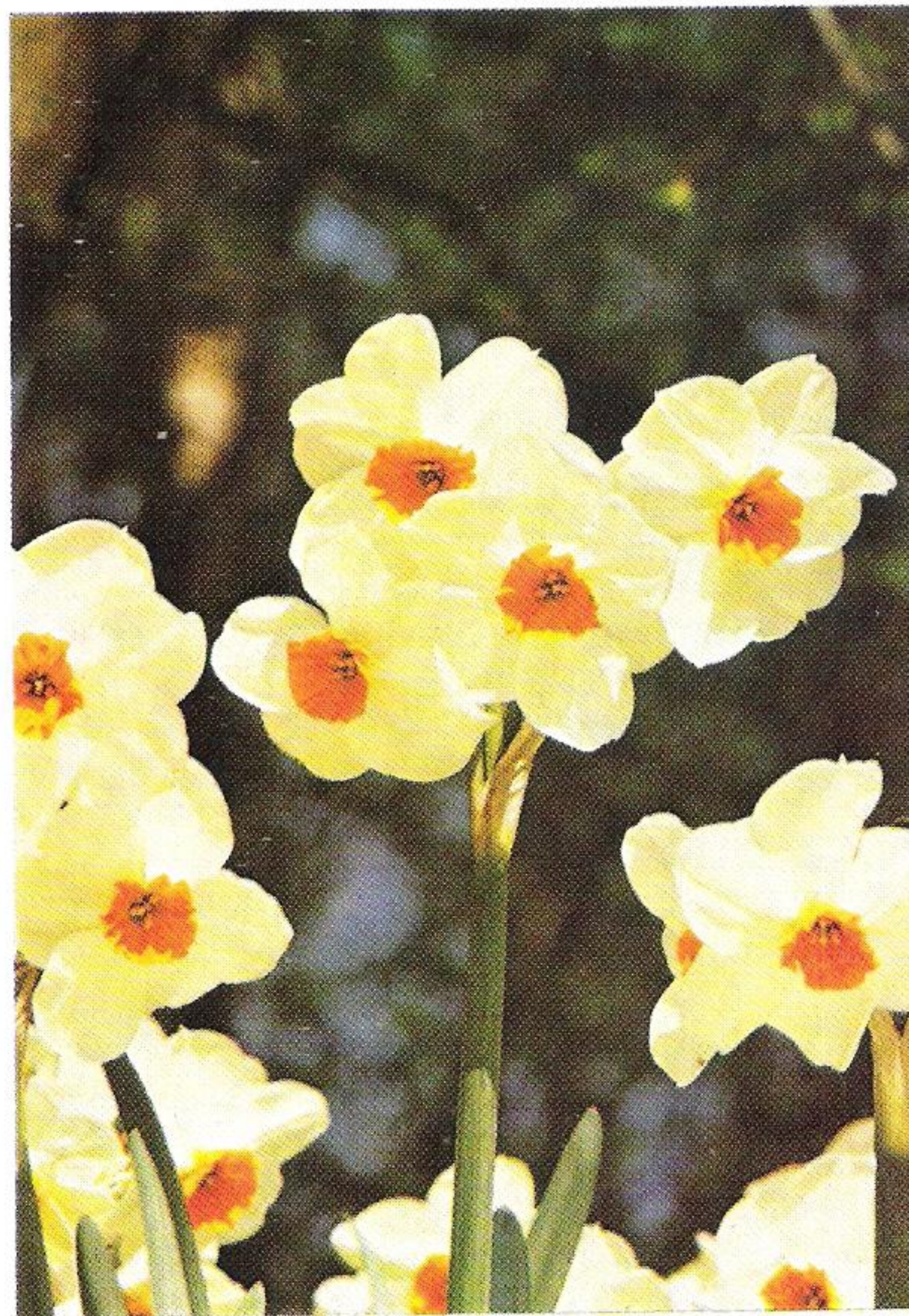
DAFFODIL "GOLD MEDAL"



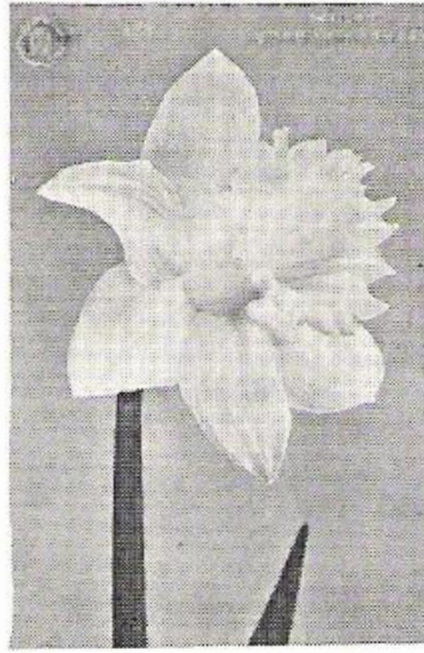
DAFFODIL "MUSIC HALL"



NARCISSUS "BIRMA"



NARCISSUS "GERANIUM"



## Daffodils & Narcissi

■ Picture available

The Springflower "par excellence": no other flower represents so well the spirit of Spring.

Very popular among home gardeners and used for forcing in large quantities as cutflower or potted plant, the Daffodil takes an important place in the world of bulbs.

For mass-plantings in a natural setting no flowers give as much satisfaction as Daffodils or Narcissi and large quantities of mixed varieties are used every year for this purpose. (So-called naturalizing.)

### Yellow Trumpets

- DUTCH MASTER, uniform yellow
- EXPLORER, yellow
- GOLDEN HARVEST, a giant trumpet. Uniform golden yellow
- GOLDEN TOP, canary yellow perianth, lemon yellow trumpet
- GOLD MEDAL, yellow
- JOSEPH MACLEOD, uniform yellow
- KING ALFRED, uniform clear rich golden yellow
- UNSURPASSABLE, golden yellow

### Bicolor Trumpets

- MAGNET, white perianth, yellow trumpet
- MUSIC HALL, white perianth, yellow trumpet
- QUEEN OF BICOLORS, perianth white, trumpet canary yellow

### White Trumpets

- BEERSHEBA, beautiful pure white variety
- MOUNT HOOD, pure ivory white perianth, creamy white trumpet
- MRS. E. H. KRELAGE, trumpet creamy, changing to pure white

### Double Daffodils

- INGLESOMBE, uniform pale yellow
- MARY COPELAND, outer petals pure creamy white, inner petals lemon yellow and brilliant orange
- TEXAS, pale yellow with orange red petals through the center
- VAN SION, yellow trumpet and petals, strong short stem

### Large Cupped Narcissi

- BIRMA, yellow, red cup
- CALIFORNIA, fine bright yellow
- CARBINEER, broad flat yellow perianth, large deep orange red cup
- CARLTON, uniform soft yellow

- FLOWER RECORD, white perianth, deep yellow cup edged orange
- FORTUNE, broad flat overlapping clear yellow perianth of solid texture, glowing orange crown
- HELIOS, yellow perianth, deep yellow cup
- MERCATO, white perianth, yellow crown with orange border
- MRS. R. O. BACKHOUSE, ivory white perianth, graceful apricot pink trumpet with deeply fringed edge
- SCARLET ELEGANCE, perianth deep yellow, cup deep orange red, scarlet edged
- SEMPRE AVANTI, creamy white perianth, bright orange cup
- YELLOW SUN, creamy yellow perianth, broad yellow cup

### Small Cupped Narcissi

- AFLAME, white perianth, deep orange cup
- BARRETT BROWNING, white, orange red cup
- EDWARD BUXTON, light yellow perianth, deep orange cup
- VERGER, pure white perianth, deep red cup

### Poeticus Narcissi

- ACTAEA, pure white perianth of perfect shape, brilliant scarlet eye

### Poetaz Narcissi

- BRIDAL CROWN, ivory white double flowers with orange center
- CHEERFULNESS, white perianth with full double center of white and yellow
- CRAGFORD, white perianth, orange crown
- GERANIUM, round flat pure white perianth, deep orange red cup. Strong stem, 6 to 8 flowers on a stem
- LAURENS KOSTER, early and free flowering. White perianth and deep yellow cup
- SCARLET GEM, primrose yellow perianth, cup deep orange
- YELLOW CHEERFULNESS, soft yellow, double

## Daffodils & Narcissi (continued)

### Campernelli and Jonquilla

ODORUS RUGULOSUS (Single Campernelli), golden yellow flowers, two to four to a stem

ODORUS PLENUS (Double Campernelli), clusters of fragrant elegant double golden yellow flowers on tall stem

JONQUILLA SINGLE, sweet scented, deep yellow, with rush like foliage, produces small bulbs

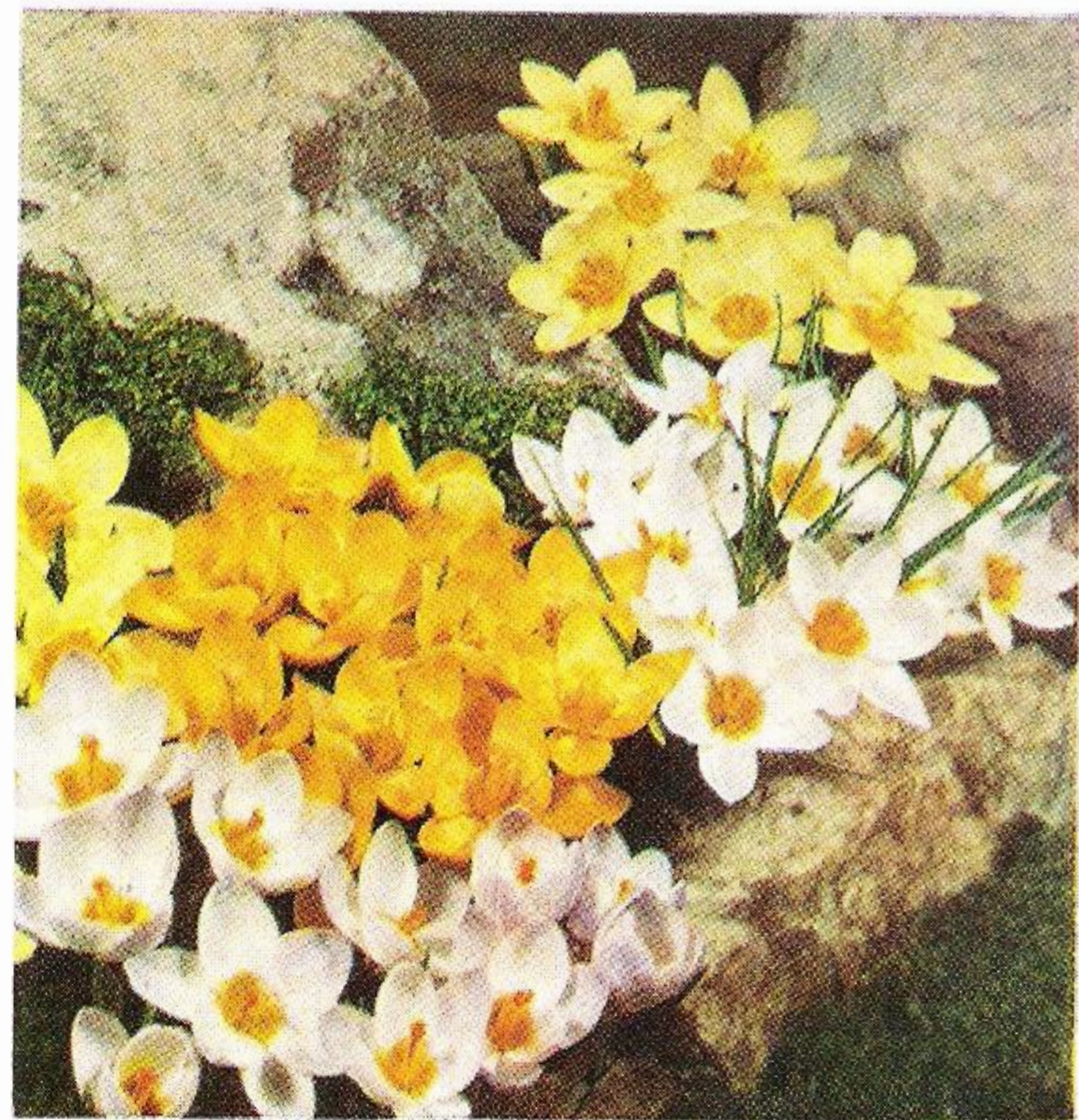
JONQUILLA BABY MOON, sulphur yellow

JONQUILLA GOLDEN PERFECTION, golden yellow

JONQUILLA GOLDEN SCEPTRE, rich golden yellow

JONQUILLA ORANGE QUEEN, rich deep orange yellow flowers, two to three to a stem. Free flowering.

- JONQUILLA TREVITHIAN, pale lemon yellow, clear yellow cup



CROCUS SPECIES

### Various Narcissi for Rock-Gardens

BULBOCODIUM CONSPICUUS (Yellow Hoop Petticoat), rich golden yellow

- CANALICULATUS, white, yellow cup
- CYCLAMINEUS BERYL, yellow, orange cup
- CYCLAMINEUS FEBRUARY GOLD, yellow perianth, trumpet golden yellow
- CYCLAMINEUS PEEPING TOM, deep yellow long cup, reflexed petals
- LOBULARIS, miniature yellow trumpet, creamy white perianth
- MINIMUS, smallest trumpet daffodil, yellow
- NANUS, miniature yellow daffodil
- TRIANDRUS ALBUS (Angel's Tears), silvery white, two or more drooping flowers to a stem, tiny bulbs
- TRIANDRUS SHOT SILK, silvery white
- TRIANDRUS SILVER CHIMES, very charming Triandrus hybrid, four to six flowers to a stem, nodding and very graceful. Pure white perianth, pale primrose cup
- TRIANDRUS THALIA, larger than Albus, pure white
- TRIANDRUS TRESAMBLE, ivory perianth, light silvery white cup, three flowers to a stem
- W. P. MILNER, sulphury white, dwarf trumpet form. Dainty, free flowering

### Paperwhite Narcissi

pure white  
Christmas-flowering

GRAND SOLEIL D'OR, "the yellow Paperwhite"



# Crocus

■ Picture available

Crocus are just about the first flowers to appear after Winter has gone: no wonder they often are called "Heralds of Spring" and probably for the same reason they also are frequently used for forcing in pots, either commercially or by the hobbyist.

## Large flowering Crocus

### Blue and Purple

- ENCHANTRESS, soft blue
- FLOWER RECORD, light purple
- GRAND MAITRE, dark purple
- PURPUREUS GRANDIFLORUS, purple, extra for forcing
- REMEMBRANCE, uniform blue, one of the earliest and largest
- SKY BLUE, silvery blue

### Striped

- KING OF THE STRIPED, white, striped lilac
- PICKWICK, purple stripes on white base

### White

- JOAN OF ARC, white flowers
- KATHLEEN PARLOW, pure white, early
- PETER PAN, large white flowers

### Yellow

- YELLOW MAMMOTH, (suitable for **late** forcing)
- MIXED COLORS . . . . .

## Crocus Species

### Spring-flowering

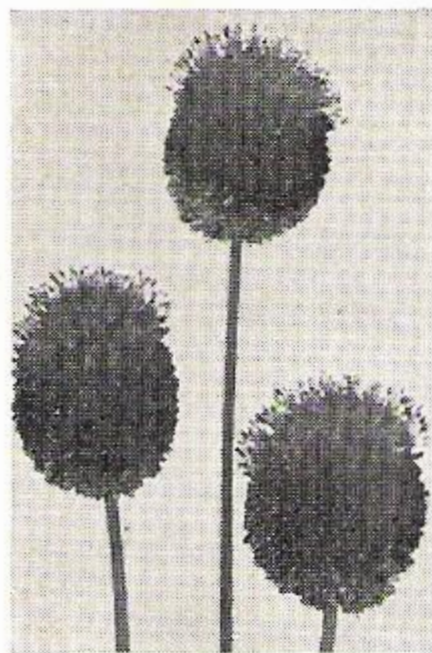
- CHRYSANTHUS ADVANCE, inside yellow,
- ANCYRENSIS (Golden Bunch) orange yellow outside light purple
  - BLUE BIRD, purple, inside white
  - — BLUE PEARL, light violet blue
  - — CREAM BEAUTY, creamy yellow
  - — E. P. BOWLES, yellow, outside purple
  - LADYKILLER, purple, edged white
  - PRINCESS BEATRIX, lobelia blue, yellow base
  - — SNOWBUNTING, white, feathered greyish
  - — ZWANENBURG BRONZE, bronze, inside yellow
  - — WHITEWELL PURPLE, purple
  - VERNUS VANGUARD, silvery greyish lilac

### Fall-flowering

These varieties flower in dormant state like Colchicums in August-September. Orders must reach us in June, as these bulbs are shipped long before other bulbs are ready.

- PULCHELLUS, clear blue
- SPECIOSUS, deep blue, inside purple violet
- ZONATUS, soft lilac, yellow throat



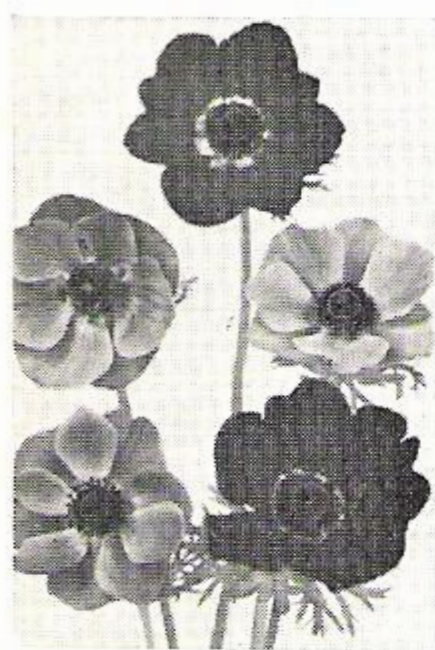


## Allium

Picture available

Alliums create a special effect in the garden; from the small Allium Moly to the huge five feet tall Allium Giganteum. Except for Allium Azureum and Ostrowskianum, all Alliums are excellent cutflowers. Allium Albopilosum can be dried after flowering and then be used as decoration material for floral arrangements.

- AFLATUNENSE, lilac purple, 3 ft.
- ALBOPILOSUM, violet, 2 ft.
- AZUREUM, light porcelain blue, 2 ft.
- COWANII, white, 1 ft.
- GIGANTEUM, violet, very large, 5 ft.
- KARATAVIENSE, purple, with broad leaves, 1 ft.
- MOLY (Luteum), yellow, 1 ft.
- NEAPOLITANUM GRANDIFLORUM, white, good for forcing, 2 ft.
- OSTROWSKIANUM, deep carmine rose, dwarf, 1 ft.
- ROSENBACHIANUM, purple rose, 4 ft.
- ROSEUM GRANDIFLORUM, pink, 16 inches
- SPHAEROCEPHALUM, "Drumsticks", deep purple, 2 1/2 ft.



## Anemone

Anemone De Caen and St. Brigid can be planted in the Fall in areas with little or no frost, or in the Spring and they flower for a long time during late spring and summer, giving innumerable flowers. They make ideal cutflowers.

Anemone Apennina and Blanda have to be planted in the Fall and flower early in Spring and they are real gems for the rock garden.

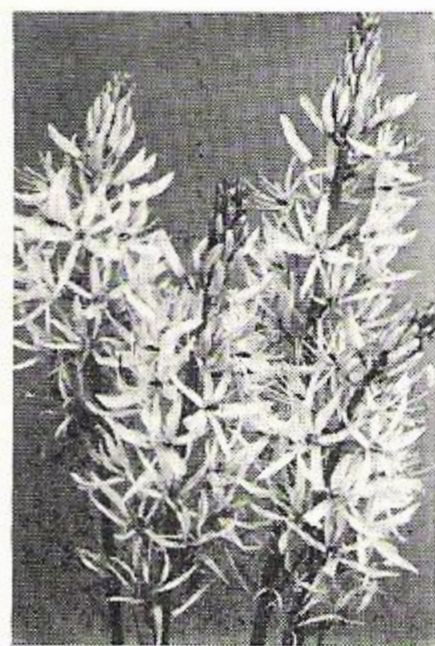
- DE CAEN (SINGLE), grand mixture
- ST. BRIGID (SEMI DOUBLE), splendid mixture
- APENNINA ALBA, white, large flowers
  - BLUE, very early
- BLANDA ATROCAERULEA, dark blue
  - BLUE SHADES
- BLANDA PINK STAR, deep pink
  - PURITY, pure white
  - ROSEA, rose, very early
  - WHITE SPLENDOUR, white
- — MIXED, ideal for naturalizing
- ST. BAVO, grand mixture



## Brodiaea

Brodiaea prefer a sunny spot in the garden and they need a solid covering during winter. They are used for gardening purposes as well as for cutflower use.

- LACTEA, white, tinged lilac
- LAXA, dark blue, good for cutting
- QUEEN FABIOLA, light blue, good for cutting
- TUBERGENII, soft blue, good for cutting



## Camassia

Camassia are fine in the garden but need a good covering in the winter.

- CUSICKII, porcelain blue
- ESCULENTA (Quamash), violet blue



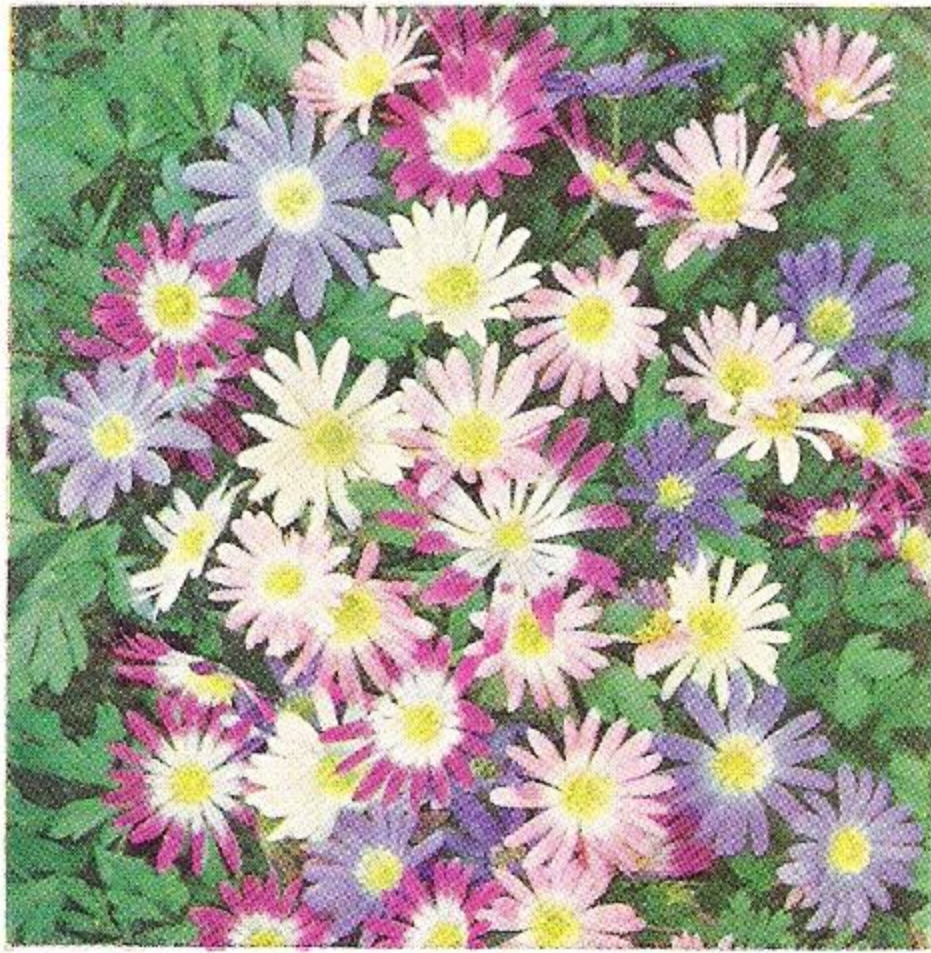
## Chionodoxa

Picture available

Chionodoxa are attractive little flowers, especially for the rock garden but they can also be used in large patches in borders. Interplanted with Kaufmanniana or Fosteriana Tulips, they provide an unforgettable sight. They can be left in the garden year after year where they multiply freely. They need some light winter covering.

- GIGANTEA, light blue, white center
- LUCILIAE, lilac blue, pale star-shaped center
- PINK GIANT, novelty, soft cattleya violet

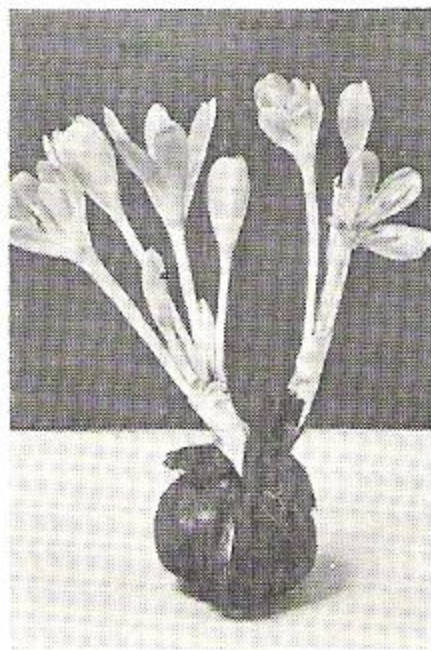
- LUCILIAE ROSEA, rose
- SARDENSIS, bright blue



ANEMONE BLANDA MIXED



CHIONODOXA "GIGANTEA"



## Colchicum

Like Autumn-flowering crocus, Colchicums flower during August-September, they are therefore shipped during July, ahead of all Springflowering bulbs. Colchicums will flower by just putting them in a windowsill without planting them in soil or giving them water. After flowering they can be planted in the garden, where the foliage appears the following Spring.

- AUTUMNALE ALBUM, pure white
- MAJOR, soft violet
- MINOR, violet

- LILAC WONDER, lilac violet, large flower
- THE GIANT, lilac mauve, white base



## Cyclamen

Cyclamen are very pretty in the rock garden. They need a well sheltered, shady place. In Winter they need a covering. Once they are well established, they will flower freely.

- ATKINSII, dark red
- Album, white
- Roseum, pink
- COUM, dark red
- Album, white
- Roseum, pink

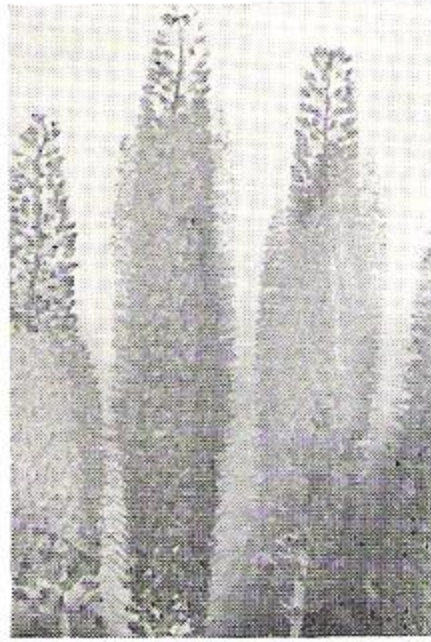


## Eranthis

Picture available

Eranthis flower very early in Spring, when hardly any other flowers are about. They are fine in rock gardens and in front of shrubs, where they flower freely and increase rapidly.

- CILICICA, deep yellow
- HYEMALIS, golden yellow



## Eremurus

Eremurus are very ornamental in the garden with their tall flowerstems, sometimes as high as six feet. They need good fertile soil and a sunny spot; it is advisable to protect the foliage during early Spring against frost damage. It is possible that they don't flower the first year, but if left undisturbed they will flower beautifully the following years. The foliage is not very nice, so they should be planted behind shrubs or other low growing plants. They flower late in Spring.

- BUNGEI, canary yellow
- HIMALAICUS, snow white
- ROBUSTUS, pale pink
- SHELFORD HYBRIDS, fine mixture



## Erythronium

Erythronium are fine in the garden and in rockeries. Plant them at once upon arrival in good soil mixed with peat moss, preferably in a somewhat moist slightly shadowed place. They need a light winter covering.

The recently introduced Revolutum varieties have larger flowers than the Dens-canis varieties.

- DENS-CANIS (Dog's tooth violets) in varieties, 4"
- Mixed, 4"

- REVOLUTUM Kondo, sulphur yellow, 10"
- Tuolumnense, yellow, 10"
- White Beauty, white, 10"



## Fritillaria

The Imperialis type is a tall-growing plant, two to three ft. in height, somewhat similar to a Lily with a crown of drooping flowerbells at its top. Quite effective in setting of six or eight bulbs in the border; a fertile soil is required to grow these bulbs successfully.

Fritillaria Meleagris is fine for the rockery.

- IMPERIALIS (Crown Imperial) AURORA, orange red
- LUTEA, yellow

- IMPERIALIS RUBRA MAXIMA, dark red
- MELEAGRIS (Guinea Henflower) MIXED
- Collection of separate colors



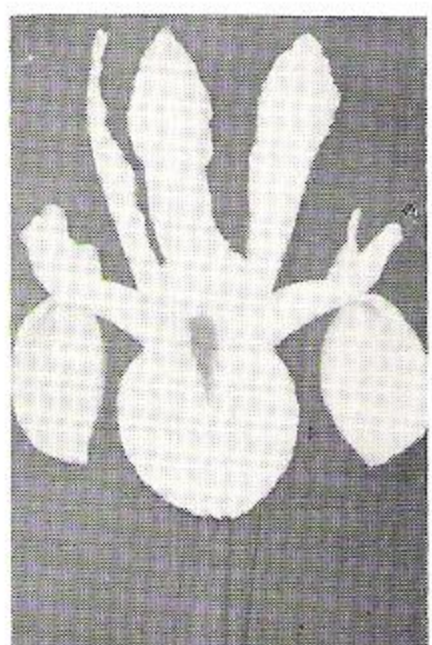


## Galanthus

■ Picture available

Well-known little "Snowdrops", often flowering while snow still covers the ground. Galanthus performs well in almost any spot and is ideal for naturalizing, even in the lawn, provided the foliage is left undisturbed until it has died off.

- NIVALIS SINGLE, pure white
- NIVALIS FLORE PLENO, double, white



## Iris

Dutch Iris are nice in borders and ideal as cutflowers. Spanish Iris and English Iris are fine for borders. The Iris Species are very attractive in rock gardens, where they will flower very early. All *Iris Reticulata* varieties are splendid for gentle forcing indoors.

### Dutch Iris

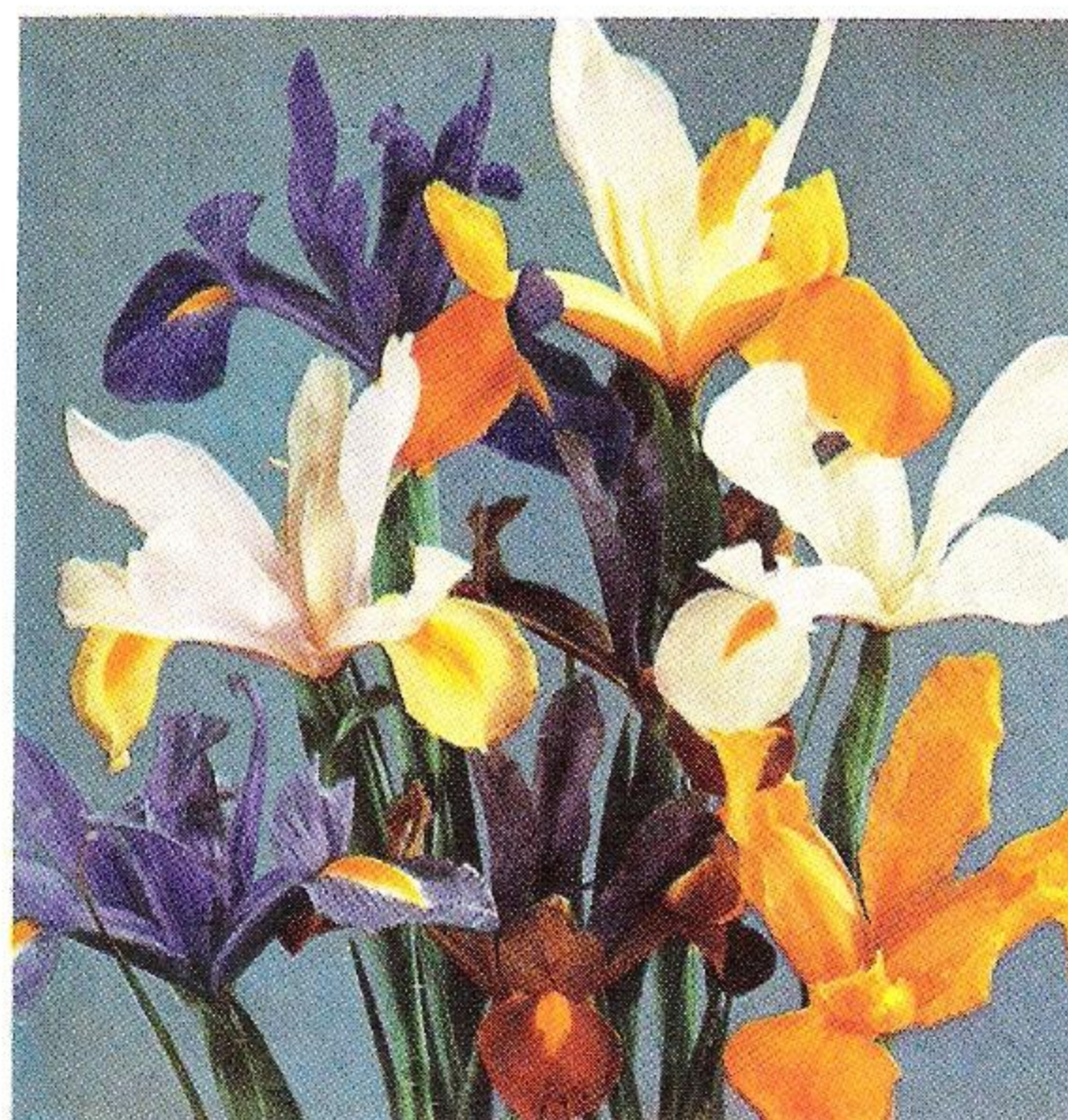
- BLUE RIBBON (Professor Blaauw), deep gentian blue, excellent color
- DOMINATOR, lobelia blue, selection out of Wedgwood
- GOLDEN HARVEST, deep golden yellow, extra
- H. C. VAN VLIET, dark blue, large flower
- IMPERATOR, dark blue, large flower
- WEDGWOOD, light blue, earliest forcer
- WEDGWOOD IDEAL, dark blue strain of Wedgwood
- WHITE EXCELSIOR, pure white, narrow yellow blotch, large flower
- WHITE PERFECTION, pure white, large flower
- WHITE SUPERIOR, pure white, large flower
- WHITE VAN VLIET, ivory white, blotched golden yellow
- YELLOW QUEEN, golden yellow
- BEAUTIFUL MIXTURE

### English Iris

COLLECTION OF NAMED VARIETIES  
VERY FINE MIXED

### Spanish Iris

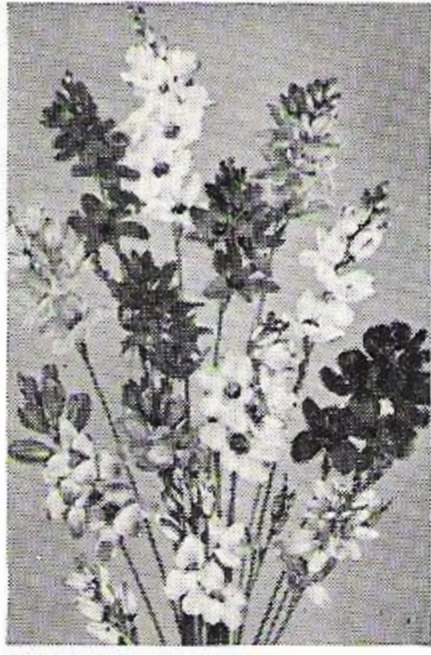
COLLECTION OF NAMED VARIETIES  
VERY FINE MIXED



DUTCH IRIS

### Iris Species

- RETICULATA, sweet scented, dark blue
  - CANTAB, pale blue
  - DANFORDIAE, golden yellow, early and dwarf
  - HARMONY, blue and yellow
  - HERCULES, dark purple
  - HISTRIOIDES MAJOR, soft blue
  - JOYCE, sky blue, orange lip
  - J. S. DYT, bluish purple
- TUBEROSA (Snake's Head), light green, purple blotches



## Ixia

■ Picture available

Primarily used by commercial growers for cutflower during late Spring or early Summer. Ixia however may also be planted outside in a sunny location. If bulbs are left in the ground they should be well covered for Winter-protection.

- LARGE FLOWERING VARIETIES IN SEPARATE COLORS
- LARGE FLOWERING VARIETIES MIXED



## Ixiolirion

A permanent-type garden bulb, which prefers a sunny spot and needs a light cover in Winter.

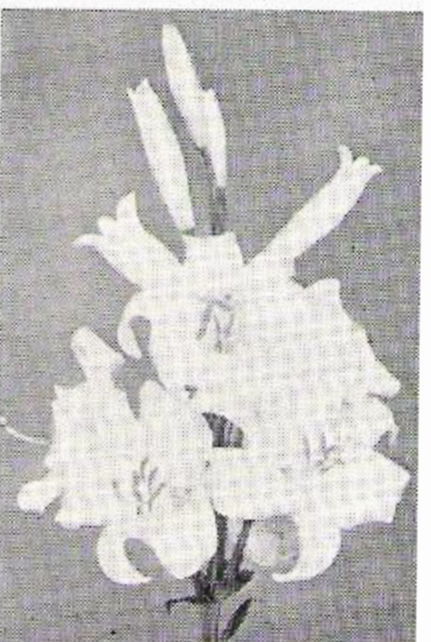
- LEDEBOURII, bright violet
- PALLASSII, lavender blue



## Leucojum

Leucojum are used in the garden, where they naturalize quickly. Leucojum Vernum flowers early in Spring, Leucojum Aestivum a few months later.

- AESTIVUM, white
- VERNUM, white



## Lilium

The only Lily, available for shipment in August or early September is Lilium Candidum, commonly referred to as Madonna Lily or St. Josef's Lily. As is the case with all Lilies it requires a fertile soil with sufficient moisture while this particular variety will benefit from a good winter-protection, especially in colder regions.

- CANDIDUM (Madonna Lily), white

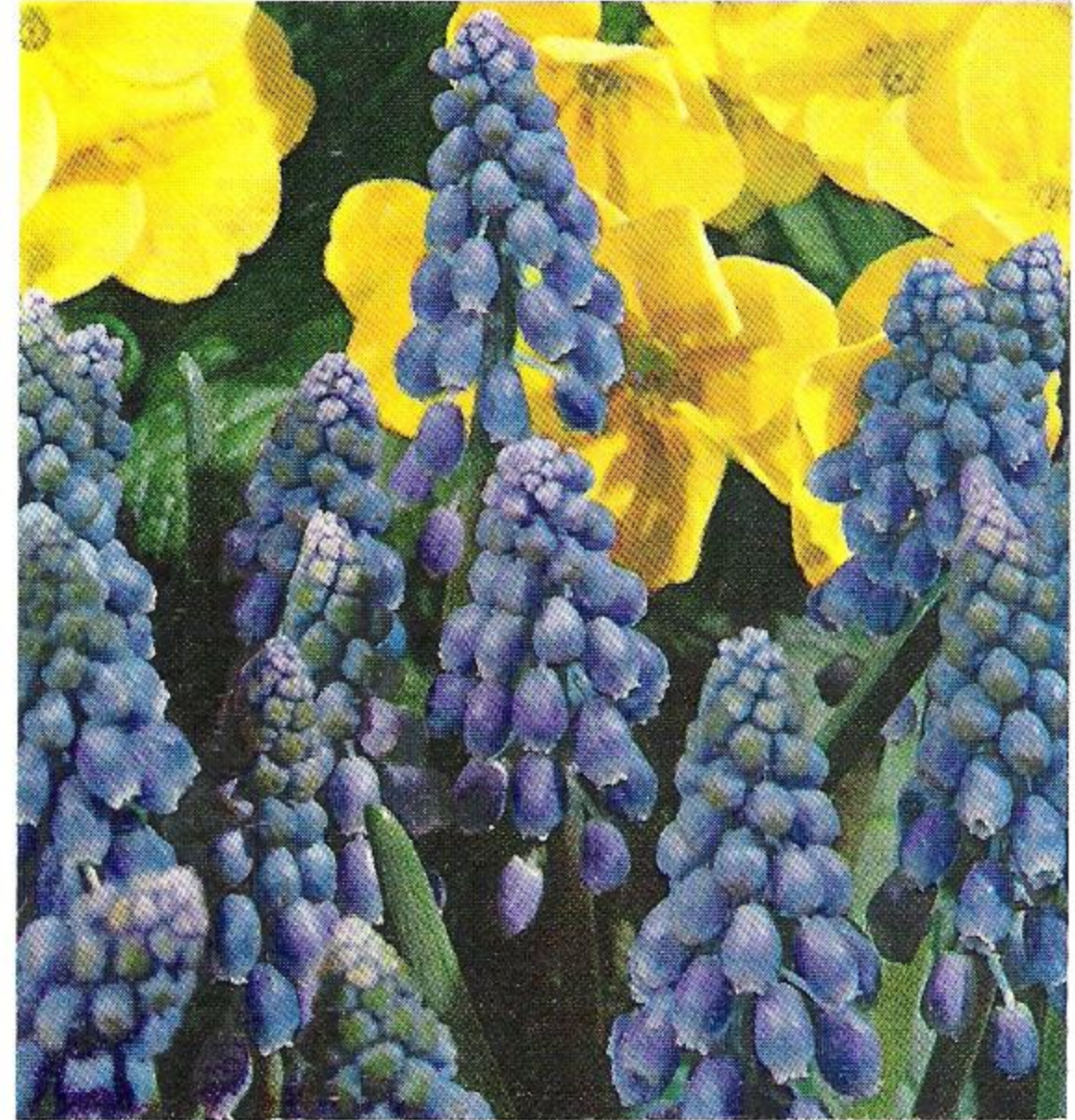


## Muscari

Picture available

Very attractive for mass plantings and in rock gardens. Muscari Armeniacum lend themselves perfectly for interplanting with Species Tulips, Hyacinths and especially with Daffodils. This variety can also be forced indoors and it produces nice cutflowers.

- ARMENIACUM, bright blue, splendid for forcing as well as for outside
- BLUE SPIKE, bright blue, double flowers
- AZUREUM, bright blue
- AZUREUM ALBUM, pure white, very large flower
- BOTRYOIDES ALBUM, white
- BOTRYOIDES, blue
- CANTAB, light blue, late flowering
- PLUMOSUM (Feather Hyacinth), violet



MUSCARI ARMENIACUM



## Ornithogalum

Fine for naturalizing in rock gardens or between shrubs.

- NUTANS, greyish green
- UMBELLATUM, white, outside green



## Oxalis

Oxalis Adenophylla are fine for borders and rock gardens, where they need a sunny spot. If left undisturbed they will spread quickly, making a nice ground cover. Oxalis Deppei are used in the garden and as pot plants.

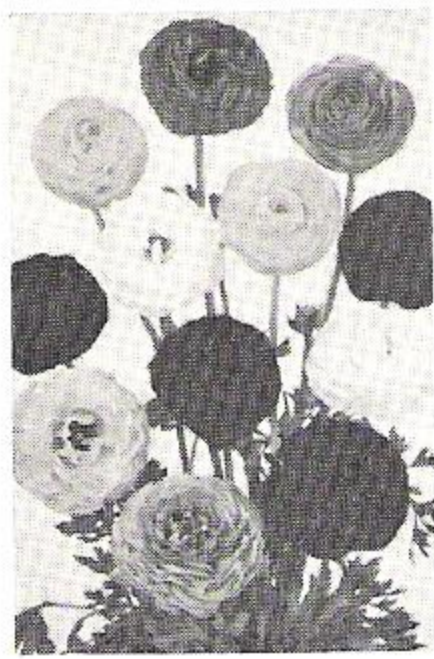
- ADENOPHYLLA, lilac rose
- DEPPEI, deep pink



## Puschkinia

Fine for rock gardens or mass plantings between shrubs where they can be left undisturbed. Very nice too for interplanting with other early flowering bulbs, like species tulips.

- LIBANOTICA, white, shaded soft blue
- ALBA, white



## Ranunculus

■ Picture available

Ranunculus are mostly used by florists because they produce very graceful cut-flowers. If used in the garden they should be planted in Spring and lifted in Fall. Store them during Winter in a dry frostfree place.

DOUBLE FRENCH IN NAMED VARIETIES  
 DOUBLE FRENCH MIXED  
 DOUBLE PERSIAN IN NAMED VARIETIES  
 DOUBLE PERSIAN MIXED

PEONY FLOWERED, extra large flowers,  
 in varieties  
 ■ PEONY FLOWERED MIXED



## Scilla

Scilla Siberica and Tubergeniana can be used everywhere in the garden and in the rockery; very charming in front of or between other bulbs. The Campanulata varieties are fine for naturalizing amongst shrubs and in rock gardens.

CAMPANULATA Blue  
 — Pink  
 — White  
 ■ MIXED COLORS

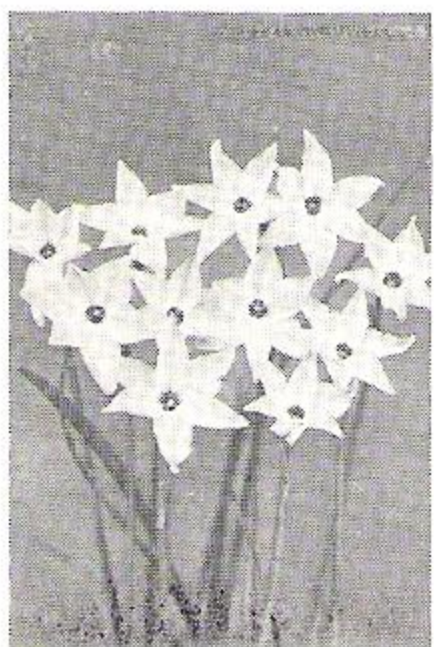
SIBERICA, sky blue  
 ■ — ALBA, white  
 ■ — SPRING BEAUTY, sky blue, large  
 ■ TUBERGENIANA, large flowering, ivory white,  
 blue midrib



## Sparaxis Tricolor

Sparaxis have striking colors and they are therefore useful in the garden. They need a warm sunny spot and a good garden soil. They are not hardy and need a heavy winter covering. Available in named varieties or mixed.

NAMED VARIETIES  
 MIXED COLORS



## Triteleia Uniflora

sweet scented, pale lilac.

Triteleia are fine for naturalizing and can be used in borders or in the rockery. They are not quite hardy and need a covering during Winter.

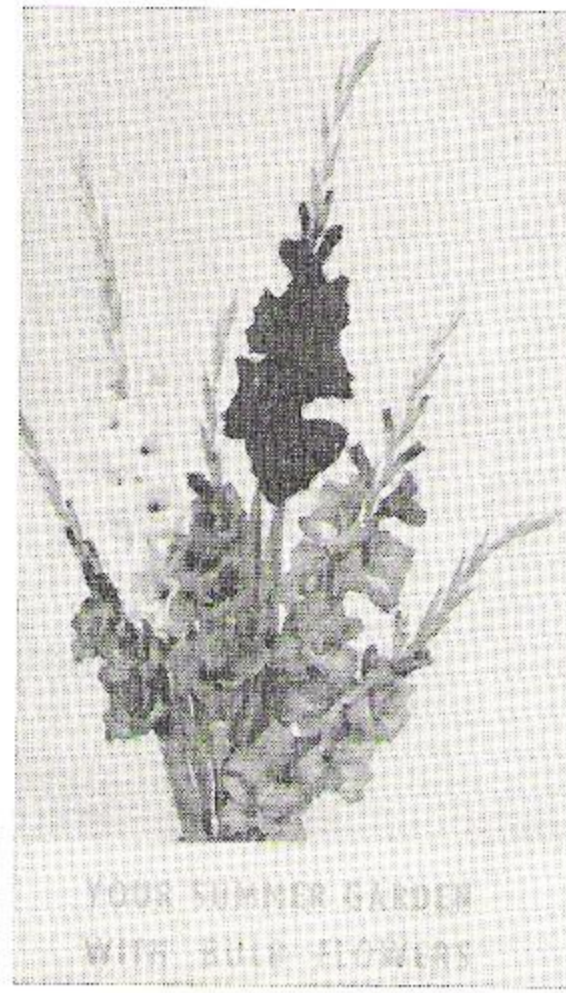
# SALES AIDS

Summer Flowering Bulbs

SD-3 or SD-5

Spring  
Paper Bag

3 lb. or 5 lb.

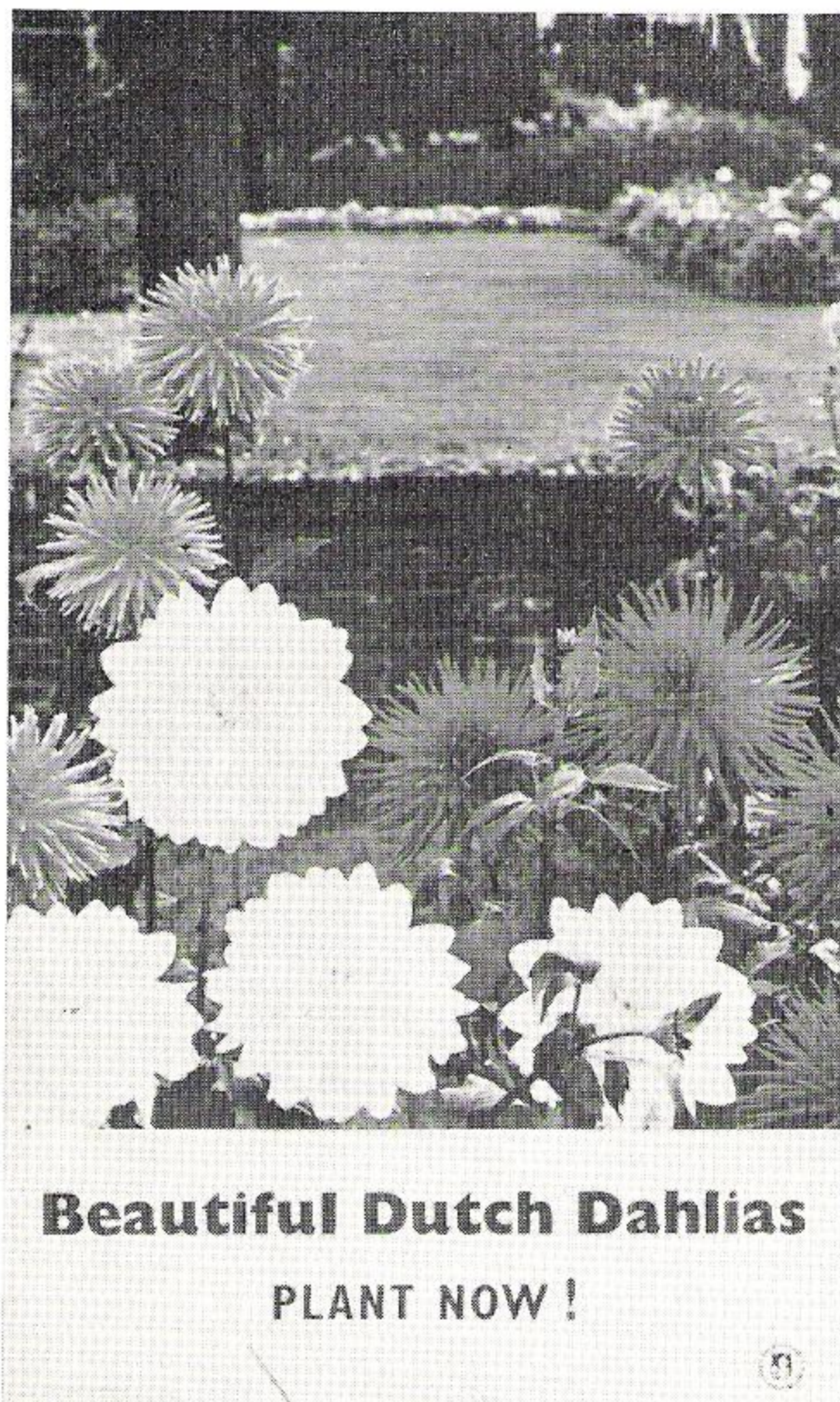


SB-68

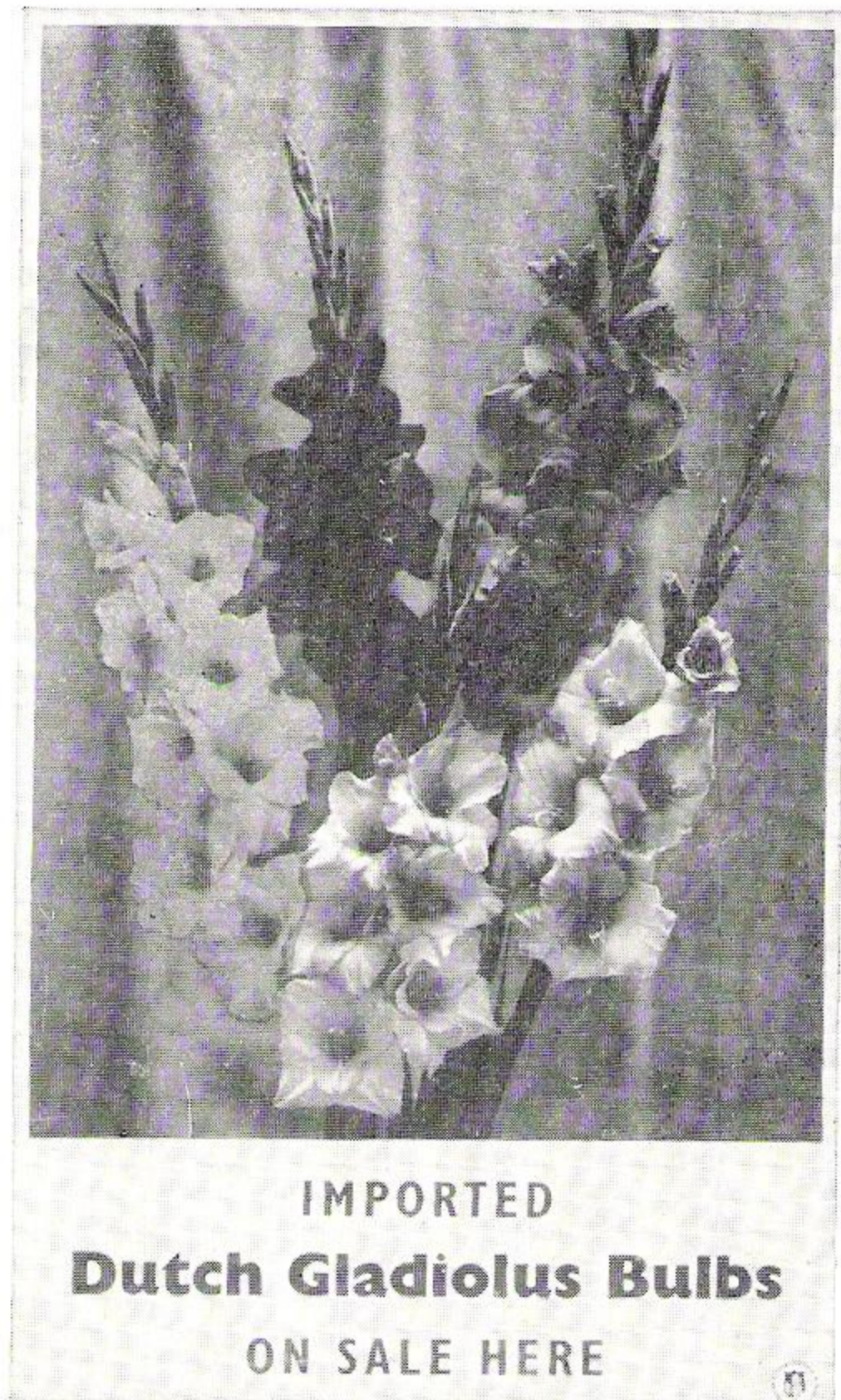
Summer  
Flowering  
Bulb  
Booklet



Summer Flowering Bulbs Streamer SS-68



DP-68 Dahlia Poster (13<sup>3</sup>/<sub>4</sub>" x 22<sup>1</sup>/<sub>2</sub>" )



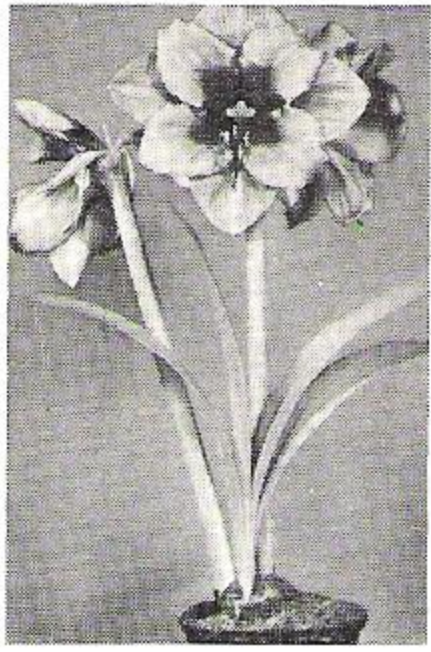
GP-67 Gladiolus Poster (13<sup>3</sup>/<sub>4</sub>" x 23<sup>1</sup>/<sub>2</sub>" )

# SUMMER FLOWERING BULBS

for Winter and Spring delivery







## Amaryllis Hippeastrum

■ Picture available

During the past few years the Amaryllis have immensely been improved, both in size of flower and variety of color. Amaryllis are used as pot plants and grown that way, they provide a wonderful show in the house. The bulbs are ready for shipment from October till March.

- DUTCH HIPPEASTRUM in red shades
- DUTCH HYBRID HIPPEASTRUM,  
dark red, scarlet, light red, rose, salmon,  
orange, striped and white

AMARYLLIS HYBRIDS prepared for Christmas and early forcing, in colors, especially for pots at home



## ■ Acidanthera Bicolor Murielae

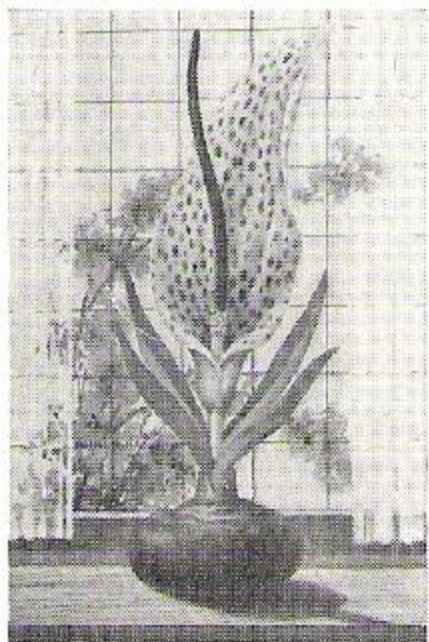
A splendid bulbous plant from Ethiopia, somewhat on the order of Gladioli. Pure white with purplish blotches. Sweet scented and excellent as cutflower.



## Anemone

Anemone De Caen and St. Brigid can be planted in Spring and they flower during the whole Summer. Both varieties make excellent cutflowers as well as providing a bright spot in the garden.

- DE CAEN (Single), grand mixture
- ST. BRIGID (Semi double), splendid mixture



## ■ Arum Cornutum

dark green, spotted purple

Arum Cornutum will bloom inside in March in dormant state without soil or water. When through blooming they can be planted in the garden and must be lifted in the fall and kept frostfree during winter.





# Begonia (Tuberous rooted)

Picture available

NOT READY BEFORE NOVEMBER.

Splendid summer flowering tubers. The double varieties are also used as pot plants, but the principle value of Begonias is for garden purposes for which the double varieties and also the Multiflora types are becoming more and more popular.

## Double-Flowering

- DOUBLE (large Camellia flowering)
 

copper	pink	white
crimson	salmon	yellow
orange	scarlet	mixed
- BOUTON DE ROSE, light pink and dark pink shades
- CAMELIA, rose, bordered white
- MARMORATA, scarlet and rose marbled

## Single-Flowering

- SINGLE
 

copper	rose	white
dark red	salmon	yellow
orange	scarlet	mixed
- BERTINII, red, free flowering

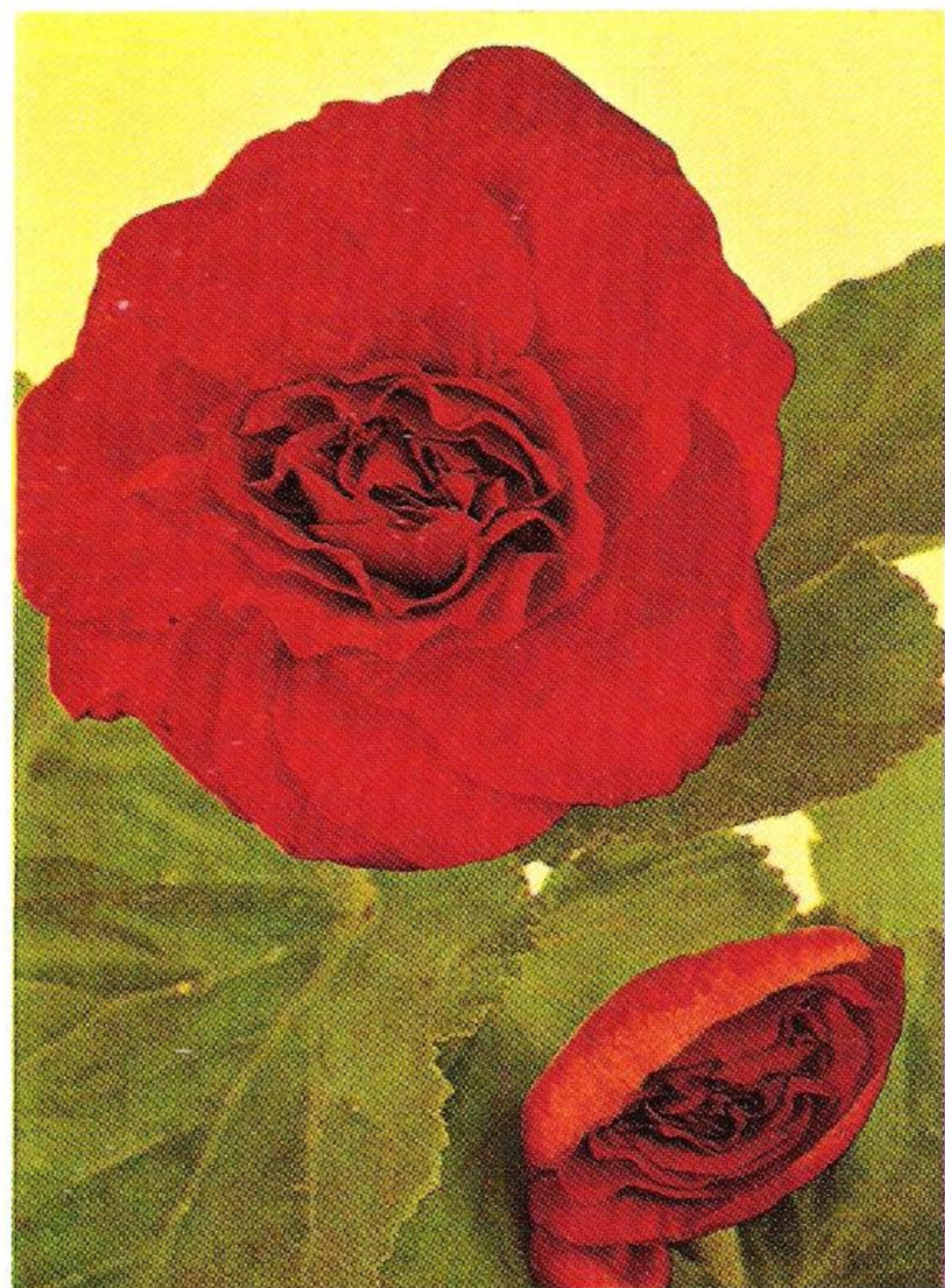
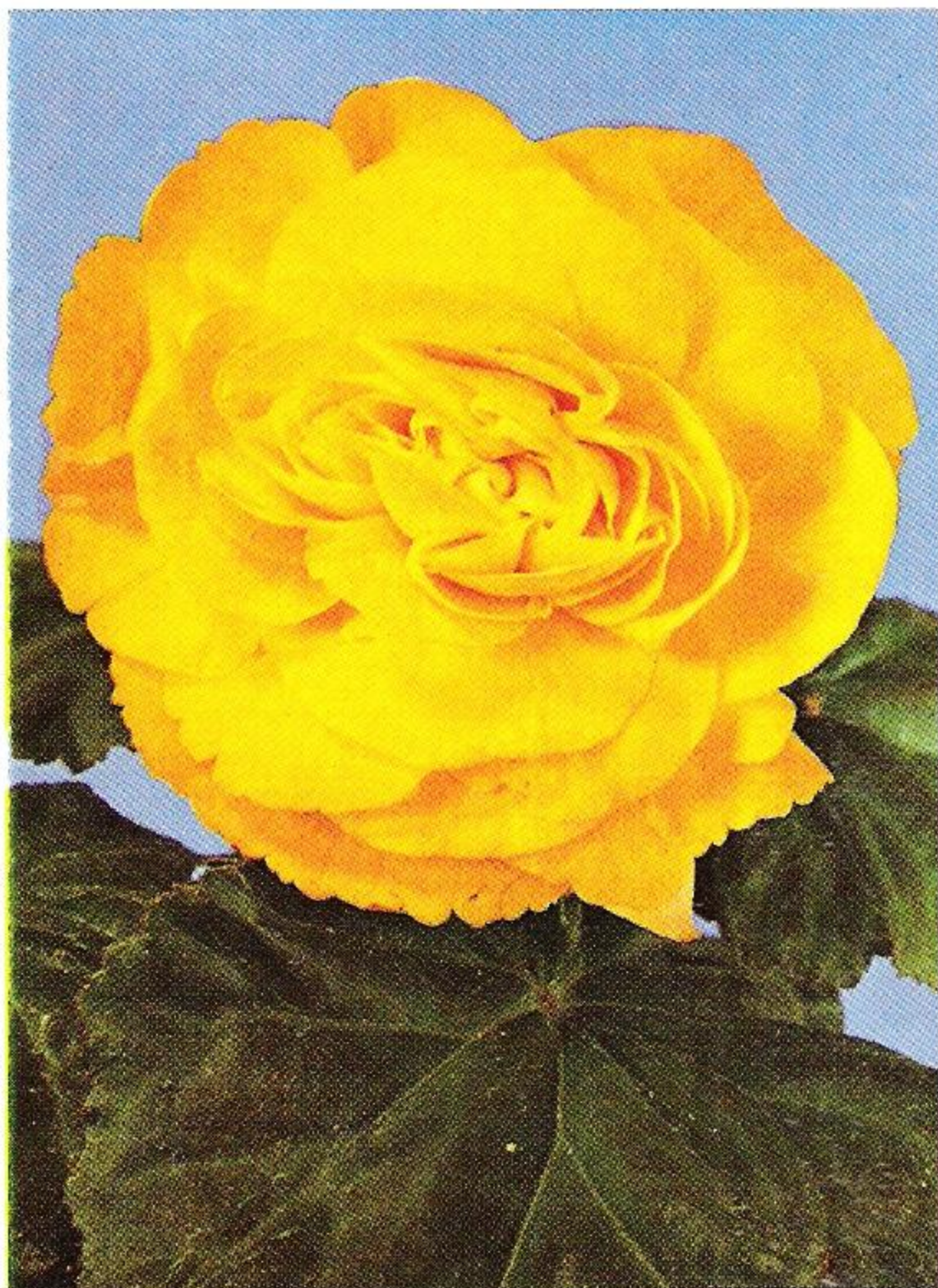
## Fringed Begonias

- FIMBRIATA, double flowering
 

orange	white
red	yellow
rose	mixed
salmon	
- CRISPA, single flowering
 

red	orange
rose	copper
yellow	mixed
white	
- CRISPA MARGINATA, single flowering
 

white with pink border
yellow with red border



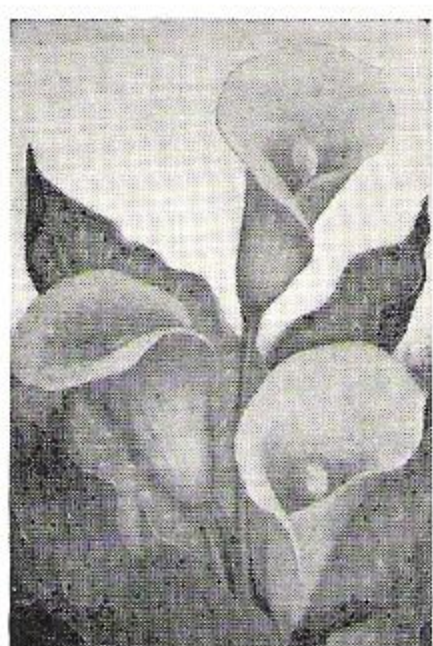
## Begonia (continued)

### Multiflora

- MULTIFLORA MAXIMA,  
new large flowering strain  
orange            salmon            yellow  
pink                white               mixed  
red
- AMI JEAN BARD, salmon orange, free flowering
- FLAMBOYANT, bright red
- GALLE SUPERBA (Ghent Jewel), salmon orange
- HELENA HARMS, soft yellow
- MAD. RICHARD GALLE, copper

### Hanging Begonias ■ Picture available

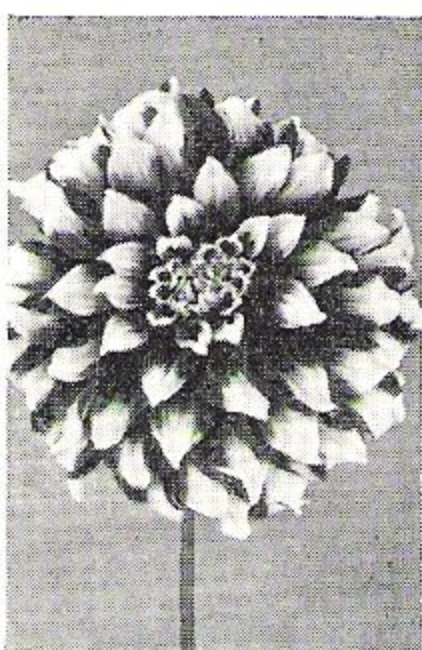
- PENDULA, for hanging baskets  
crimson            salmon            yellow  
orange             scarlet            mixed  
rose                 white



## Calla (Zantedeschia)

Calla is commonly known as Arum Lily and used as cutflower, especially for Church decoration. Planted outside Calla's need a damp and warm position in the garden.

- ALBO-MACULATA, creamy flowers, foliage dark green, spotted white
- ELLIOTTIANA (Golden Calla from the Cape), yellow, mottled foliage
- REHMANNII SUPERBA, pink, green leaves



## Dahlia

Dutch tuberous dahlias are becoming more popular every year and no wonder, with their overwhelming number of flowers per plant and their richness of color they can be used for all purposes. For the gardener they mean an abundance of color in his flowerbeds as well as cutflowers for the house. For the grower they produce many strong and healthy cutflowers for the market. Dahlia flowers grown from tubers are larger and earlier than those grown from cuttings.

### Decorative and American Dahlias

Large double flowers, with rays of flat and bluntly pointed petals.

- ARABIAN NIGHT, deep maroon, blackish sheen
- BROEDER JUSTINUS, salmon orange with yellow center, large flowering
- CHINESE LANTERN, glowing orange red, reverse side yellow
- DEUIL DU ROI ALBERT, purple with white tips
- EDINBURGH, purple and white
- GERRIE HOEK, soft pink, extra for cutting
- GLORY OF HEEMSTED, sulphur yellow, long stems
- HOLLAND FESTIVAL, salmon orange, white tips
- HOUSE OF ORANGE, soft orange
- KATHLEEN NORRIS, pink, large
- LAVENDER PERFECTION, lavender rose
- MAJUBA, blood red
- MIRAMAR, vermilion
- MOONGLOW, pure yellow, large
- RED AND WHITE, red with white tips
- ROSELLA, lilac rose
- SNOW COUNTRY, pure white
- SNOWSTORM, pure white
- TARTAN, purple red, white tip
- TERPO, blood red
- MIXED COLORS

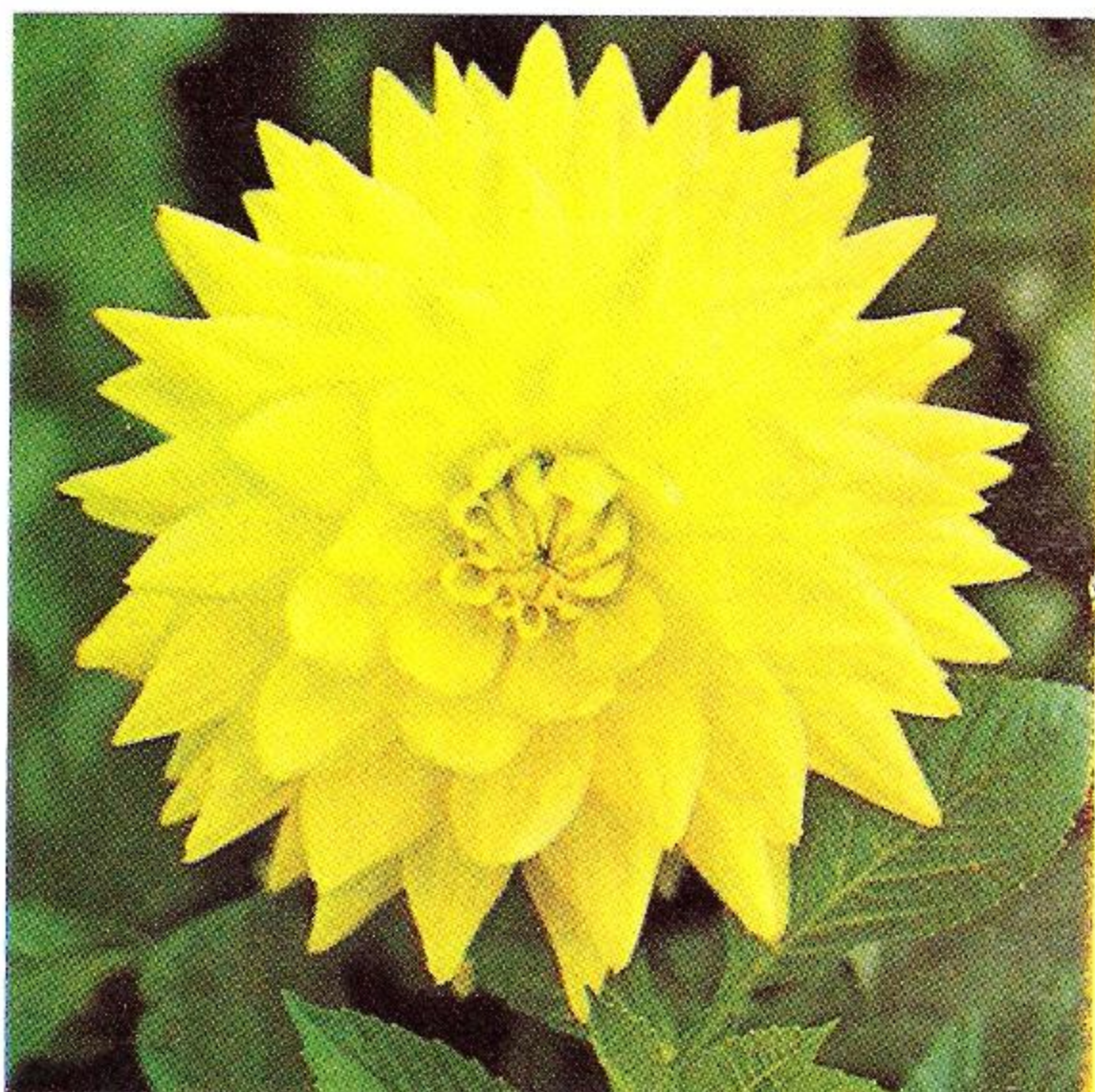


DECORATIVE DAHLIA

### Cactus and Semi-Cactus Dahlias

Large double flowers, recurved petals.

- APPLE BLOSSOM, soft pink
- DENTELLE DE VENISE, pure white, split petals
- DORIS DAY, cardinal red
- FIREBIRD (Vuurvogel), red, yellow center
- GINA LOMBAERT, salmon, yellow center
- GOLD BEATER, dark yellow
- GOLD CROWN, soft golden yellow
- GOOD EARTH, deep mauve rose
- HAZARD, apricot
- HELGA, dark currant red
- HIGHNESS, pure white
- HIT PARADE, scarlet



SEMI-CACTUS DAHLIA

■ Picture available

### Cactus and Semi-Cactus Dahlias

(continued)

- MORNING KISS, clear pink, lighter towards center
- MY LOVE, creamy white
- NEW YORK, blood red
- ORFEO, deep purple
- PIONEER, yellow
- PIQUANT, red, tipped white
- POLAR SIGHT, pure white
- POPULAR GUEST, deep rose, split petals
- PREFERENCE, salmon pink
- PRIDE OF HOLLAND, deep pink, large flower
- PURPLE GEM, cyclamen purple
- ROTTERDAM, velvet red
- TOP CHOICE, vermilion red, yellow tips
- MIXED COLORS

### Collarette Dahlias

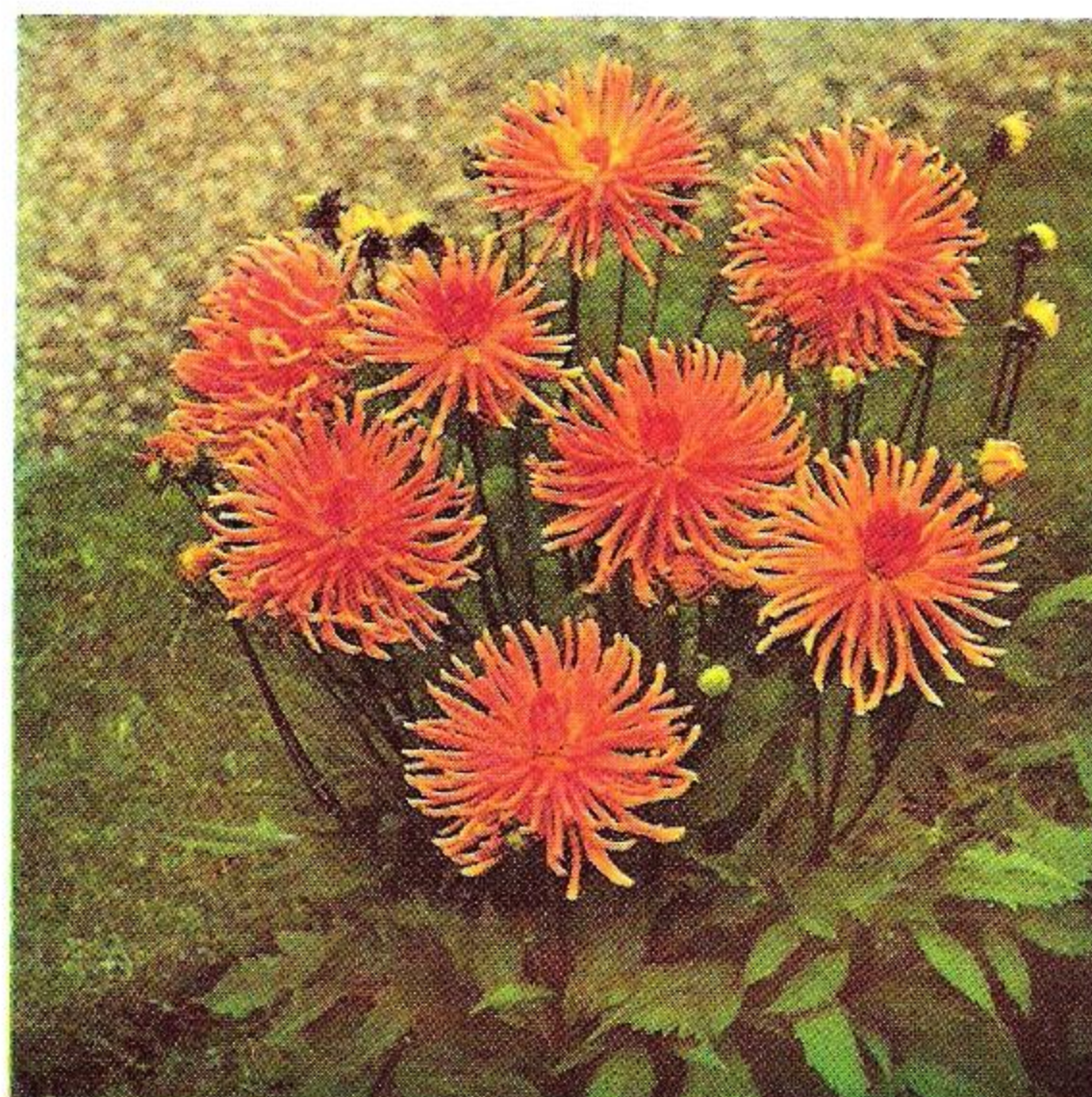
These flowers have a single ring of outer florets with a ring of small florets in the center forming a disc.

- BRIDESBOUQUET, white with white collar
- LA CIERVA, purple with white collar
- LA GIOCONDA, scarlet with golden yellow collar
- LIBRETTO, deep velvet red with white collar
- MIXED COLORS

### Pompon Dahlias (large flowering)

Ball shaped double flowers.

- ALBINO, pure white
- AMUSING, orange with yellow center
- KOCHELSEE, bright red



CACTUS BEDDING DAHLIA

## Pompon Dahlias (large flowering - continued)

- LIPOMA, clear pink
- MAGNIFICAT, vermillion red, tinged crimson
- STOLZE VON BERLIN, lilac rose
- ZONNEGOUD, golden yellow
- MIXED COLORS

## Pompon Dahlias (small flowering)

- FRITS, red and white
- MOORPLACE, deep purple
- NERO, dark red
- POOKA, red
- WITKOPJE, pure white

## Bedding Dahlias

This dahlia section compromises Anemone-flowered, Mignon and Topmix Dahlias as well as some Cactus Dahlias; they all have one thing in common: their dwarf growing habit which makes them very suitable for beds and borders.

### Cactus and Semi-Cactus Dahlias

- AUTUMN LEAVES, orange and pink
- BORDER PRINCESS, salmon with yellow
- PARK JUWEL, phlox pink
- PARK PRINCESS, pink
- SALMON PERFECTION, salmon red

### Anemone-flowered Dahlias

- BRIDESMAID, ivory white
- FABEL, dark red
- GUINEA, yellow
- HONEY, honey yellow and pink
- ROULETTE, lilac pink
- SIEMEN DOORENBOSCH, pink with white center
- MIXED COLORS

### Mignon Dahlias

- FIREBIRD, red
- G. F. HEMERIK, orange
- IRENE VAN DER ZWET, soft yellow
- MURILLO, lilac pink, darker towards center
- NELLY GEERLINGS, brilliant red
- SNEEZY, pure white
- MIXED COLORS

### Topmix Dahlias

- BAMBINO, white
- BONNE ESPERANCE, pink
- CHESSY, bronze yellow
- FACET, bronze
- REDDY, red



## ■ Diclytra (Dicentra)

(Spectabilis) Bleeding Hearts



## Garden Freesia

Garden Freesia are specially treated for flowering outdoors. They should be planted in clumps in the border, where they will catch everybody's eye. They are ready for shipment in the Spring.

- BLUE, ORANGE, WHITE and YELLOW
- MIXED COLORS





# Gladiolus

- ① Early
- ② Medium
- ③ Late
- Picture available

We believe there is no other class of bulbs in which so many new and beautiful varieties have been developed as in Gladioli.

No wonder the demand for Gladioli increases from year to year. Ideal for cut flowers and growing in almost any soil with little care, they are of great value also for gardening purposes and when planted at intervals from Spring till June, Gladioli offer the gardener a crop of cut flowers all through the summer until the frost sets in.

The following collection is of outstanding value in which all colors of the rainbow are represented.

## White

- ALBION, white ①
- MARIA GORETTI, pure white, very large ①
- MORNING KISS, white, with rosy haze ②
- SNOWPRINCESS, white ②
- TEQUENDAMA, white ①
- WHITE EXCELSIOR, white ②
- WHITE FRIENDSHIP, white ①

## Yellow

- ALDEBARAN, soft yellow, red blotch ①
- AMERICAN EXPRESS, soft yellow ①
- FLOWERSONG, yellow, carmine in the centre ①
- GOLD DUST, buttercup yellow ①
- HOPMAN'S GLORY, sunflower yellow ①
- POLARIS, yellow, red blotch ②
- POLYGOON, sulphur yellow ②
- SPOTLIGHT, canary yellow, carmine blotch ②
- VINK'S GLORY, canary yellow ②
- WEST POINT, buttercup yellow ③

## Pink, Flesh and Salmon shades

- BEN TROVATO, pale rosy red, purple on yellow in throat ②
- BLOEMFONTEIN, salmon, yellow blotch ②
- BON VOYAGE, azalea rose ①
- DR. FLEMING, rosy pink, white markings ②
- ELAN, soft rose ③
- EMILIA, salmon pink ①
- FRIENDSHIP, clear pink, white markings ①
- HAPPY END, salmon carmine pink ①
- LEEUWENHORST, pink ②
- LOVELY MELODY, begonia rose ①
- PEROSI, salmon rose ①
- PETER PEARS, shrimp red, lighter vein ①
- PICARDY, salmon ③
- SPIC & SPAN, salmon pink ②
- SPRING SONG, pink ③
- TRILBY, rose, white blotch ③
- VICTORY DAY, pink, red mark ②

## Orange Shades

- HOCHSOMMER, orange red, inside apricot yellow shaded ②
- PRINCESS BEATRIX, scarlet orange, purple markings ③
- TOULOUSE LAUTREC, orange, yellow and red mark ②

## Red Shades

- AGNITA, scarlet ①
- ARISTOCRAT, carmine red with carmine purple shade ③
- ATLANTIC, garnet red ②
- AUBER, mandarin red ①
- CARMEN, scarlet, white blotch ①
- DR. ALBERT SCHWEITZER, red ③
- DR. SALK, poppy red, purple stripe ②
- EUROVISION, light vermilion red, narrow white stripe ③
- HAWAII, mahogany red ②
- HERMAN v. d. MARK, pepper red, white stripe ②
- JOHANN STRAUSS, pale cochineal red ①
- JOLI COEUR, pepper red ①
- JO WAGENAAR, deep carmine with velvet glow and white stripe ②
- KISS WALTZ, poppy red, yellow stripe ②
- LA TRAVIATA, deep wine red ③
- LIFE FLAME, cochineal red, narrow yellow stripe ①
- MANSOER, blood red, deep velvet sheen ②
- MOLIERE, signal red, darker blotch ②
- OSCAR, blood red ②
- SANS SOUCI, scarlet, marked creamy white ②

## Lavender, Blue and Violet

- BLUE CONQUEROR, dark violet blue, paler in the center ②
- FIRMAMENT, lobelia blue with steel gray ①
- GROCK, phlox purple, large purple blotch ①
- LILAC PERFECTION, violet ②
- LILAC WONDER, pale violet ②
- LUSTIGE WITWE, violet with creamy mark ②
- MABEL VIOLET, pure violet ②
- PANDION, cattleya violet, magenta red mark ①
- PAUL PFITZERS MEMORY, violet, darker markings ③
- VAN ZANTEN'S GLORY, light violet purple ③

## Purple

- MEMORIAL DAY, reddish magenta ①
- MODERN ART, purple rose, lighter center ②
- ROBERT KOCH, chrysanthemum red ②

## Gladiolus (continued)

- ① Early
- ② Medium
- ③ Late
- Picture available

### Bicolors

- GREEN WOODPECKER, uranium green, purple blotch ②
- MARY HOUSLEY, creamy white, vermilion red blotch on creamy yellow base ②
- MY LOVE, old rose, shaded rosy white ②
- PACTOLUS, salmon, bright red flake ②
- SHEHERAZADE, blood red blotch on creamy yellow ground ②
- SUNNY BOY, pale rose, red flake on creamy yellow base ②

### Smoky colors

- ARTIST, mauve tigated ①
- SILHOUETTE, lilac, shaded bright red ②
- STRANGER, rose shaded white ②

### Gladiolus Primulinus

A splendid race, becoming more popular. They bloom about two weeks before the large flowering type. Very elegant flowers, excellent for cutting.

IN SEPARATE COLORS AND MIXED



## Gloxinia

Gloxinia are splendid for pot plants and are grown in greenhouses. They are not ready before November.

- BLANCHE DE MERU, light pink, throat white
- EMPEROR FREDERICK, red, bordered white
- EMPEROR WILHELM, blue, bordered white
- ETOILE DE FEU, brilliant red
- HOLLYWOOD, purple blue
- MONT BLANC, pure white
- PRINCE ALBERT, violet blue
- PRINCESS ELIZABETH, light blue
- QUEEN WILHELMINA, dark pink
- ROI DES ROUGES, crimson
- TIGRINA, spotted, mixed colors
- VIOLACEA, blue
- WATERLOO, scarlet
- MIXED VARIETIES



## ■ Hyacinthus Candicans

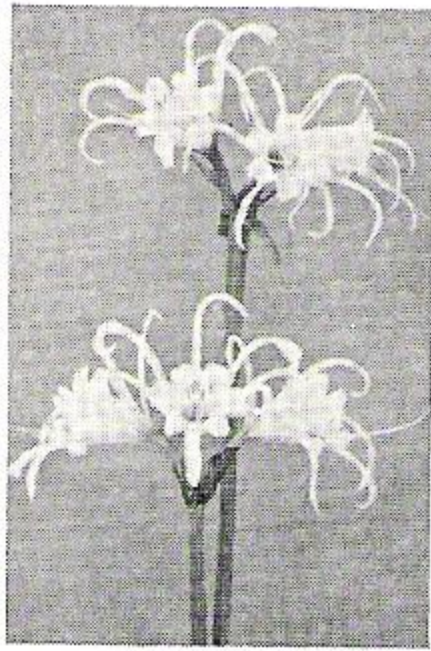
(Galtonia), white

Hyacinthus Candicans are planted in Spring and are fine in groups in borders. They are not hardy, must be lifted in the fall and kept frostfree during winter.



## ■ Incarvillea

(Garden Gloxinia), lilac rose, yellow heart

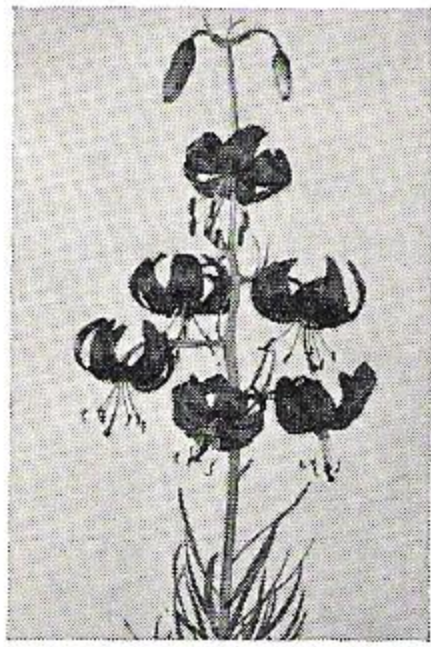


## Ismene

■ Picture available

Ismene are beautiful exotic plants; they can be grown in pots indoors but they will also flower very nicely in the garden, provided they are planted in a warm sunny spot.

- ADVANCE, pure white, green stripes in throat
- FESTALIS, white, small green base



## Lilium

Lilies belong to the most beautiful flowers. All lilies are splendid for gardening, they do excellently in borders, if planted in suitable spots.

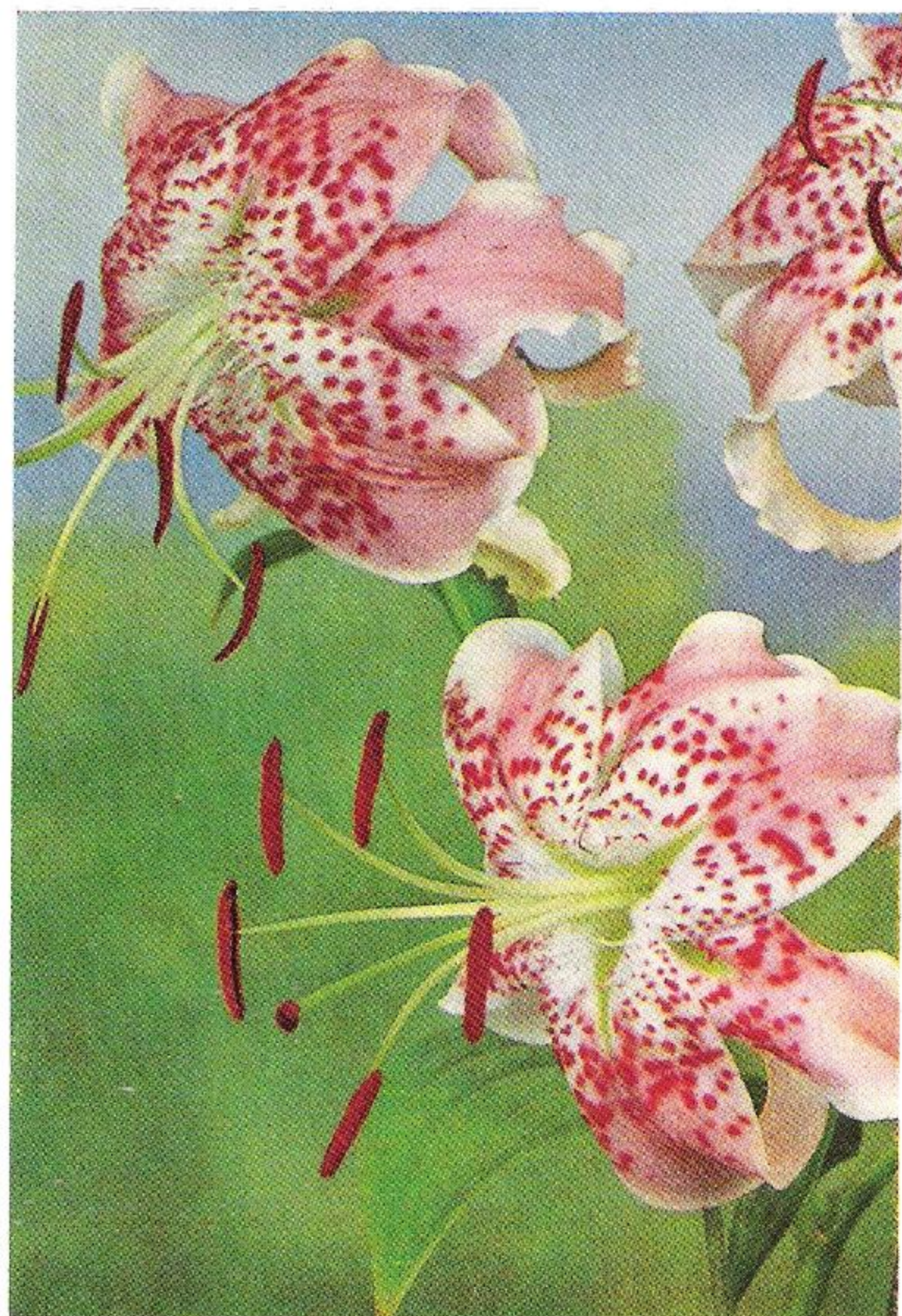
The following lilies are shipped in late fall, during the winter or in early Spring.

- BELLINGHAM HYBRIDS, in separate colors
- BRANDYWINE
- BRIGHT STAR, ivory white, orange center
- CITRONELLA, lemon yellow
- FIESTA HYBRIDS, in separate colors
- FIRE KING, orange red, free flowering

- GOLDEN SUNBURST, golden yellow
- HANSONII, orange yellow, spotted brown
- HENRYI, orange yellow, 10-20 flowers to a stem
- LONGIFLORUM HOLLANDS GLORY, white
- MOUNT EVEREST, pure white
- WHITE QUEEN, pure white



LILIUM "FIRE KING"



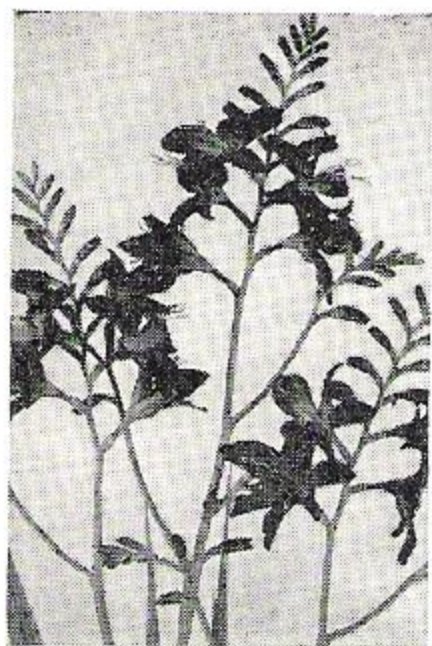
LILIUM SPECIOSUM RUBRUM



## Lilium (continued)

■ Picture available

- MARHAN, orange yellow with purple dots  
 MARTAGON, purple  
 — ALBUM, pure white  
 MAXIMOWICZII, orange red  
 MAXWILL, bright orange red with small black spots, free flowering  
 MID-CENTURY HYBRIDS  
 ■ — — — HARMONY, orange  
 — — — PROSPERITY, yellow  
 — — — TABASCO,  
 mahogany red  
 — — — VALENCIA,  
 orange yellow  
 ■ MOUNTAINEER, light orange  
 OLYMPIC HYBRIDS, white, trumpet lilies  
 PARDALINUM GIGANTEUM, orange yellow, black spots  
 PHILIPPINENSE FORMOSANUM WHITE SUPERIOR, white, long trumpet  
 PINK PEARL, purple pink  
 PINK PERFECTION, purple pink, trumpet lily  
 ■ REGALE, white trumpet, outside carmine  
 — ALBUM, pure white  
 ■ ROYAL GOLD, golden yellow  
 SPECIOSUM ALBUM, white, outside of petals shaded crimson  
 SPECIOSUM GRAND COMMANDER,  
 — LUCY WILSON,  
 — ROSEUM, white, tinted and spotted rose  
 ■ — RUBRUM, white, tinted pink and heavily spotted red  
 — — UCHIDA, darker than Rubrum  
 SUTCHUENENSE (Willmottiae Unicolor), orange red  
 ■ TENUIFOLIUM, vivid scarlet  
 — GOLDEN GLEAM, orange yellow  
 TIGRINUM FLAVIFLORUM, yellow  
 — FLORE PLENO (Double Tiger Lily),  
 — FLAVIFLORUM, yellow orange, black spots  
 — FORTUNEI, dark orange  
 ■ — SPLENDENS (Single Tiger Lily), orange red, black spots  
 ■ UMBELLATUM ERECTUM, dark orange red,  
 — MONARCH, red  
 ■ — ORANGE TRIUMPH, fine orange  
 WILLMOTTIAE IMPROVED, orange red, spotted brown, 25"

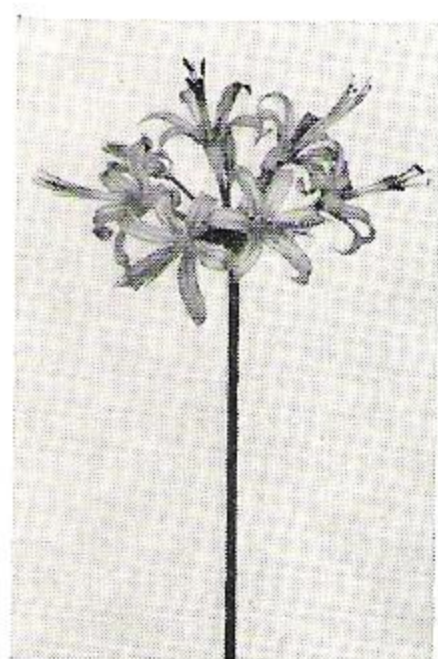


## Montbretia

Montbretia are fine for cutflowers. They thrive best in a somewhat moist, rich soil in places where they are protected against the hot midday sun. They are not hardy everywhere. In extreme cold climates it is advised to lift them in the fall. If left in the ground a heavy covering is required.

- SUPERFINE MIXED, large flowering  
 small flowering

COLLECTION OF NAMED VARIETIES,  
 large flowering  
 small flowering



## Nerine

Nerine like a warm spot in the garden and a covering during the Winter. Once they are established they can be left undisturbed for years.

- BOWDENII, pink, large flowering  
 CRISPA, small frilled flowers, soft pink  
 PINK TRIUMPH, dark pink



## Oxalis

■ Picture available

Oxalis are fine for planting in borders and the reposed bulbs of Oxalis Deppei can be potted up to make lovely pot plants.

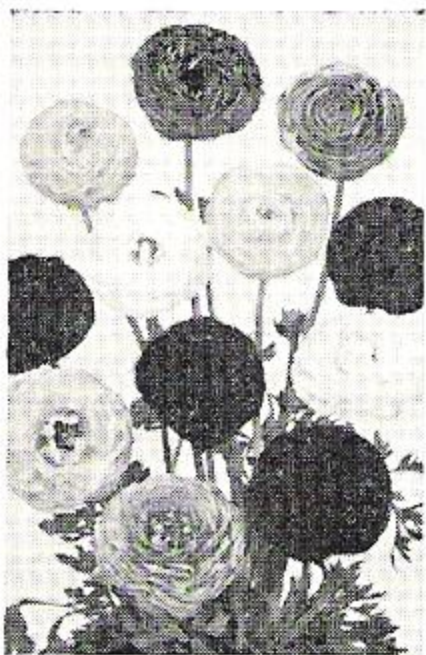
DEPPEI, pink

LASIANDRA, carmine, brown tinted foliage



## Paeonia Sinensis

Peonies can be planted in the Fall as well as in Spring. They can be left undisturbed for years. Available in assorted colors or in named varieties.



## Ranunculus

Ranunculus bulbs are planted in Spring with their "claws" pointed down, 1"-2" deep. They should be lifted in Fall and kept dry during Winter in a frostfree place.

DOUBLE FRENCH IN NAMED VARIETIES

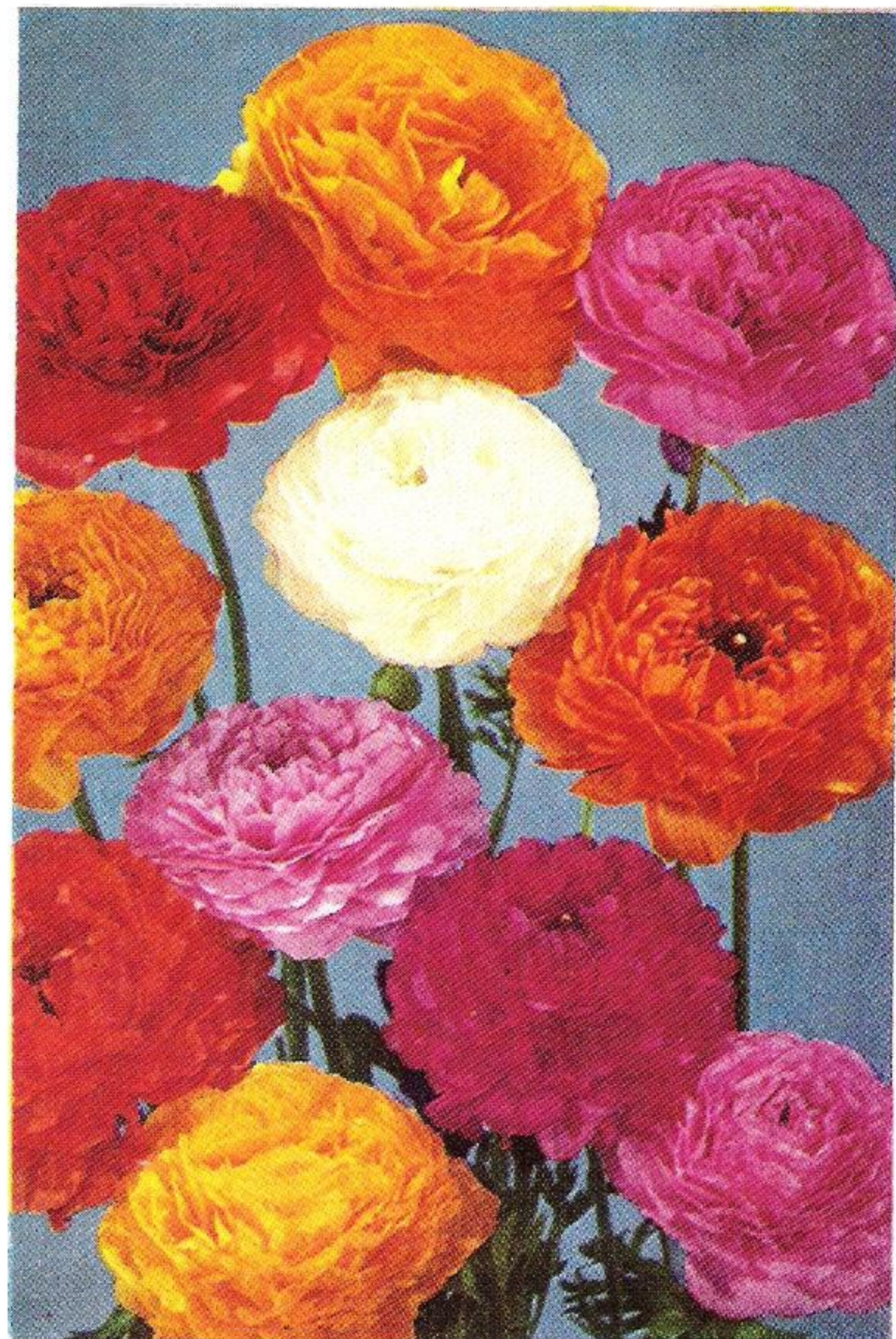
DOUBLE FRENCH MIXED

DOUBLE PERSIAN IN NAMED VARIETIES

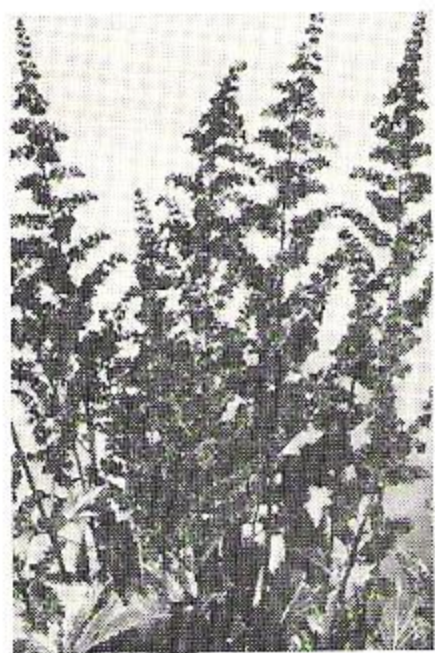
DOUBLE PERSIAN MIXED

PEONY FLOWERED, extra large flowers,  
in varieties

■ PEONY FLOWERED MIXED



PEONY FLOWERED RANUNCULUS



## ■ Spiraea

(Astilbe). Ready October to April

■ Picture available

Spiraea are mostly used by the florists for growing as potplants. Also fine in gardens but need lots of moisture, therefore fine along the edge of a pond.

IN NAMED VARIETIES



## Sparaxis Tricolor

The striking colors of Sparaxis will attract everybody's attention. They can be planted in a warm sunny spot in the garden; they are not hardy and therefore need a heavy covering during Winter.

NAMED VARIETIES  
MIXED COLORS



## ■ Tigridia

(Ferraria)

Tigridias are planted in early May in a sunny, warm spot in the garden, not too dry. With their glittering colors they make a splendid effect in borders. The flowers which last only one day are produced very freely. Tubers must be lifted in the fall and kept frost free during winter.

IN VARIETIES  
FINE MIXTURE



## ■ Zephyranthes Robustus

pink, 10"

Very attractive in gardens but equally suited for pots indoors.

# Michigan State University

EAST LANSING - MICHIGAN 48823

College of Agriculture - Department of Horticulture

## AN INVITATION

We urge you to remember that Any or All Problems related to Flower Bulb Forcing can be brought to the attention of the DEPARTMENT OF HORTICULTURE, Michigan State University, East Lansing, Michigan 48823.

The Flower Bulb Industry of the Netherlands has supported research on spring flowering bulbs for many decades. The Laboratory for Flower-Bulb Research at Lisse, Holland, which is located in the heart of the bulb district and has been receiving support from this industry, is regarded as the leading center for bulb research. Our industry recognized, however, that forcers in the United States and Canada had special problems and that additional research was needed in America. As a result of this obvious need, our industry entered into a cooperative research program with the Department of Horticulture at Michigan State University in 1965. The program was initiated with the aid of a five year grant of \$ 100,000.

The goal of the M.S.U. project is to establish a center of knowledge in the field of flower bulbs in the U.S. The program has already produced several pieces of information which have proven to be of value to the American Florist Industry. The most important being the Bulb Forcers Handbook, the second edition of which was published in 1967. This Handbook is available from us and if you have not yet received a copy, please request one.

With the publication of this manual, we can now point to another product of the research program at M.S.U. We feel that the information provided in this manual will enable the forcer to produce quality plants or flowers with a minimum of labor and cost. We wish to point out, however that we realize that experience will dictate that changes should be made in programs outlined in the following pages. We again call upon you, the forcer, to communicate to either us or Dr. De Hertogh, any and all experiences obtained with this program. By so doing, you will help to further the research efforts and at the same time contribute the value of your experience to others.

# General rules for forcing

## Arrival of bulbs

1. As soon as the bulbs arrive, the bags should be taken out of the crates and opened immediately.
2. If the bulbs have to be stored for a long period, they must be taken out of the bags and placed in shallow trays.
3. The storage should take place in a dry, well ventilated room, with a temperature between 62° and 65° F. Temperatures above 70° F. can be fatal to the bulbs.

## Soil

1. The soil for planting bulbs must be porous and yet be able to hold sufficient moisture
2. If no such soil is available, the following mixtures can be used:

perlite vermiculite or calcined clay	peat	soil	sandy soil	sand
1/2		1/2		
1/3	1/3	1/3		
1/3	1/3			1/3
1/4	1/4		1/2	

3. Never use soil that has previously been used for forcing bulbs or previously used for growing of any greenhouse crops since fertility levels may be too high or it may be infested with disease organisms.

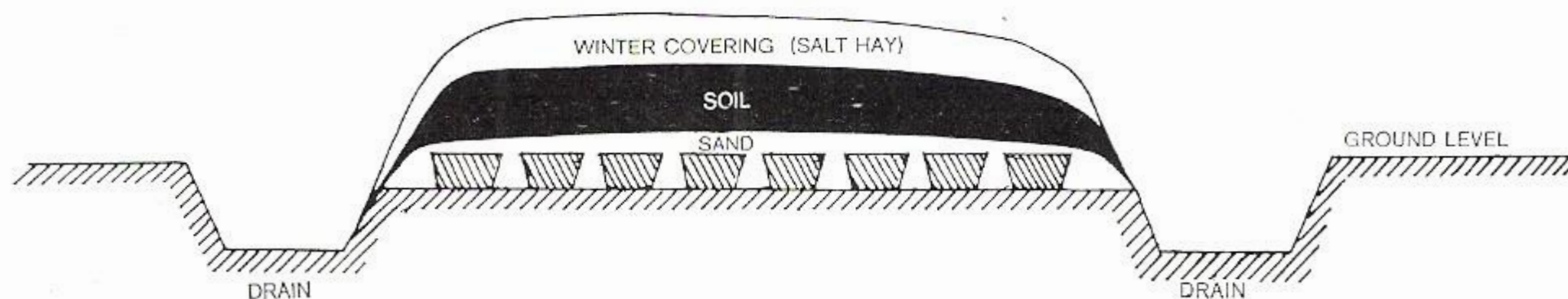
If such soil must be used be sure that it is thoroughly and completely sterilized. Do not use fertilizers.

## Containers

1. Pots and flats must have good drainage.
2. New clay pots should be soaked in water for at least two days.
3. Flats must have sufficient depth: for tulips and hyacinths approximately 4 inches, for daffodils 5-6 inches.

## Planting

1. The pots and flats are filled with enough soil so that the tops of the planted bulbs are even with the rim of the container.
2. Place the bulbs gently in the soil, do not force them in.
3. Tulips are to be planted with their flat side against the side of the container.
4. Next fill the containers with soil so that no more than a quarter of the bulbs is left exposed. The soil must stay about half an inch under the rim of the containers.
5. Bulbs for cutflowers should be planted in flats and the bulbs should be separated a quarter inch apart.



## Rooting

1. **Indoor rooting** takes place in a rooting room or bulb cellar, preferably temperature controlled. The pots and flats are placed on shelves and should be watered immediately. Keep moist at all times. Complete information on the construction and use of a rooting room is given in the "Bulb Forcers Handbook".
2. **Outdoor rooting** is done in a rooting bed. If you must put the bed where bulbs were grown before, mix the soil thoroughly with 25 ounces of petachloronitrobenzene (PCNB) per 100 square feet. The pots and flats are placed in the bed and covered with 1-2 inches of sand next a layer of 8 inches of soil for the early forcing

varieties and 4-5 inches for the Easter varieties. Right after planting water the bed well. For extra insulation cover the bed with a layer of salt hay, leaves or straw.

It is advisable during severe freezing weather to put on top of this thick cover a sheet of polyethylene as an extra insulator. Take this off as soon as the weather warms up a little.

Drainage is very important (see picture).

When there is an excessive amount of snow on the beds, this should be removed before it begins to melt. Should the snow melt when the soil underneath is frozen it can be extremely dangerous.

## Achimenes

### CULTURAL DIRECTION

Achimenes corms are planted in pots from February through May for a succession of bloom. Plant one corm in a 5 inch pot or several corms in a larger pot. Use good rich sandy loam. Water sparingly and give the plant plenty of light. Careful watering and good drainage are essential.

ACHIMENES LITTLE BEAUTY, pink  
— PAUL ARNOLD, blue

## Pot Hyacinths

### Cultural Information

**General** - The information listed below will serve as a guide to forcers who have available for their use a rooting room (controlled temperature storage facility). For those forcers who still use outdoor rooting beds adjustments will be necessary based on experience. Also, forcings for flowering periods 1 and 5 will probably be eliminated or sharply curtailed.

Flowering Period	Earliest date for carrying into the greenhouse	Flowering Dates
1	December 1	December 17—January 12
2	December 26	January 13—February 8
3	January 25	February 9—March 7
4	February 22	March 8—April 10
5	March 29	April 11—May 14

**Rooting Room Treatments** - The information described below is given to serve as a guide for the commercial forcer. If the guides are followed all hyacinths for the five flowering periods can be rooted in one rooting room. It should be remembered that the bulbs should not be stored at temperatures higher than 63° F after arrival and prior to planting. The program outlined below is based on a greenhouse forcing temperature of 65° F. If temperatures other than 65° F are used the necessary adjustments will have to be made.

The information presented is a result of the research program at Michigan State University in cooperation with the Laboratory for Flower-Bulb Research, Lisse, The Netherlands and Van den Hoek's Experimental Bulb Forcing Greenhouse, Oude Niedorp, The Netherlands. For more detailed information on the forcing of hyacinths consult the "Bulb Forcers Handbook" which is available from us.

**Flowering Period 1** - As indicated below only "Prepared" hyacinths should be used. Planting should be done between September 20 to October 1, depending on the cultivar (see Table below).

## Amaryllis

### CULTURAL DIRECTION

The Amaryllis is a non-cold requiring bulb which is suitable for use as a pot plant. These plants can be flowered from December to May without difficulty. In addition to being useful as a flowering plant they may be retained by the consumer as a foliage plant until late spring or early summer when it can be placed outside. With care it can be flowered for several seasons.

The bulbs should be potted in a well-drained medium. Use a pot which will permit expansion of the bulb during growth. The bulbs should be planted approximately six to eight weeks prior to the desired time of flowering and forced in a 60° F. greenhouse.

**Flowering Periods** - The forcing of hyacinths has been divided into five flowering periods based on the performance of the various cultivars (varieties) and their ability to be forced under different environmental conditions.

The flowering periods for **hyacinths** are as follows:

The rooting room temperature sequence should be 48° F. to December 1 and 41° F. until the last group is taken out. The first group may be taken out for forcing on December 1.

**Flowering Period 2** - When a rooting room is used only regular hyacinths need be used. For storage in outdoor rooting beds it may be necessary to use "Prepared" hyacinths. Planting should take place from September 25 to October 5. The rooting temperature sequence should be 48° F. to December 1, 41° F. to January 1 and then 32-35° F. The first group may be taken into the greenhouse for forcing after December 25.

**Flowering Period 3** - For this flowering period and all subsequent flowering periods only regular hyacinths should be used. Planting should be carried out between October 25 and November 1. The rooting room temperature sequence should be 48° F. to December 1, 41° F. till January 1 and then 32-35° F. The first plants of this group can be carried into the greenhouse on January 25.



**Flowering Periods 4 and 5** - When a rooting room is used the planting for these flowering periods should take place between November 10 to 15. The rooting room temperature sequence should be 48° F. till December 1, 41° to January 1 and 32-35° F. until the last group is carried into the greenhouse. Since all cultivars cannot be used for both flowering periods consult the tables which follow for the appropriate cultivars.

When outdoor storage is used experience will dictate what is the best planting date. Be sure to watch the developments of the sprouts in the spring. Depending on the prevailing weather, it may be necessary to remove the cover prior to forcing in order to prevent the plants from becoming excessively weak.

Regardless the method used for rooting, be sure to watch the greenhouse temperatures in the spring. It may be necessary to force the plants in an air-conditioned greenhouse or outside under cloth. If a greenhouse is used it will probably have to be shaded.



Flowering Period	Earliest date for carrying into the greenhouse	Flowering Dates
1	December 1	December 17-January 12
2	December 26	January 13-February 8
3	January 25	February 9-March 7
4	February 22	March 8-April 10
5	March 29	April 11-May 14

### Prepared Hyacinths

#### Flowering period 1

Red	Preferred Date of Planting
AMSTERDAM . . . . .	September 20
JAN BOS . . . . .	September 20

Pink	Preferred Date of Planting
ANNA MARIE . . . . .	October 1
PINK PEARL . . . . .	September 20

Blue	Preferred Date of Planting
BISMARCK . . . . .	October 1
DELFT BLUE . . . . .	October 1
OSTARA . . . . .	October 1

White	Preferred Date of Planting
L'INNOCENCE . . . . .	October 1
MADAME KRÜGER . . . . .	September 20

**ORDERS FOR PREPARED HYACINTHS  
MUST REACH US BEFORE JUNE 1st.**

### Regular Hyacinths

Blue	Flowering Periods			
	2	3	4	5
BISMARCK . . . . .	X	X	-	-
BLUE GIANT . . . . .	-	-	X	X
BLUE JACKET . . . . .	-	X	X	X
DELFT BLUE . . . . .	X	X	X	-
MARIE . . . . .	-	-	X	X
OSTARA . . . . .	X	X	X	X
PERLE BRILLANTE . . . . .	-	X	X	-

Red	Flowering Periods
AMSTERDAM . . . . .	X X X X
JAN BOS . . . . .	X X - -

Pink	Flowering Periods
ANNA MARIE . . . . .	X X - -
DELIGHT . . . . .	X X - -
EROS . . . . .	X X X X
LADY DERBY . . . . .	- X X X
MARCONI . . . . .	- - X X
PINK PEARL . . . . .	X X X X
PRINCESS IRENE . . . . .	X X X X

White	Flowering Periods
CARNEGIE . . . . .	- X X X
COLOSSEUM . . . . .	X X X -
EDELWEISS . . . . .	X X - -
L'INNOCENCE . . . . .	X X - -
MADAME KRÜGER . . . . .	X X X X

Violet	Flowering Periods
AMETHYST . . . . .	- - X X



# Pot Tulips

## CULTURAL INFORMATION

**General** - The information listed below will serve as a guide to forcers who have available for their use a rooting room (controlled temperature storage facility). For those forcers who still use outdoor rooting beds adjustments will be necessary based on experience. Also, forcings for flowering periods 1 and 5 will probably be eliminated or sharply curtailed. The information provided is designed to produce a potted tulip with a height of 10 to 12

inches. It is felt that this is the most desirable height for potted tulips.

**Flowering Periods** - The forcing season for tulips has been divided into five flowering periods based on the performance of the various cultivars and their ability to be forced under different environmental conditions.

The flowering periods for **Pot Tulips** are as follows:

Flowering Period	Earliest date for carrying into the greenhouse	Flowering Dates
1	December 12	January 1-January 16
2	December 26	January 17-February 6
3	January 17	February 7-March 14
4	February 21	March 15-April 24
5	April 4	April 25-May 14

**Rooting Room Treatments** - The information described below is given to serve as a guide for the commercial forcer. If the guides are followed tulips for all five flowering periods can be rooted in two rooting rooms. It should be remembered that after arrival and prior to either precooling or planting the bulbs should not be stored at temperatures higher than 63° F. The program outlined below is based on a greenhouse forcing temperature higher than 65° F. If temperatures lower than 65° F. are used the necessary adjustments will have to be made. Remember to use a well-drained soil mix, water the bulbs well and watch the development of the roots.

It should be noted that the rooting room for flowering periods 4 and 5 of potted tulips would be the same rooting room used for the potted hyacinths. Thus, two rooting rooms are needed for the complete forcing of all potted material.

The information presented is a result of the research program at Michigan State University in cooperation with the Laboratory for Flower-Bulb Research, Lisse, and Van den Hoek's Experimental Bulb Forcing Greenhouse, Oude Niedorp, The Netherlands. For more detailed information on the forcing of potted tulips consult the "Bulb Forcers Handbook" which is available from us.

**Flowering Period 1** - All cultivars for this flowering period will have to be precooled. Precooling should begin the last week of August and not later than September 5 (See Bulb Forcers Handbook for more details). The precooling temperature is 48° F. Planting should be carried out between October 1 to 5. The rooting room temperature sequence will be 48° F. till November 5, followed by 41° F. until the bulbs are carried into the greenhouse. The first group can be moved on December 12.

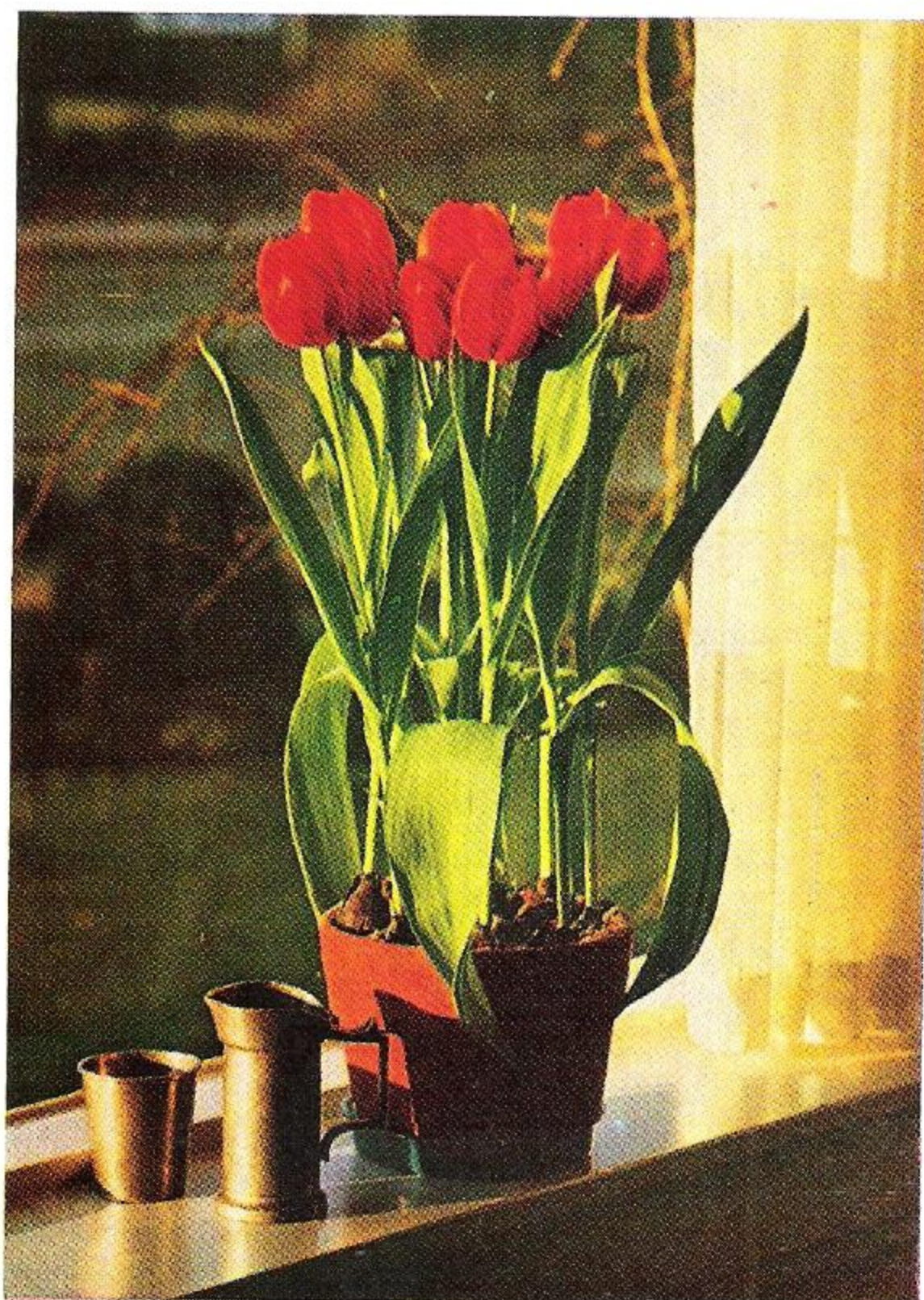
**Flowering Period 2** - For this flowering period some cultivars will have to be precooled (see Table

below), while others will not. Precooling of the bulbs should start in the last week of August and not later than September 7. The precooling temperature is 48° F. Precooled bulbs should be planted from October 1 to 7. Non-precooled bulbs should be planted September 25 to 30. The rooting room temperature sequence will be the same for both types of bulbs. After planting the temperature should be 48° F. till November 5 and then 41° F. until the bulbs are carried into the greenhouse. The first group can be carried in on December 26.

**Flowering Period 3** - For this and subsequent flowering periods only non-precooled bulbs need to be used. Planting for this period can take place any time between October 1 to 15. The rooting room temperature sequence will be 48° F. to November 5 and then 41° F. until the first group is carried into the greenhouse on January 17. After this time it may be necessary to drop the temperature to 32-35° F. depending on the length of the sprouts.

**Flowering Period 4** - Planting of the bulbs should be carried out between November 1 to 10. The rooting room temperature sequence will be 48° F. to December 1, 41° F. to January 1, then 32-35° F. until the plants are carried into the greenhouse. The first group can be carried in on February 21.

**Flowering Period 5** - Planting of the bulbs should be carried out between November 10 to 15. The rooting room temperature sequence will be 48° F. to December 1, 41° F. to January 1, and then 32-35° F. until the plants are carried into the greenhouse. The first group can be carried in on April 4. For this flowering period special care must be taken to maintain the greenhouse temperatures. In most areas, the greenhouses should be shaded. Also, it may be necessary to use air-conditioned houses or outdoor forcing under cloth.



SINGLE EARLY TULIP "CASSINI"



TRIUMPH TULIP "BINGHAM"

P = Precooled Bulbs    X = Non-precooled Bulbs

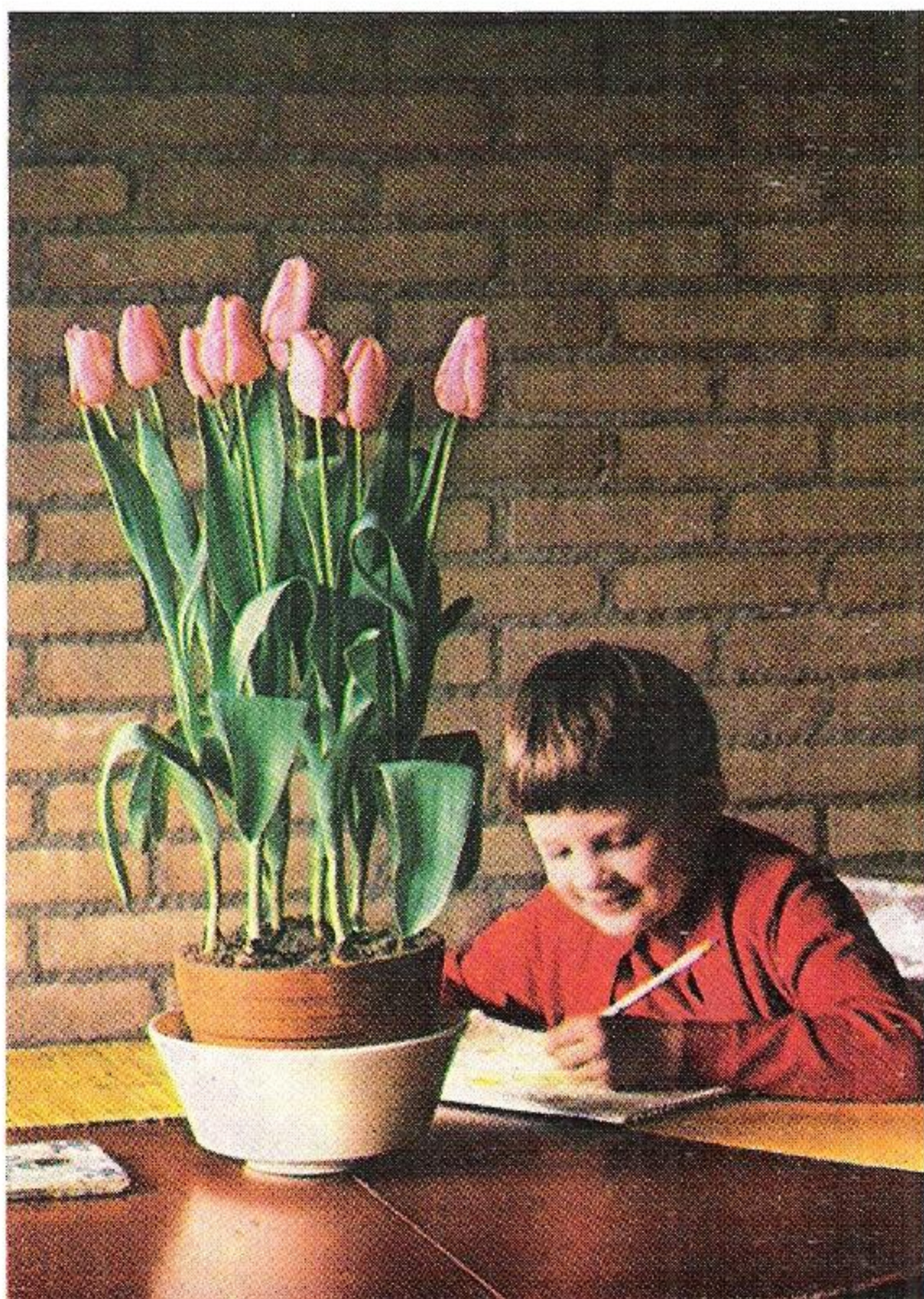
Single Early Tulips	Flowering Periods				
	1	2	3	4	5
BELLONA, golden-yellow .....	-	P	X	X	-
CASSINI, brownish-red .....	P	X	X	-	-
CHARLES, scarlet .....	-	X	X	X	-
CHRISTMAS MARVEL, cherry pink .....	P	X	X	X	-
COULEUR CARDINAL, scarlet ..	-	-	-	X	X
RALPH, lemon-yellow .....	P	X	X	-	-
THULE, red, edged yellow ....	P	X	X	-	-
WINTERGOLD, lemon yellow ..	-	P	X	-	-

Double Early Tulips	Flowering Periods				
	1	2	3	4	5
ELECTRA, deep carmine .....	-	-	-	X	-
GOYA, light orange red .....	-	-	-	X	-
KAREOL, deep yellow .....	-	P	X	-	-
MARÉCHAL NIEL, yellow, flushed orange ....	-	-	-	X	-
MONTE CARLO, light yellow ..	-	-	X	-	-
MR. VAN DER HOEF, yellow ..	-	-	-	X	-
ORANGE NASSAU, orange red ..	-	-	-	X	-
PEACH BLOSSOM, deep pink ..	-	-	-	X	-
SCARLET CARDINAL, scarlet ..	-	-	X	-	-
SCHOONOORD, snow-white ..	-	-	-	X	-
TRIUMPHATOR, deep pink ....	-	P	X	-	-
WILLEMSOORD, carmine, edge white .....	-	-	-	X	-

Mendel Tulips	Flowering Periods				
	1	2	3	4	5
APRICOT BEAUTY, salmon ....	P	X	X	-	-
ATHLEET, white .....	-	-	X	-	-
BEAUTY OF VOLENDAM, white, flamed red .....	-	X	X	-	-
BING CROSBY, scarlet .....	-	P	X	-	-
CELLINI, geranium red .....	P	X	-	-	-
ORANGE WONDER, orange ..	-	-	X	-	-
RUBY RED, scarlet .....	P	X	-	-	-

Triumph Tulips	Flowering Periods				
	1	2	3	4	5
ALBURY, currant red .....	-	-	-	X	X
ATOM, deep red .....	-	-	-	X	X
BLENDIA, rose, white base ....	P	X	X	-	-
BLIZZARD, white .....	-	-	-	X	X
CARL M. BELLMAN, red, edged yellow .....	-	-	-	X	X
CRATER, carmine red .....	-	-	X	-	-
DANTON, carmine red .....	-	P	X	X	-
DENBOLA, red, edged white ..	-	-	-	X	X
EDITH EDDY, red, edged white ..	-	-	-	X	-
GOLDEN EDDY, red, edged yellow .....	-	-	-	X	-

Flowering Period	Earliest date for carrying into the greenhouse	Flowering Dates
1	December 12	January 1-January 16
2	December 26	January 17-February 6
3	January 17	February 7-March 14
4	February 21	March 15-April 24
5	April 4	April 25-May 14



TRIUMPH TULIP "PEERLESS PINK"



TRIUMPH TULIP "PROMINENCE"

P = Precooled Bulbs    X = Non-precooled Bulbs

Triumph Tulips (Cont.)	Flowering Periods				
	1	2	3	4	5
HIBERNIA, white .....	-	P	X	-	-
INVASION, red, edged white ..	-	-	-	X	X
K & M's TRIUMPH, scarlet ....	-	-	X	-	-
KEES NELIS, red, edged yellow	-	P	X	X	-
LEVANT, lemon yellow .....	P	X	-	-	-
MADAME SPOOR,					
red, edged yellow .....	-	P	X	-	-
MAKASSAR, canary yellow ..	-	-	-	X	-
MERRY WIDOW,					
red, edged white .....	P	X	X	-	-
MIRJORAN, red, edged white ..	-	P	X	-	-
OLAF, scarlet .....	-	P	X	-	-
ORIENT EXPRESS, vermilion red	-	-	X	-	-
ORNAMENT, golden yellow ..	-	-	-	X	-
PARIS, red, edged yellow ....	-	-	-	X	X
PAX, white .....	P	X	X	X	-
PEERLESS PINK, satiny pink ..	-	-	-	X	X
PRELUDIUM, rose .....	P	X	X	-	-
PRINCESS BEATRIX,					
scarlet, edged yellow .....	-	-	X	X	-
PROMINENCE, dark red .....	P	X	X	X	-
RED GIANT, scarlet .....	-	-	-	X	-
ROBINEA, scarlet .....	-	-	-	X	-
ROLAND, scarlet, edged white	P	X	X	-	-
ROSE BEAUTY, deep rose ....	-	-	-	X	X
TOPSCORE, geranium red ....	P	X	X	-	-
VIRTUOSO, lilac rose .....	-	-	-	X	-
YELLOW PRESENT, yellow ....	-	-	X	-	-

### Darwin Tulips

	Flowering Periods				
	1	2	3	4	5
ATTILA, light purple violet ....	-	P	X	-	-
PAUL RICHTER, geranium red .	P	X	X	-	-
PINK SUPREME, pink .....	-	-	-	X	-
PRINCE CHARLES, purple violet	-	X	X	-	-
QUEEN OF BARTIGONS (11/12),					
salmon pink .....	-	-	-	X	-
REVEIL, red, edged yellow ....	-	-	-	X	-

### Lily-Flowered Tulips

CHINA PINK, pink .....	-	P	X	X	-
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### Single Late Tulips

MEISSNER PORZELLAN,					
rose and white .....	-	-	-	X	X
PALESTRINA, salmon-pink ....	-	-	-	X	-

### Rembrandt Tulips

CORDELL HULL (11/12 only),					
red, striped rose and white ..	-	-	-	X	-

### Parrot Tulips

COMET, red, edged yellow ....	-	-	X	X	-
KAREL DOORMAN, cherry red	-	-	X	X	-

# Pot Narcissi

## CULTURAL INFORMATION

**General** - The forcing of Dutch-grown Narcissi as pot plants is limited to fewer flowering periods than potted tulips or hyacinths. Thus, with the use of precooled bulbs forcers who have sufficient winter-cold to use outdoor rooting beds as well as those who have rooting rooms can force Narcissi for flowering period 2 as well as periods 3 and 4.

**Flowering Periods** - While the flowering season for potted Narcissi is divided into five periods, information is provided for only three periods: 2, 3 and 4. It is possible, however, to have certain cultivars in flower at other times if this is desired. The flowering periods for potted **Narcissi** are as follows:

Flowering Period	Earliest date for carrying into the greenhouse	Flowering Dates
1	—	December 20-January 16
2	December 15	January 17-February 16
3	January 5	February 7-March 14
4	February 20	March 15-April 24
5	—	April 25-May 14

**Rooting Room Treatments** - The information described below is given to serve as a guide for the commercial bulb forcer. If the guides are followed the plants can be forced using two rooting rooms. In addition, the information provided is presented in such a way that these plants may be produced in the same two rooting rooms as the potted tulips and hyacinths. The program outlined is based on a greenhouse forcing temperature of 60° F. If lower temperatures are used the necessary adjustments will have to be made.

The information presented is a result of the research program at Michigan State University in cooperation with the Laboratory for Flower-Bulb Research, Lisse, The Netherlands and Van den Hoek's Experimental Bulb Forcing Greenhouse, Oude Niedorp, The Netherlands. For more detailed information on the forcing of Narcissi consult the "Bulb Forcers Handbook" which is available from us.

**Flowering Period 2** - The bulbs should be precooled at 48° F. starting in the last week of August. Planting in the rooting rooms should take place between October 1 to 10. The rooting room temperature sequence will be 48° F. till November 5, and then 41° F. until the bulbs are carried into the greenhouse. For outdoor rooting planting should be carried out in October depending on the prevailing weather conditions.

**Flowering Period 3** - For this and subsequent flowering periods only non-precooled bulbs need to be used. The planting should take place from October 1 to 10. The rooting room temperature sequence will be 48° F. to November 5 and then 41° F. until the plants are carried into the greenhouse. For outdoor rooting the bulbs should be placed outside as soon as the weather conditions become favorable.



**Flowering Period 4** - Planting should take place between November 1 to 10. The rooting room temperature sequence will be 48° F. to December 1, 41° F. to January 1, then 32-35° F. until the plants are carried into the greenhouse. Bulbs to be placed in outdoor rooting beds should be placed outside in late October. When the bulbs are placed in the greenhouse in late spring be sure to watch the greenhouse temperatures.

	Flowering Periods				
	1	2	3	4	5
<b>Yellow Trumpets</b>					
EXPLORER, yellow .....	-	P	X	-	-
GOLD MEDAL, yellow .....	-	-	-	X	-
<b>Bicolor Trumpets</b>					
GOBLET .....	-	-	X	X	-
<b>Double Daffodils</b>					
VAN SION, yellow .....	-	-	X	X	-

<b>Poetaz Narcissi</b>					
BRIDAL CROWN .....	-	-	X	X	-

<b>Cyclamineus Narcissi</b>					
FEBRUARY GOLD, yellow ....	-	P	X	-	-

<b>Triandrus Narcissi</b>					
THALIA, white .....	-	-	-	X	-
TRESAMBLE, ivory perianth, light silver cup .....	-	-	X	X	-

## Small Bulbs

### CULTURAL INFORMATION

**General** - The small bulbs offer a wide selection of types and variations in color. They make attractive pot plants and offer the industry an opportunity to present something unusual at a time of year when few plants are available. They can be forced using either rooting rooms or outdoor rooting beds.

**Flowering Periods** - Although the flowering season has been divided into five flowering periods, only two periods are used at the present time. This leaves room, however, for expansion of the use of the bulbs in the event it becomes necessary. The flowering periods for **small bulbs** are as follows:

Flowering Period	Flowering Dates
1	January 1-January 16
2	January 17-February 6
3	February 7-March 26
4	March 27-April 24
5	April 25-May 15

**Rooting Room Treatments** - The information described below is given as a guide to the commercial bulb forcer. If the guides are followed the bulbs can be forced using the same rooting rooms utilized for the potted tulips, hyacinths and narcissi. The bulbs should be forced in a 55-60° F. green-

house. If lower temperatures are used the necessary adjustments will have to be made.

The length of time needed for forcing is indicated in the table below. It varies depending on the type of bulb.

**Length of time needed for forcing Small Bulbs (at 55-60° F.)**

Types of Bulbs	Days to Flower
Anemone Blanda	18 to 22
Crocus Species	8 to 10
Regular Crocus	18 to 22
Eranthis	6 to 10
Iris Reticulata	8 to 14
Muscari	22 to 30
Scilla	10 to 12

**Flowering Period 2** - The bulbs should be precooled at 48° F. from September 1 till planting. Planting should be done from October 1 to October 7. The rooting room temperature sequence will be 48° F. to November 5, and 41° F. until carried into the greenhouse.

When the bulbs are to be placed outside they

should be planted in October when the weather permits.

**Flowering Period 3** - Bulbs for this period should be planted from October 10 to 15. The rooting room temperature sequence should be 48° F. to December 1, 41° F. to January 1 and then 32-35° F. until carried into the greenhouse.

<b>Anemone Blanda</b>	<b>Flowering Periods</b>				
	1	2	3	4	5
ATROCAERULEA, dark blue ..	-	-	X	-	-
PINK STAR, deep pink .....	-	-	X	-	-
WHITE SPLENDOUR, white .....	-	-	X	-	-

Flowering Period	Flowering Dates
1	January 1-January 16
2	January 17-February 6
3	February 7-March 26
4	March 27-April 24
5	April 25-May 15

<b>Crocus Species</b>					
BLUE PEARL, light violet blue .	-	-	X	-	-
CREAM BEAUTY, creamy white	-	-	X	-	-
E. P. BOWLES, yellow and purple	-	-	X	-	-
LADYKILLER, purple, edge white	-	-	X	-	-
SNOWBUNTING, white .....	-	-	X	-	-



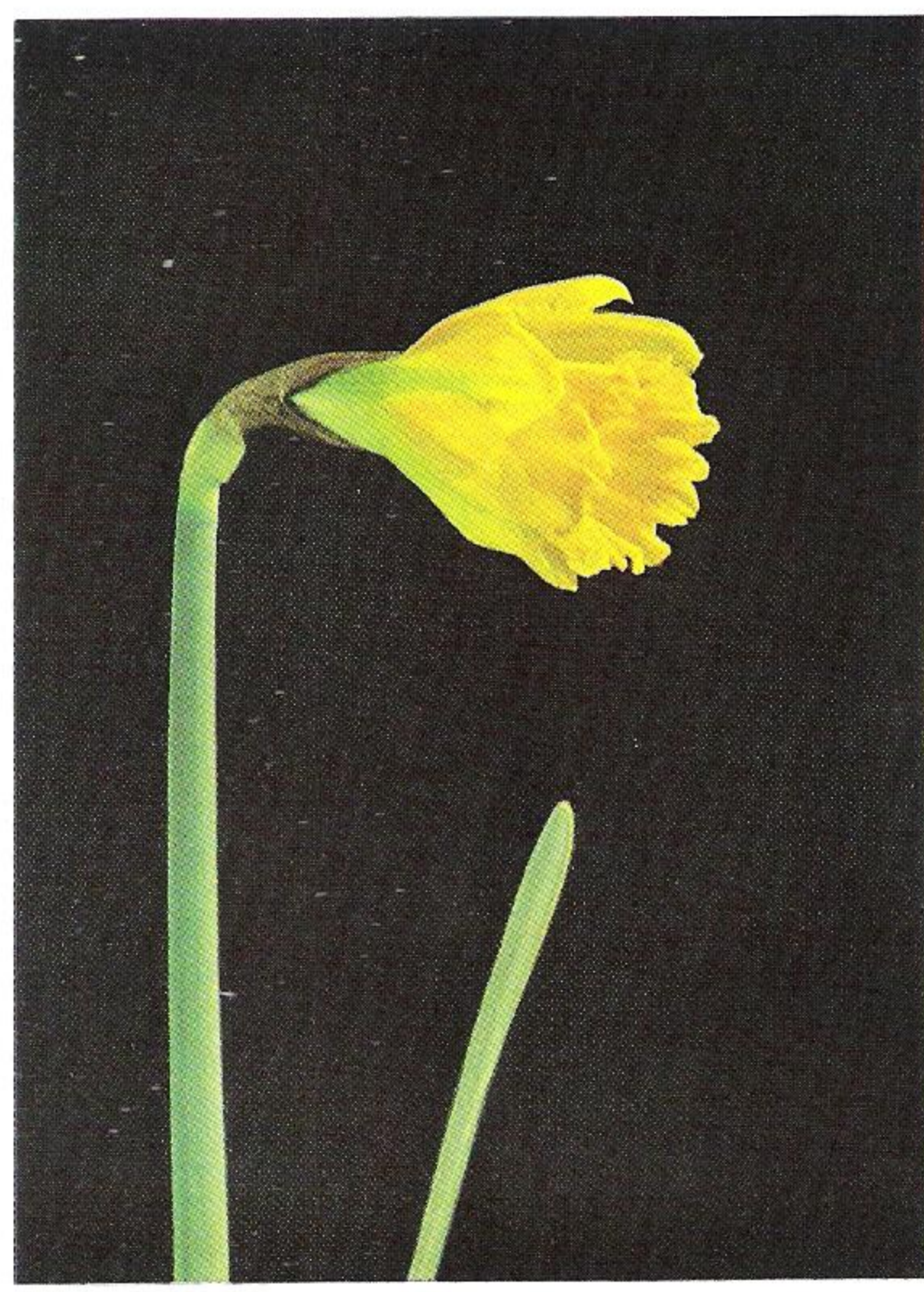
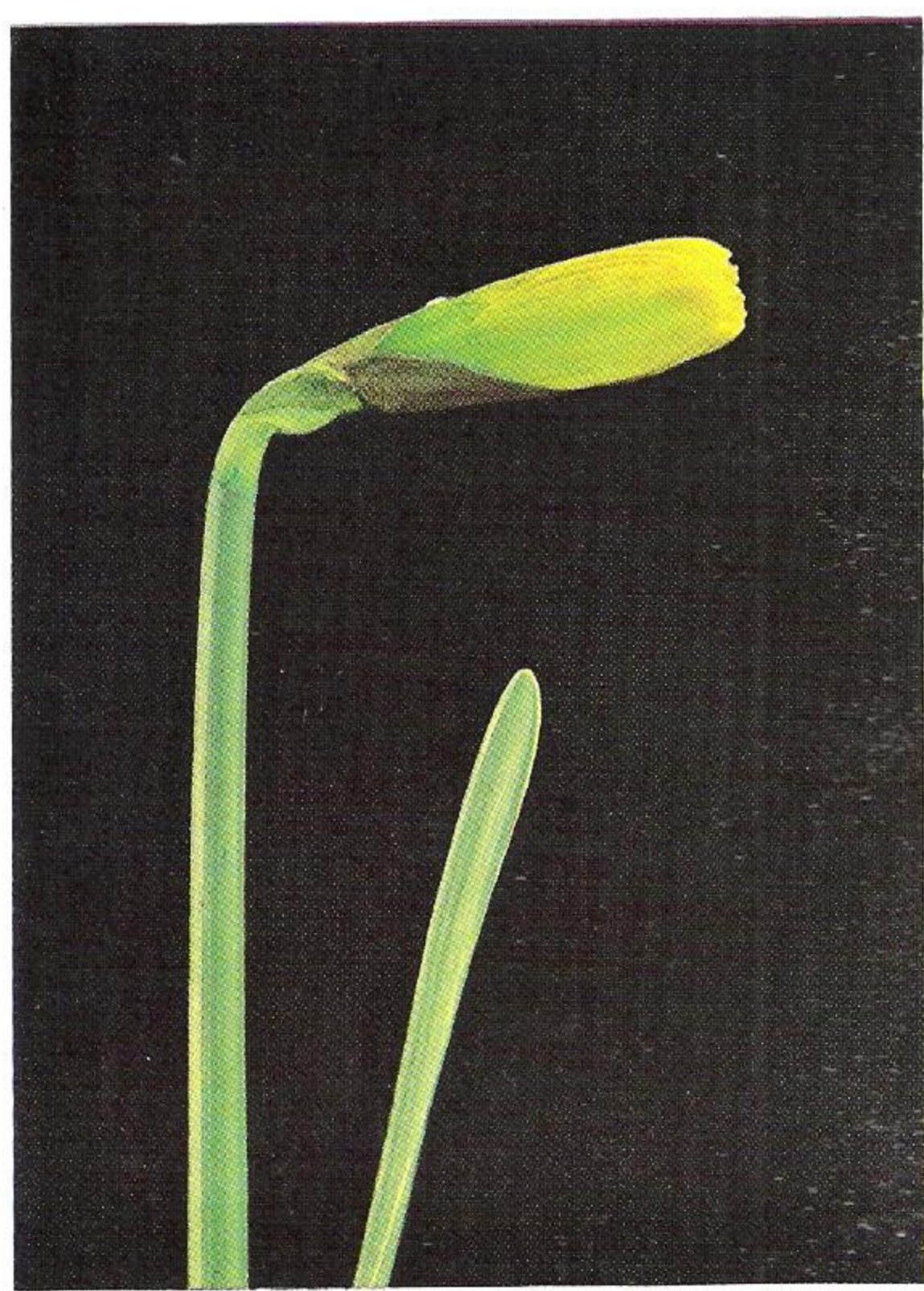
<b>Regular Crocus</b>					
FLOWER RECORD, blue .....	-	-	X	-	-
PETER PAN, white .....	-	-	X	-	-
PICKWICK, striped .....	-	-	X	-	-
PURPUREUS GRANDIFLORUS, dark blue .....	-	-	X	-	-
REMEMBRANCE, blue .....	-	P	X	-	-

<b>Iris Reticulata</b>					
CANTAB, pale blue .....	-	-	X	-	-
DANFORDIAE, golden yellow .	-	-	X	-	-
HARMONY, dark blue .....	-	-	X	-	-
HERCULES, dark purple .....	-	-	X	-	-
JOYCE, light blue .....	-	-	X	-	-
J. S. DYT, bluish purple .....	-	-	X	-	-

<b>Muscari</b>	<b>Flowering Periods</b>				
	1	2	3	4	5
ARMENIACUM, light blue ....	-	-	X	-	-

<b>Eranthis</b>					
CILICICA, deep yellow .....	-	-	X	-	-

<b>Scilla</b>					
TUBERGENIANA, white with blue midrib .....	-	-	X	-	-



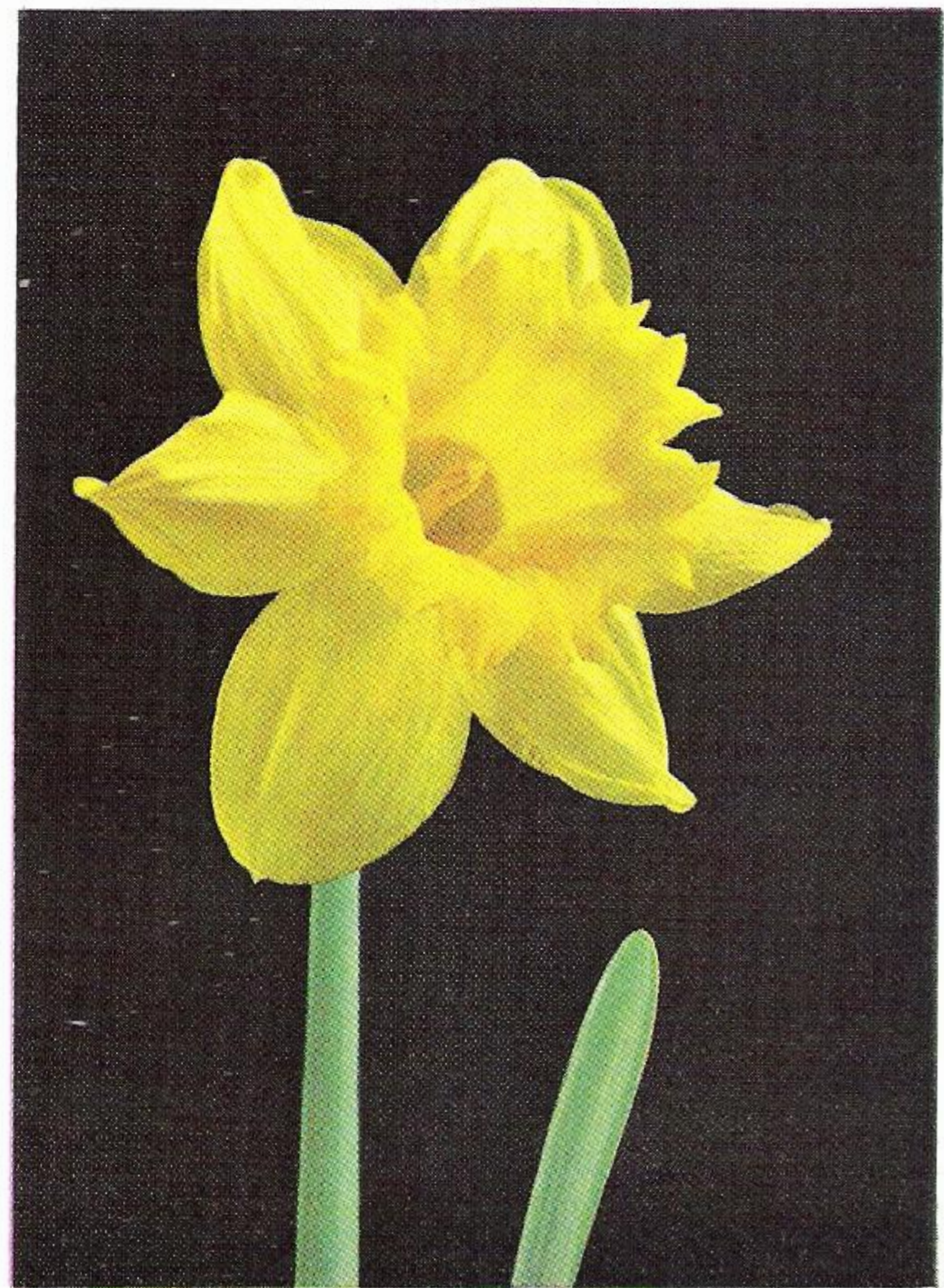
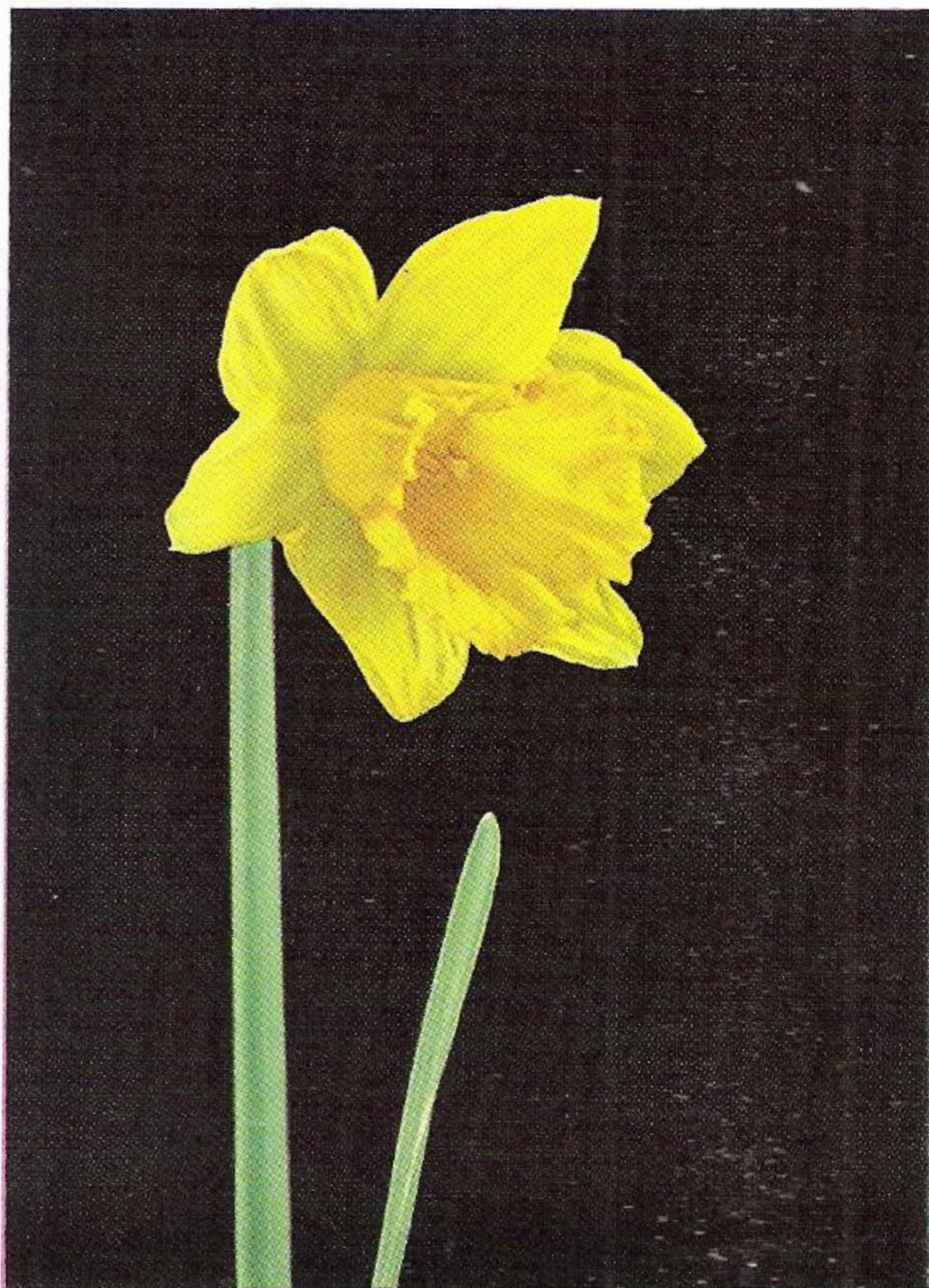
CUT DAFFODILS IN BUD...

## Greenhouse operation

Hygiene is one of the most important principles in the operation of any greenhouse, regardless the type of flower being grown. The greenhouse must be kept clean at all times. Remember diseases spread fast, so try to prevent them, instead of trying to cure them.

When flats and pots are brought into the greenhouse the sprouts of some plants may show signs of disease. Rogue out any diseased or damaged bulbs and destroy them. Side shoots are to be removed from tulips a week after being brought into the greenhouse. This will allow proper ventilation and gives the pots a more uniform appearance. Plants should be watered daily only in the morning. It is also important not to water the leaves. Watering in the evening leads to cool and moist conditions which favor disease development. Care must be taken to use the temperatures which are suggested in the sections on the forcing of tulips, hyacinths and daffodils. If the plants develop too rapidly for a given flowering date, the temperature of the greenhouse should be lowered in order to delay the flowering of the bulbs.

The greenhouse should have efficient ventilation. The preferable procedure for ventilation is to bring in outside air, especially during the morning hours.



... FOR CUSTOMER SATISFACTION

# Marketing

The ultimate goal and success of any business is to give the consumer the greatest satisfaction. If the consumer is to get the most for the money spent on pot or cut flowers, they must be in a stage which will give the individual the maximum flower life possible.

The Spring flowering bulbs which are sold as cutflowers are tulips and daffodils. The forcer should cut and market the flowers when they are in bud stage and just beginning to color. In the case of daffodils wait until the bud has tipped over to a horizontal position (the so-called goose-neck position).

If tulips or daffodils are not intended to be marketed immediately, precautions should be taken to maintain the cutflower life. For example if tulips are to be stored for a reasonable time (a week or ten days) they can be removed from the flat with the bulb intact just when the flowers begin to color and stored dry in an upright position in a cold room at a temperature of 35° F.

This simple procedure allows the forcer some flexibility in marketing his product. Tulips can

be retained for sale at times in which the market will be more to his advantage or if he has a large quantity he can hold a part of it in order to balance his sales at any one given time.

Daffodils store best when cut in bud and stored dry in vertical position. Daffodils handled and stored in this manner may be kept up to 8 days without any loss of cutflower life if stored at 35° F.

Cut tulips and daffodils should never be placed in the same water since this causes damage to the tulips and reduces their cutflower life.

Pot tulips and daffodils should be marketed when the flowers are in bud stage and when they are just beginning to color. At this stage the pots can be moved with greater ease and with less likelihood of damage to the plants while giving the consumer the maximum enjoyment.

Hyacinths are sold when the first florets are beginning to color and to open. Again the forcer will have the advantage of being able to market a quality plant with greater ease and less damage.

## Promote spring flowers

In recent years Spring flowers have begun to recapture the popularity that they had among flower and plant consumers a generation ago. We can ascribe this renaissance to two principal factors. First is the fact that growers have improved their techniques and are producing better quality. Second is the consistent promotional effort on the part of the Holland bulb industry in cooperation with the American bulb industry.

We are confident that spring flowers and plants will become even more popular in florist shops in the future. Tulips, hyacinths and daffodils are the essence of spring and therefore most desirable during the harsh bleak days of winter. The bright colors of tulips and the intoxicating aroma

of hyacinths capture the attention of the consumer as no other flowers can do. Spring flowers are a "natural" for any florist provided he stocks a wide assortment of fresh flowers of good quality and promotes them. Red tulips are the perfect flowers and plants for Valentine's Day. They fill the need for a red flower that is in good supply in February.

As a rule growers aim at producing a good crop but do not get involved in pushing the sale to the consumer. We strongly urge that you encourage your wholesaler and retailers to do more promotion for spring flowers. Your bulb suppliers are ready and willing to back up any meaningful effort to sell more Spring flowers.



## Florist assistance

This area has received the greatest attention from the Institute during the past 5 years. This attention has not been directed only to you, the grower. It has sought to stimulate the sale and use of bulb flowers and plants by wholesalers, retailers and consumers.

We can safely say that due to this intensive effort the 1960s have witnessed a true comeback for tulips, hyacinths, daffodils and iris.

Each year has seen the demand for spring flowers increase steadily and we predict that this trend will continue provided the growers provide an adequate supply.

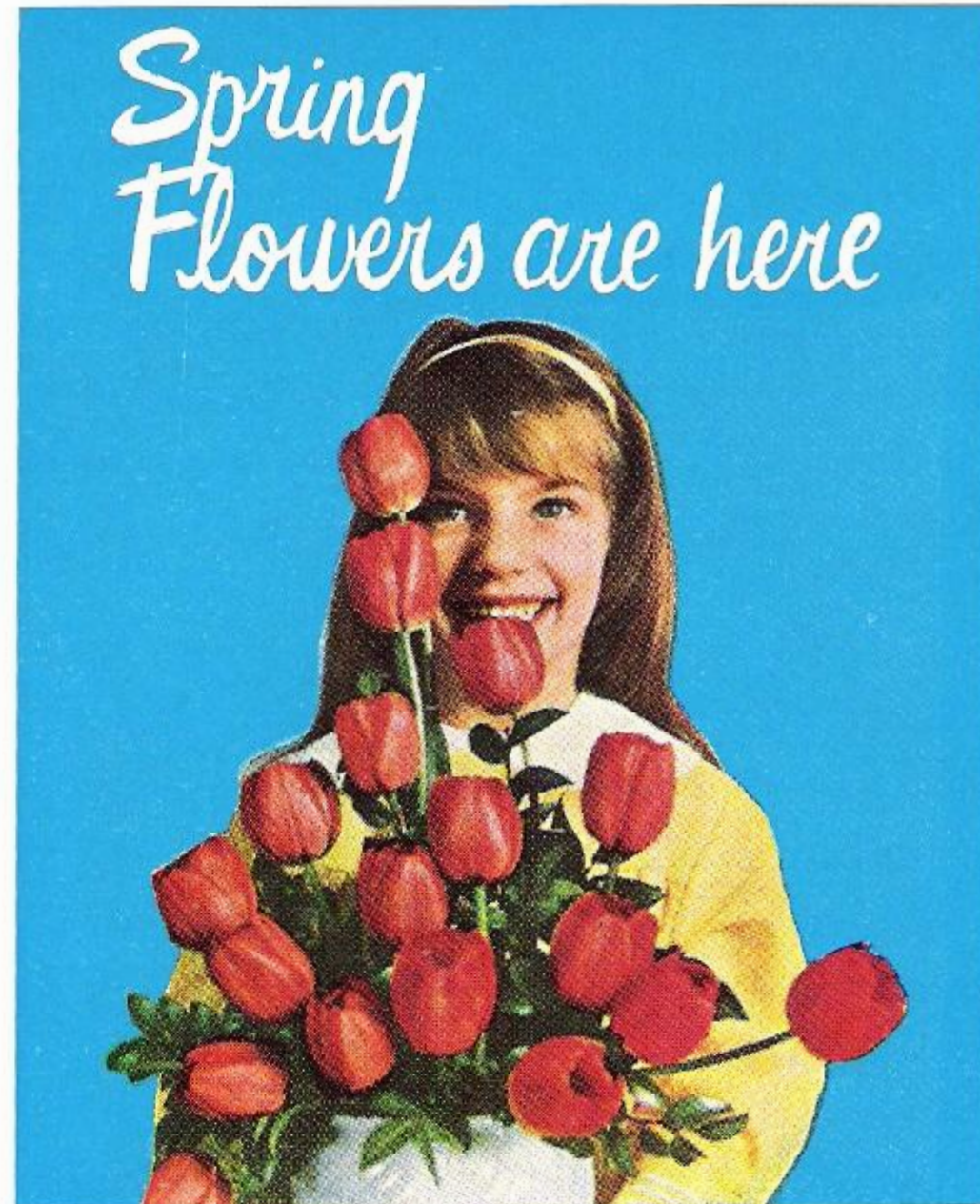
Here are some of the ways the Institute has stimulated the demand on the part of your customers:

- ☆ Distributed full color posters to retailers directly, through Allieds and through FTD and Florafax.
- ☆ Conducted design schools each year in 10 cities to educate retailers on how to handle bulb flowers and to demonstrate their versatility.
- ☆ Staged an intensive publicity campaign to encourage the use of spring flowers by consumers.
- ☆ Helped finance consumer advertising by Allieds.

The strongest push has been to obtain for growers better and more detailed information on how to grow better flowers and plants at a lower cost.

The research project at Michigan State University has proved to be invaluable to many growers. This was originally a 5 year program funded with a grant of \$ 100,000. The results have been so heartening that we can assure you that the project will be continued.

Many growers have found that by applying the suggestions and advice of M.S.U. they have been enabled to produce top quality. As a result, their returns and profits are higher and, most important, the demand for their flowers and plants increases steadily. We urge you to consult Dr. De Hertogh at M.S.U. if you have any problems. At the very least, do read the BULB FORCERS HANDBOOK. If you do not have the 1968 edition, let us know and we will send you one immediately.



TF-67 Tulip Flower Poster  
(18" x 22")

### VALENTINE'S DAY

1970	Febr.	14th
1971	Febr.	14th
1972	Febr.	14th
1973	Febr.	14th

### EASTER

1970	March	29th
1971	April	11th
1972	April	2th
1973	April	22nd

### MOTHER'S DAY

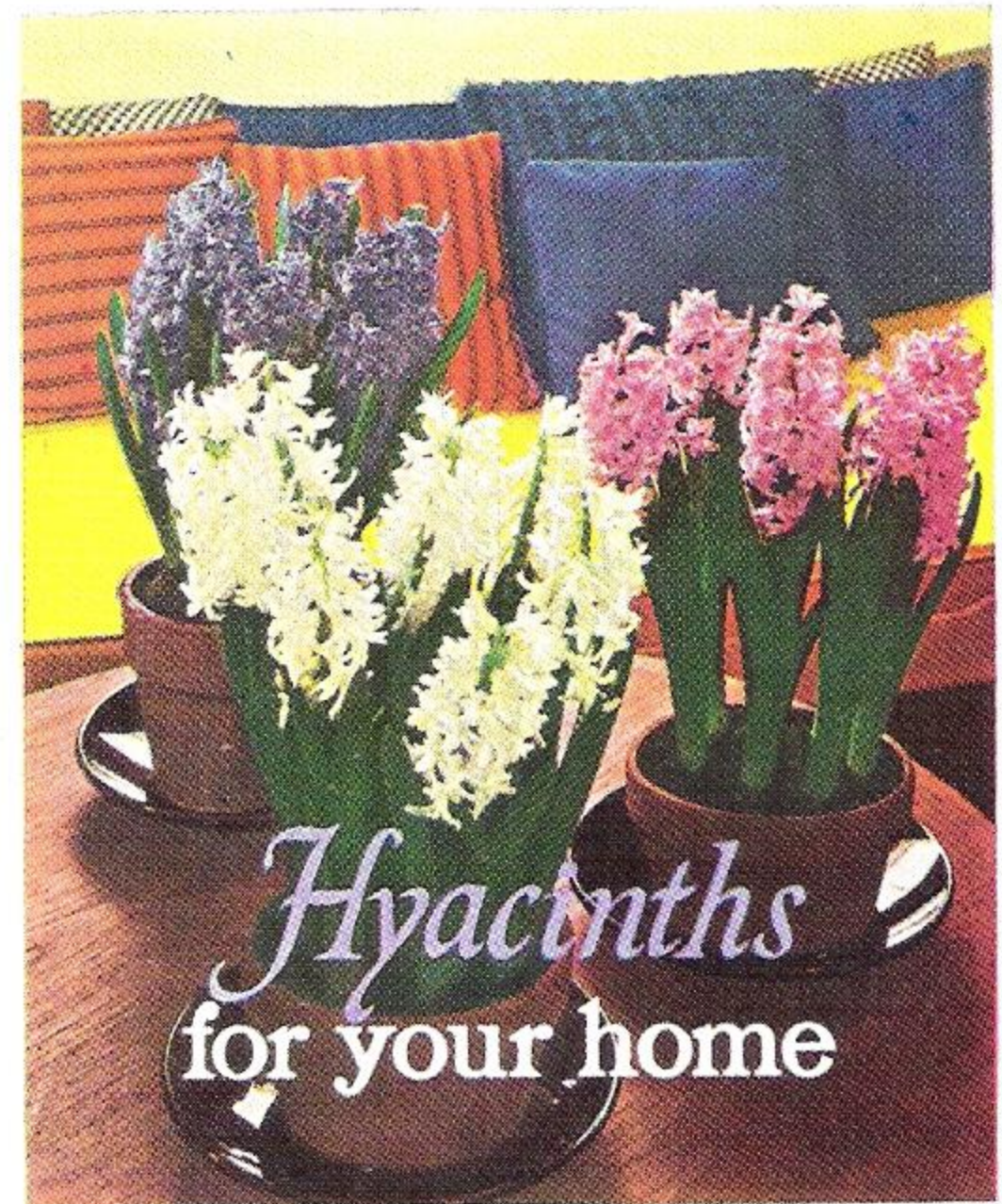
1970	May	10th
1971	May	9th
1972	May	14th
1973	May	13th

# Florist Sales Aids

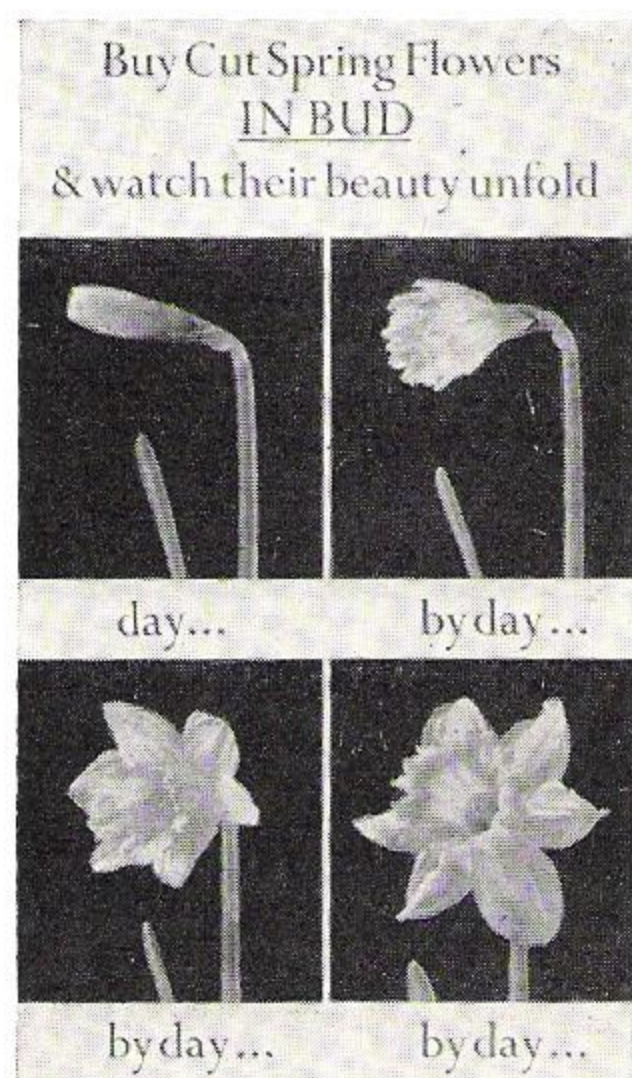


DIF-65 Daffodil and Iris Poster  
(18" x 22")

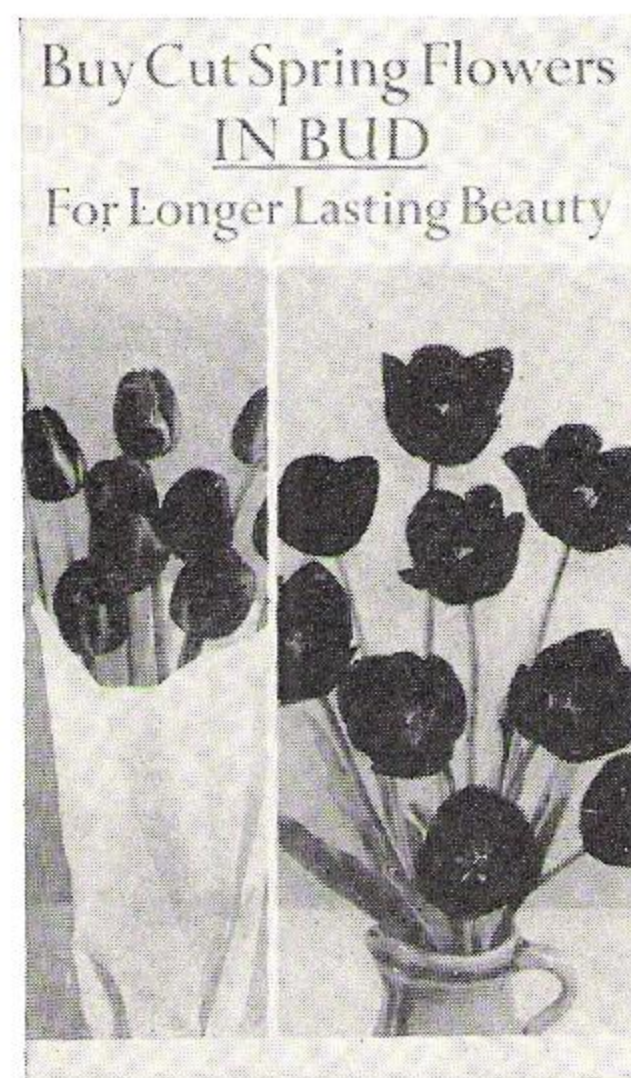
CM-68  
Florist  
Pot  
Markers



HF-67 Hyacinths in Pots Poster  
(18" x 22")



DB-66 Daffodils in Bud Poster (14" x 24")



TB-66 Tulips in Bud Poster (14 x 24")



# Jan de Bol

says...

I am quite flattered to have been given the opportunity to say a few words to you in this new Bulb Manual. For the past 5 years I have covered many subjects in my monthly column which has appeared in the U.S. and Canadian florist trade press. Many of you have read some of these columns but, I'm sure, just as many have not. This Bulb Manual will probably be read by everyone who receives it and I therefore want to use this rare opportunity to cover a subject that, in my opinion, is basic and all-important.



Elsewhere in this Manual you will have read of some of the efforts being made by the Netherlands Flower-Bulb Institute to stimulate the consumer demand for bulb flowers and to encourage retail florists to stock them and to promote them. These efforts have been consistent for the past 5 years. They have been supported each year by a substantial expenditure of money by your supplier through the Institute. The results of this campaign have been extremely good. Consumers want to buy tulips, hyacinths, daffodils and iris. Retailers have been taught how to handle the product so as to give their customers true value for their money. Energetic retailers and wholesalers have told us on repeated occasions that each year sees a substantial increase in the demand for tulips and hyacinths in particular.

With this type of a picture one might reasonably conclude that statistical research would reveal an annual heavy increase in the sale of bulb flowers and plants. I am sorry to say that such a conclusion would be incorrect. There has been an upward movement each year but it has been far below all



reasonable expectations. And the primary reason for this slow development is the failure of growers in the United States and Canada to produce an adequate supply to meet the potential demand. Three years ago I would have hesitated to make such a statement but experiences in the field have convinced me that this is the true state of affairs.

The work done at Michigan State University has demonstrated that most of the difficulties and problems that used to plague growers of bulb flowers and plants can be done away with. Good quality CAN be produced under controlled conditions in short periods of time and with a minimum of manual labor. This information is available to you. All you have to do is ask for it.



I can assure you that we at the Institute are anxious to help you as much as we can. In addition to the Institute, however, you have another valuable source of assistance and that is your bulb supplier. Let's be perfectly frank. He wants to sell you more bulbs but he knows that he cannot do so unless you can grow a good crop and successfully market that crop. It is in his interest to help you and to advise you. Why not give him a chance to do so. Your bulb salesman has many years of experience. He may have all the answers you need but if he doesn't, he knows where to get them.

Jan de Bol



NETHERLANDS FLOWER-BULB INSTITUTE, INC.  
29 Broadway, New York, New York 10006

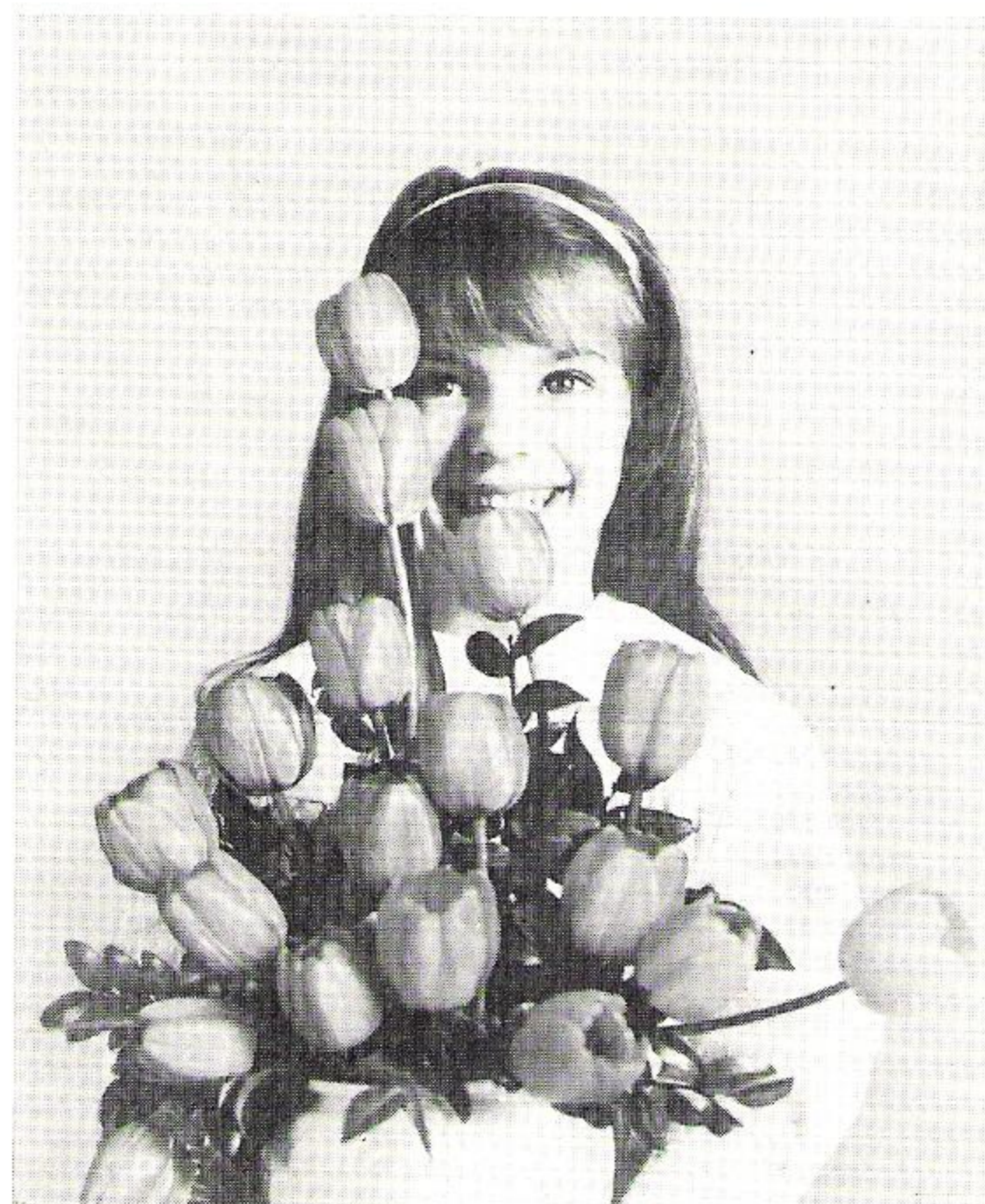
**Cutflower Section**

# Cut Hyacinths

## GENERAL INFORMATION

**General Information** - Cut hyacinths have two uses in the florist industry. In some cases, white hyacinths are forced so that the florets can be removed and used in various floral pieces. Also, some florists use the whole floral stalk in creating designs. When this is done any of the various colored hyacinths can be used. The application of these uses of hyacinths can lend itself very nicely to many florists. It offers the retail florist another opportunity to create fine floral pieces and the essence of the florets will provide an added dimension to the piece.

**Cultural Information** - For a selection of cultivars for use as cut flowers and their appropriate flowering periods the section on potted hyacinths should be consulted. For additional details on the forcing of hyacinths see the "Bulb Forcers Handbook" which is available from us.



# Cut Tulips

## CULTURAL INFORMATION

**General** - The information described in this section is primarily designed for the commercial bulb forcer who has a rooting room (controlled temperature facility). For those forcers who still use outdoor facilities the necessary adjustments will have to be made based on experience and the prevailing weather conditions. Forcings for flow-

ering periods 1 and 5 will probably be eliminated or sharply curtailed.

**Flowering Periods** - The forcing of tulips as cut flowers has been divided into five flowering periods based on the performance of the various cultivars from year to year and their ability to be forced under different environmental conditions.

The flowering periods for **cut tulips** are as follows:

Flowering Period	Earliest date for carrying into the greenhouse	Flowering Dates
1	December 12	January 1-January 16
2	December 26	January 17-February 14
3	January 24	February 15-March 14
4	February 21	March 15-April 20
5	April 1	April 21-May 14

**Rooting Room Treatments** - The information below is given to serve as a guide for the commercial bulb forcer. If the guides are followed tulips for all five flowering periods can be rooted in the two rooting rooms. The rooting room temperature sequences are designed in such a way that both cut and pot tulips can be forced using the same rooms. Again we must emphasize that after arrival and prior to either precooling or planting, the bulbs should not be stored at temperatures above 63° F. The program outlined below is based on a greenhouse temperature of 65° F. If temperatures lower than 65° F. are used the necessary adjustments will have to be made. Remember also to use a well-drained soil mix, water

the bulbs well and watch the development of the roots.

The information presented is a product of the research program at Michigan State University in cooperation with the Laboratory for Flower-Bulb Research, Lisse, The Netherlands and Van den Hoek's Experimental Bulb Forcing Greenhouse, Oude Niedorp, The Netherlands. For more detailed information on the forcing of cut tulips consult the "Bulb Forcers Handbook" which is available from us.

**Flowering Period 1** - All cultivars for this flowering period will have to be precooled. Precooling should begin in the last week of August (see Bulb Forcers Handbook for details). The precooling temperature

## Cut Tulips (continued)

is 48° F. Planting should be carried out between October 1 to 7. The rooting room temperature sequence will be 48° F. until November 5, followed by 41° F. until the bulbs are carried into the greenhouse. The first group can be moved on December 12.

**Flowering Period 2** - For this flowering period some cultivars will have to be precooled (See Table below), while others will not. Precooling of the bulbs should start in the last week of August. The precooling temperature is 48° F. The precooled bulbs should be planted between October 1 to 7. Nonprecooled bulbs should be planted between September 15 to 20. The rooting room temperature sequence will be the same for both types of bulbs. After planting, temperatures should be 48° F. till November 5, 41° F. to January 15 and then 32-35°

F. until all the groups are carried into the greenhouse.

**Flowering period 3** - For this and subsequent flowering periods, only nonprecooled bulbs need to be used. Planting should take place between September 25 and October 5. The rooting room temperature sequence will be 48° F. to November 5, 41° F. to January 15 and 32-35° F. until all bulbs are carried into the greenhouse.

**Flowering Period 4** - Planting of the bulbs take place between October 20 and November 5. The rooting room temperature sequence will be 48° F. to December 1, 41° F. to January 1 and 32-35° F. until the bulbs are carried into the greenhouse.

**Flowering Period 5** - Planting of the bulbs should take place between November 1 to 10. The rooting room temperature sequence will be 48° F. to December 1, 41° F. to January 1 and 32-35° F. until the bulbs are carried into the greenhouse.



When Tulips are cut in bud and just beginning to show color, you can give the customer at least 2 or 3 more days of flower life and thereby complete satisfaction.

The flowers shown here are Darwin Hybrid Tulips „Oxford“, cut at the right time. In a few days time they will develop into enormous bright scarlet flowers.

P = Precooled Bulbs X = Non-precooled Bulbs

Single Early Tulips	Flowering Periods				
	1	2	3	4	5
BELLONA, golden yellow .....	-	P	X	X	-
CASSINI, brownish red .....	-	P	X	-	-
CHRISTMAS GOLD, canary yellow .....	P	X	X	-	-
THULE, red, edged yellow ....	-	P	X	X	-
TOMMY, brownish red .....	P	X	-	-	-

### Double Early Tulips

MONTE CARLO, sulphur yellow	-	-	X	-	-
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### Mendel Tulips

APRICOT BEAUTY, salmon ....	P	P	X	-	-
ATHLEET, white .....	-	-	X	-	-
BING CROSBY, scarlet .....	-	P	X	X	-
GOLDEN OLGA, red, edged yellow .....	-	X	X	-	-
GOLDEN TRIUMPH, buttercup yellow .....	-	X	X	-	-
KRELAGES TRIUMPH, red ....	-	X	X	-	-
ORANGE WONDER, orange ..	-	-	X	-	-
OLGA, red, edged white .....	-	-	X	-	-
PINK TROPHY, pink, flushed rose	P	X	X	-	-
PIQUANTE, carmine red, edged white ..	-	X	X	-	-
SULPHUR TRIUMPH, primrose yellow .....	-	X	X	-	-
VAN DER EERDEN, red .....	-	X	X	-	-

### Triumph Tulips

ALBURY, currant red .....	-	-	-	-	X
AUREOLA, red, edged yellow ..	-	-	-	X	X
BINGHAM, golden yellow ....	-	-	-	X	X
BLENDIA, rose, white base ....	-	P	X	-	-
CRATER, carmine red .....	-	-	-	X	-
DREAMING MAID, violet, edged white .....	-	-	X	X	-
ELMUS, red, edged white ....	-	-	-	X	X
EMMY PEECK, lilac rose .....	P	X	-	-	-
FIRST LADY, violet rose .....	-	-	X	X	-
HIBERNIA, white .....	-	P	X	X	-
K & M's TRIUMPH, scarlet ....	-	-	X	X	-
KANSAS, white .....	-	-	-	X	X
KEES NELIS, red, edged yellow	-	-	X	X	-
KORNEFOROS, red .....	-	-	X	X	-
LEVANT, lemon yellow .....	P	-	-	-	-
MADAME SPOOR, red, edged yellow .....	-	P	X	X	-
MERRY WIDOW, red, edged white .....	-	-	X	X	-
MIRJORAN, red, edged white .	-	P	X	X	-
OLAF, scarlet .....	-	P	X	X	-
ORIENT EXPRESS, vermilion red .....	-	-	X	X	-
PAX, white .....	P	X	X	X	-
PEERLESS PINK, satiny pink ..	-	-	-	X	X

Flowering Period	Earliest date for carrying into the greenhouse	Flowering Dates
1	December 12	January 1-January 16
2	December 26	January 17-February 14
3	January 24	February 15-March 14
4	February 21	March 15-April 20
5	April 1	April 21-May 14

TRIUMPH TULIPS (continued)	Flowering Periods				
	1	2	3	4	5
PRELUDIUM, rose .....	P	P	X	-	-
PRINCESS BEATRIX, scarlet edged yellow .....	-	-	X	X	-
PROMINENCE, red .....	P	P	X	X	-
PURPLE STAR, purple .....	-	X	X	X	-
REFORMA, sulphur yellow ....	-	-	X	X	-
ROLAND, scarlet, edged white	-	P	X	-	-
ROSE KORNEFOROS, rose ....	-	-	X	X	-
SULPHUR GLORY, sulphur yellow .....	-	-	X	X	-
SUNRAY, golden yellow .....	-	-	-	X	X
TOPSCORE, geranium red ....	-	P	X	X	-

### Darwin Tulips

ARISTOCRAT, violet rose .....	-	-	-	X	X
ATILLA, light purple violet ....	-	-	X	X	-
CANTOR, carmine red .....	P	X	-	-	-
COPLAND'S FAVOURITE, lilac rose .....	-	P	X	-	-
COPLAND'S PURPLE, purple ..	-	P	X	-	-
COPLAND'S RECORD, deep rose .....	-	P	X	-	-
DEMETER, purple .....	P	X	X	-	-
DIX'S FAVORITE, red .....	P	X	X	-	-
GANDER, pale magenta .....	P	X	X	-	-
GOLDEN AGE, golden yellow .	-	-	-	X	-
INSURPASSABLE, lilac .....	-	-	-	X	-
MAMASA, buttercup yellow ..	-	-	-	X	-
MOST MILES, currant red ....	P	X	-	-	-
PAUL RICHTER, geranium red .	P	P	X	-	-
PINK ATTRACTION, (only use size 11-12 cm) violet rose ..	-	-	-	X	-
PINK SUPREME, pink .....	-	-	-	X	-
QUEEN OF BARTIGONS, (only use size 11-12 cm) pink .....	-	-	-	X	-
QUEEN OF NIGHT, deep maroon .....	-	-	X	X	-
RED PITT, bright red .....	-	-	X	X	-
REVEIL, rosy red .....	-	-	-	X	-
ROSE COPLAND, rose lilac ....	-	P	X	-	-
VREDEHOF, violet .....	-	-	X	X	-
WILLIAM PITT, cochineal red ..	-	-	X	X	-
WIM VAN EST, rosy red .....	-	-	X	-	-

### Single Late Tulips

FLAMING BEAUTY, yellow, striped red .....	-	-	-	-	X
GOLDEN HARVEST, lemon yellow .....	-	P	X	X	X
HENRY FORD, red, spotted white .....	-	-	-	-	X

## Cut Tulips (continued)

SINGLE LATE TULIPS (continued)	Flowering Periods				
	1	2	3	4	5
LINCOLNSHIRE, geranium red .	-	-	-	-	X
MEISSNER PORZELLAN, rose and white .....	-	-	-	-	X
PRINCESS MARGARET ROSE, yellow and red .....	-	-	-	-	X
RENOWN, carmine red .....	-	-	-	X	X
SMILING QUEEN, satiny pink .	-	-	-	X	X

### Darwin Hybrid Tulips

(Must be cut in bud)

APELDOORN, orange-scarlet ..	-	-	X	X	-
BEAUTY OF APELDOORN, flushed magenta, edged yellow	-	-	X	X	-
DIPLOMATE, vermilion red ....	-	-	-	X	X
EMPIRE STATE, tomato red ....	-	-	X	X	-
GENERAL EISENHOWER, orange red .....	-	-	-	X	-
GOLDEN APELDOORN, yellow	-	-	X	X	-
GOLDEN SPRINGTIME, yellow	-	P	X	X	-
GUDOSHNIK, yellow, flushed red .....	-	P	X	X	-
JEWEL OF SPRING, sulphur yellow .....	-	P	X	X	-
LEFEBER's FAVORITE, scarlet ..	-	-	-	X	X
LONDON, blood red .....	-	P	X	-	-
OXFORD, scarlet .....	-	-	-	X	-
PARADE, scarlet .....	-	-	-	X	X

DARWIN HYBRIDS TULIPS (continued)	Flowering Periods				
	1	2	3	4	5
PRESIDENT KENNEDY, yellow	-	-	X	-	-
STRIPED APELDOORN, yellow, flamed red .....	-	-	X	X	-
YELLOW DOVER, buttercup yellow .....	-	-	-	X	-

### Lily-Flowered Tulips

ALADDIN, scarlet, edged yellow	-	-	X	X	X
LILAC TIME, violet purple ....	-	-	-	X	-
MARIËTTE, satin rose .....	-	-	-	X	-
MAYTIME, violet, edged white	-	-	-	X	-
QUEEN OF SHEBA, red, edged orange .....	-	-	X	X	-
RED SHINE, red .....	-	-	-	X	-
WHITE TRIUMPHATOR, white .	-	-	X	X	-

### Rembrandt Tulips

CORDELL HULL, (only use size 11-12 cm) red striped rose and white .....	-	-	-	X	-
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### Parrot Tulips

COMET, red, edged yellow ..	-	P	X	X	-
KAREL DOORMAN, cherry red	-	P	X	X	-

## Cut Narcissi

### CULTURAL INFORMATION

**General** - The information described in this section is primarily designed for the commercial bulb forcer who has a rooting room (controlled temperature facility). For those forcers who still use outdoor facilities the necessary adjustments will have to be made based on experience and the prevailing weather conditions. Forcings for periods

1 and 2 will probably be eliminated or sharply curtailed.

**Flowering Periods** - The forcing of Narcissi as cut flowers has been divided into five flowering periods. At the present time, however, only four periods are used.

The flowering periods for **cut Narcissi** are as follows:

Flowering Periods	Earliest date for carrying into the greenhouse	Flowering dates
1	December 10	January 1-January 16
2	December 26	January 17-February 14
3	January 20	February 15-March 14
4	February 21	March 15-April 20
5	April 1	April 21-May 14

**Rooting Room Treatments** - The information described below is given to serve as a guide for the commercial bulb forcer using Dutch-grown Narcissi. If the guides are followed, Narcissi for the four flowering periods can be rooted in two rooting rooms. The rooting room temperature sequences are designed in such a way that the

bulbs can be forced utilizing the same rooms used for pot and cut tulips and hyacinths. The program outlined below is based on a greenhouse temperature of 60° F. If temperatures lower than 60° F. are used the necessary adjustments will have to be made.

Remember to use a well-drained soil mix, water



## Cut Narcissi (continued)

the bulbs well and watch the development of the roots.

The information presented is a product of the research program at Michigan State University in cooperation with the Laboratory for Flower-Bulb Research, Lisse, The Netherlands and Van den Hoek's Experimental Bulb Forcing Greenhouse, Oude Niedorp, The Netherlands. For more detailed information on the forcing of cut Narcissi consult the Bulb Forcers Handbook which is available from us.

**Flowering Period 1** - All cultivars for this flowering period will have to be precooled. Precooling should begin in the last week of August. The precooling temperature is 48° F. Planting should be carried out between October 1 to 7. The rooting room temperature sequence will be 48° F. until December 1, then 41° F. until the bulbs are carried into the greenhouse.

**Flowering Period 2** - Some Narcissi for this period will have to be precooled, others will not. Precooling should be started in the last week of August. The precooling temperature is 48° F. The precooled bulbs should be planted between October 1 to 7. Non-precooled bulbs should be planted between September 15 to 20. The rooting room temperature sequence will be the same for both types of bulbs. After planting the temperatures should be 48° F. till November 5, 41° F. to January 15 and 32-35° F. until all groups are carried into the greenhouse.



**Flowering Period 3** - For this and subsequent flowering periods only non-precooled bulbs need to be used. Planting should take place between September 25 to October 5. The rooting room temperature sequence will be 48° F. to November 5, 41° F. to January 15 and 32-35° F. until all bulbs are carried into the greenhouse.

**Flowering Period 4** - Planting of the bulbs should take place between October 20 and November 1. The rooting room temperature sequence will be 48° F. to December 1, 41° F. to January 1 and 32-35° F. until the bulbs are carried into the greenhouse.

P = Precooled Bulbs    X = Non-precooled Bulbs

Yellow Trumpets	Flowering Periods				
	1	2	3	4	5
DUTCH MASTER, yellow .....	-	-	X	X	-
EXPLORER, yellow .....	-	-	X	X	-
GOLDEN HARVEST, yellow ..	-	P	X	-	-
GOLDEN TOP, lemon yellow ..	-	-	X	X	-
JOSEPH MACLEOD, yellow ....	-	P	X	-	-
KING ALFRED, golden yellow ..	-	-	X	X	-
MAGNIFICENCE, golden yellow	-	P	X	-	-
REMBRANDT, golden yellow ..	-	-	X	X	-
UNSURPASSABLE, golden yellow	-	-	X	X	-

### Bicolor Trumpets

(white perianth, yellow trumpet)

MAGNET .....	-	-	-	X	-
MUSIC HALL .....	-	-	-	X	-
QUEEN OF BICOLORS .....	-	-	X	X	-

### White Trumpets

MOUNT HOOD .....	-	-	X	X	-
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### Double Daffodils

MARY COPELAND, creamy white with lemon yellow and orange inner petals	-	-	X	-	-
TEXAS (cut when flower is fully open) yell. with orange petals	-	-	X	X	-

### Large Cupped Narcissi

BIRMA, yellow perianth, red cup	-	P	X	-	-
CARBINEER, yellow perianth, orange red cup .....	-	-	X	X	-
CARLTON, soft yellow .....	-	P	X	X	-
FLOWER RECORD, white perianth, yellow cup, edged orange .....	-	-	X	X	-
FORTUNE, yellow perianth, orange crown	-	-	X	-	-
MERCATO, white perianth, yellow crown with orange border .....	-	-	-	X	-
SEMPRE AVANTI, white perianth, orange cup ..	-	-	X	X	-
YELLOW SUN, pure yellow ..	-	P	X	-	-



## Cut Narcissi (continued)

Flowering Periods	Earliest date for carrying into the greenhouse	Flowering Dates
1	December 10	January 1-January 16
2	December 26	January 17-February 14
3	January 20	February 15-March 14
4	February 21	March 15-April 20
5	April 1	April 21-May 14

Small Cupped Narcissi	Flowering Periods				
	1	2	3	4	5
BARRETT BROWNING, white perianth, orange red cup	P	P	X	X	-
VERGER, white perianth, red cup	-	P	X	-	-

### Poetaz Narcissi

CHEERFULNESS, white perianth, double center of white and yellow .....	-	-	-	X	-
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## Dutch Iris

### CULTURAL INFORMATION

**Flowering period March—April** — for this period only the largest sizes of bulbs are recommended, for Iris Wedgwood size 8/9 cm can be used. Planting time after the first week of November. The soil used must be airy and must be able sufficiently to hold water and must not clog easily. Planting can be done in flats of approximately 8" deep. The flats should not be moved after taking out of the bulb-cellar. Do not plant too close (approx. 130 bulbs per square yard). When planted straight into benches, do not plant too close to heating pipes.

Plenty of light is necessary for the forcing of Dutch Iris. Only greenhouses with much light are suitable. Shortage of light causes "dried-up" flowers.

Iris require much water, so the soil must be kept damp at all times. Plenty of fresh air is also necessary.

Iris should be forced at a moderate temperature; the first weeks at 52—54° F. and later at 55° F. Higher temperatures cause blasted flowers.

**Flowering period May—June** — for this period all varieties of Dutch Iris are suitable. The bulbs should be planted outdoors in October—November at a depth of 2"—3", 80—125 bulbs per square yard according to size of bulbs. They should be well covered against frost.

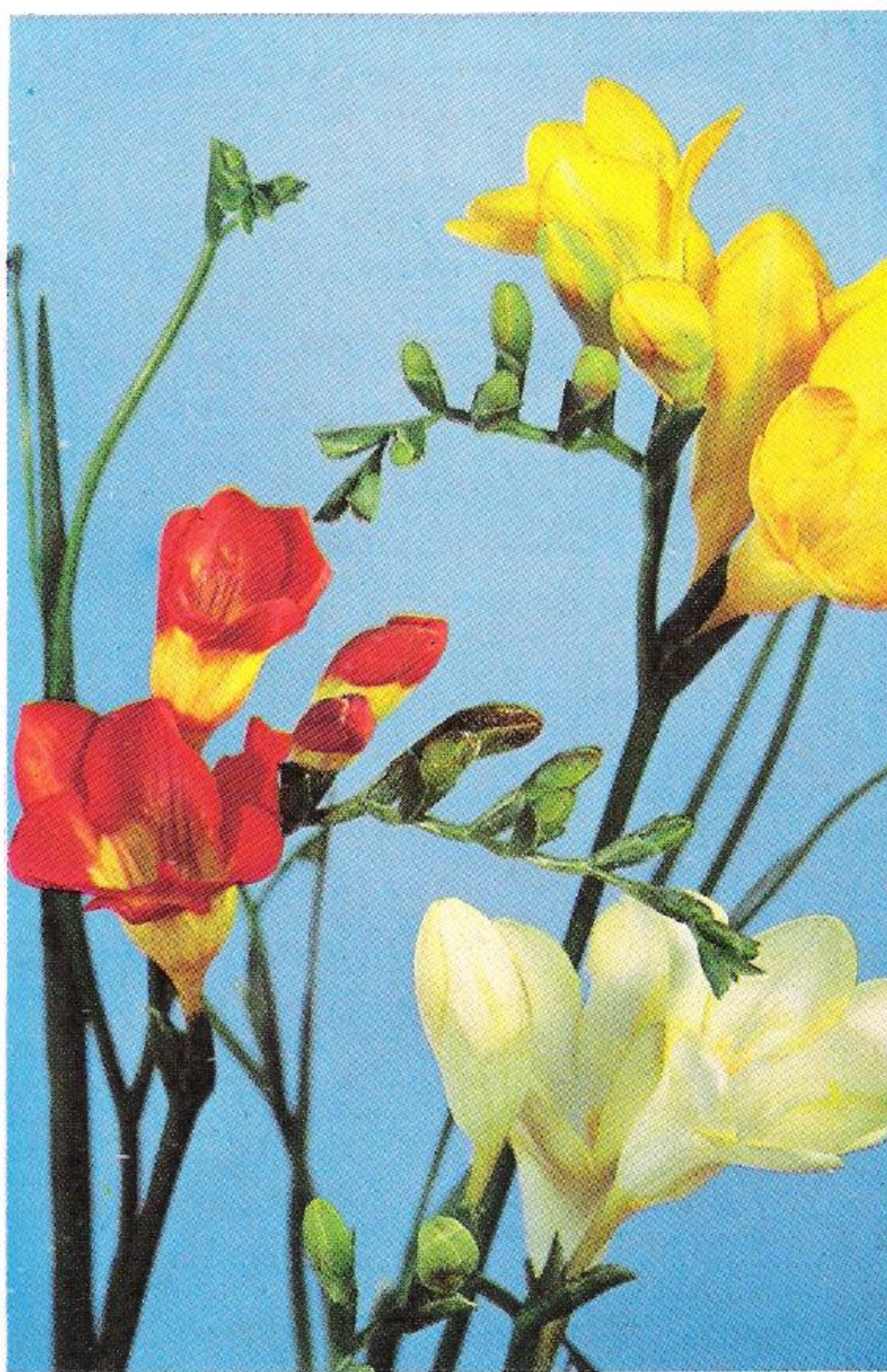
ANGEL WINGS, yellowish white  
 BLUE RIBBON (Professor Blaauw), deep gentian blue  
 COVENT GARDEN, canary yellow  
 DOMINATOR, lobelia blue  
 GOLDEN HARVEST, golden yellow  
 H. C. VAN VLIET, dark blue  
 IMPERATOR, dark blue  
 MARQUETTE, creamy yellow

POETAZ NARCISSI (continued)	Flowering Periods				
	1	2	3	4	5
CRAFORD, white perianth, orange crown	-	X	X	-	-
EARLY SPLENDOUR, white perianth, yellow cup ..	-	-	X	-	-
GERANIUM, white perianth, orange red cup	-	-	-	X	-
YELLOW CHEERFULNESS, soft yellow, double .....	-	-	-	X	-

### Triandrus Narcissi

THALIA, white .....	-	-	-	X	-
TRESAMBLE, ivory perianth, light silver cup	-	-	X	X	-

PRIDE OF HOLLAND, lemon yellow  
 ROYAL YELLOW, buttercup yellow  
 WEDGWOOD, light blue  
 WEDGWOOD IDEAL, dark blue  
 WHITE EXCELSIOR, white, yellow blotch  
 WHITE PERFECTION, pure white  
 WHITE VAN VLIET, ivory white  
 YELLOW QUEEN, golden yellow



FREESIA (SEE PAGE 72)

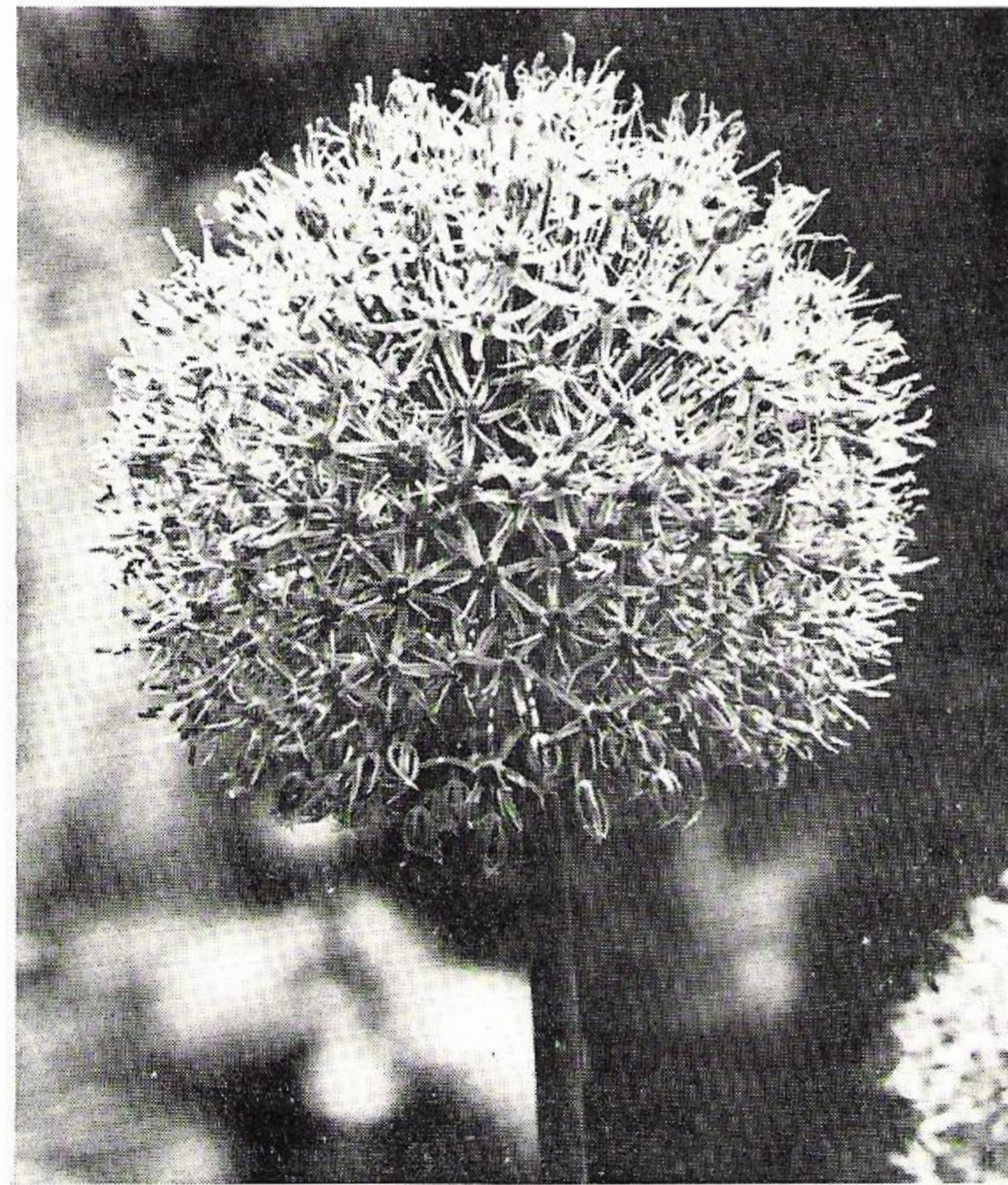
# Freesia

## CULTURAL INFORMATION

**Flowering period January—mid-March** — for this period Freesia bulbs should be planted in benches from September—October. Keep the greenhouse as cool as possible in the Fall; in the months of November to January the temperature should be kept at 50° F. Then raise the temperature till 55° F. Please observe the spacing of the bulbs when planting, see undermentioned figures varying for each variety. Wiring of the plants is necessary, similar as with carnations.

### List of varieties

	bulbs per sq. yard
<b>Blue</b>	
BLUE PENNANT, lobelia blue .....	105
MOZART, violet blue .....	80
<b>Red</b>	
PIMPERNEL, crimson red .....	105
STOCKHOLM, chrysanthemum red .....	105
<b>White</b>	
APOLLO, pure white .....	65
WHITE SWAN, pure white .....	80
<b>Yellow</b>	
GLORIA SOLIS, indian yellow .....	95
GOLD COAST, indian yellow .....	95
GOLDEN GLOW, indian yellow .....	80
ORANGE FAVOURITE, buttercup yellow, flushed orange .....	80
ROYAL GOLD, pure yellow .....	80
RYNVELD'S GOLDEN YELLOW, yellow with orange .....	105
<b>Purple</b>	
KOPENHAGEN, purple .....	80
PRINCESS MARIJKE, purple .....	105



ALLIUM GIGANTEUM

## Allium

Allium are grown outside for cutflower use; in Fall they are planted in a soil that is able to hold sufficient water. The tall flowering varieties are planted 10" apart, the smaller ones can be set closer together. They need a sunny location and in Winter they should be protected from frost. Allium flower in May—June.

Allium Albopilosum can be dried after flowering and then be used as decoration material in floral arrangements.

- AFLATUNENSE, lilac purple, 3 ft.
- ALBOPILOSUM, purple, 2 ft.
- COWANII, white, 1 ft.
- GIGANTEUM, violet, 5 ft.
- KARATAVIENSE, purple, 1 ft.
- MOLY, (Luteum), yellow, 1 ft.
- NEAPOLITANUM GRANDIFLORUM, white, 2 ft.
- ROSENBACHIANUM, purple rose, 4 ft.
- ROSEUM GRANDIFLORUM, pink, 16"
- SPHAEROCEPHALUM, "Drumsticks",  
deep purple, 2½ ft.



**TULIPA SPECIES**

FOSTERIANA VARIETIES:	p. 1000	
	\$	
CANDELA .....	78.—	
CANTATA .....	80.—	
CZARDAS .....	75.—	
EASTER PARADE .....	92.—	
FEU SUPERBE .....	75.—	
GALATA .....	66.—	
PRINCEPS .....	67.—	
PURISSIMA .....	68.—	
RED EMPEROR .....	68.—	
YELLOW EMPRESS .....	90.—	
ZOMBIE .....	90.—	
GREIGII VARIETIES		
CAPE COD .....	92.—	
FAIRYTALE .....	75.—	
GOLDEN DAY .....	100.—	
MARGARET HERBST .....	86.—	
ORIENTAL BEAUTY .....	75.—	
ORIENTAL SPLENDOUR .....	126.—	
RED RIDING HOOD .....	80.—	
YELLOW DAWN .....	95.—	
ZAMPA .....	95.—	
HYBRID MIXTURE .....	80.—	
KAUFMANNIANA TULIPS:		
KAUFMANNIANA .....	76.—	
ALFRED CORTOT .....	104.—	
DAYLIGHT .....	94.—	
GAIETY .....	94.—	
GIUSEPPE VERDI .....	100.—	
GOLD COIN .....	110.—	
HEART'S DELIGHT .....	95.—	
JOHANN STRAUSS .....	95.—	
SHAKESPEARE .....	95.—	
STRESA .....	95.—	
THE FIRST .....	95.—	
HYBRID MIXTURE .....	78.—	
VARIOUS BOTANICAL TULIPS:		
ACUMINATA (CORNUA		
STENOPETALA) .....	60.—	
CHRYSANTHA .....	50.—	
CLUSIANA .....	66.—	
EICHLERI .....	66.—	
MARJOLETTI .....	40.—	
PEACOCK MIXTURE .....	78.—	
PRAESTANS .....	<del>120.—</del> 60.—	
PRAESTANS FUSILIER .....	<del>60.—</del> 130.—	
TARDA (DASYSTEMON) .....	68.—	
TURKESTANICA .....	56.—	

**Daffodils and Narcissi**

	p. 1000	
	D.N. I	D.N. II
	\$	\$
<b>YELLOW TRUMPETS</b>		
DUTCH MASTER .....	134.—	104.—
EXPLORER .....	134.—	104.—
GOLDEN HARVEST .....	148.—	110.—
GOLDEN TOP .....	134.—	104.—
GOLD MEDAL .....	185.—	164.—
JOSEPH MACLEOD .....	134.—	104.—
KING ALFRED .....	134.—	104.—
REMBRANDT .....	138.—	108.—
UNSURPASSABLE .....	150.—	110.—
<b>BICOLOR TRUMPETS</b>		
GOBLET .....	134.—	104.—
MAGNET .....	125.—	90.—
MUSIC HALL .....	125.—	90.—
QUEEN OF BICOLORS .....	128.—	104.—
<b>WHITE TRUMPETS</b>		
BEERSHEBA .....	128.—	104.—
MOUNT HOOD .....	125.—	94.—
MRS. E. H. KRELAGE .....	125.—	94.—

**DAFFODILS AND NARCISSI**

(continued) p. 1000

<b>DOUBLE DAFFODILS</b>	\$
	D.N. I
INGLESCOMBE .....	112.—
MARY COPELAND .....	124.—
TEXAS .....	134.—
VAN SION .....	126.—

**LARGE CUPPED NARCISSI**

BIRMA .....	120.—
CALIFORNIA .....	100.—
CARBINEER .....	116.—
CARLTON .....	98.—
FLOWER RECORD .....	100.—
FORTUNE .....	104.—
HELIOS .....	100.—
MERCATO .....	110.—
MRS. R. O. BACKHOUSE .....	124.—
SCARLET ELEGANCE .....	120.—
SEMPRE AVANTI .....	130.—
YELLOW SUN .....	116.—

**SMALL CUPPED NARCISSI**

AFLAME .....	126.—
BARRETT BROWNING .....	150.—
EDWARD BUXTON .....	100.—
VERGER .....	110.—

**POETICUS NARCISSI**

ACTAEA .....	110.—
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**POETAZ NARCISSI**

BRIDAL CROWN .....	120.—
CHEERFULNESS .....	98.—
CRAFORD .....	120.—
EARLY SPLENDOUR .....	104.—
GERANIUM .....	104.—
LAURENS KOSTER .....	104.—
SCARLET GEM .....	120.—
YELLOW CHEERFULNESS .....	98.—

**CAMPERNELLI AND JONQUILLA**

ODORUS RUGULOSUS (single)	45.—
ODORUS PLENUS (double)	55.—
JONGUILLA SINGLE .....	45.—
JONQUILLA BABY MOON .....	42.—
JONQUILLA	
GOLDEN PERFECTION .....	70.—
JONQUILLA GOLDEN SCEPTRE	70.—
JONQUILLA ORANGE QUEEN	70.—
JONQUILLA TREVITHIAN .....	100.—

**VARIOUS NARCISSI FOR ROCK GARDENS**

BULBOCODIUM CONSPICUUS.	34.—
CANALICULATUS .....	50.—
CYCLAMINEUS BERYL .....	100.—
CYCLAMINEUS	
FEBRUARY GOLD .....	125.—
CYCLAMINEUS PEEPING TOM	138.—
LOBULARIS .....	50.—
MINIMUS .....	55.—
NANUS .....	60.—
TRIANDRUS ALBUS .....	38.—
TRIANDRUS SHOT SILK .....	90.—
TRIANDRUS SILVER CHIMES ..	120.—
TRIANDRUS THALIA .....	90.—
TRIANDRUS TRESAMBLE .....	90.—
W. P. MILNER .....	105.—
PAPERWHITES .....	Market Price
GRAND SOLEIL D'OR .....	Market Price