

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE

Forest Pest Management
P.O. Box 5895, Asheville, N. C. 28803

REPLY TO: 3400

February 7, 1974

SUBJECT: Beech Creek Seed Orchard

TO: Del W. Thorsen, Supervisor
National Forests in North Carolina



Attention: Walt Smith

A sudden and rapid build-up of the pine needle scale, *Phenacaspis pinifoliae* (Fitch) has occurred on the Beech Creek Seed Orchard near Murphy, N. C. On January 29, 1974, an evaluation was made by personnel from the Forest Pest Management Group's Asheville Office to determine the extent and severity of the infestation.

Only the shortleaf pine, *Pinus echinata* Mill., geographic sources were sampled. The sample was based on a random selection of four of the 10 rows in a block and this was then applied to all blocks in the source. All of the trees in a row were examined and the severity of the infestation estimated as either uninfested; light (negligible to 25 percent); moderate (26 to 50 percent); or heavy (over 51 percent).

The results are presented in Table 1.

Table 1. Infestation level of the pine needle scale, *Phenacaspis pinifoliae* (Fitch) by geographic source, Beech Creek Seed Orchard - January 1974.

Geographic Source	Infestation Level (%)			Total (%) Infested	Estimated Total Number Infested
	Light	Moderate	Heavy		
Cherokee shortleaf	54.8	0.4	1.3	56.5	1,420
N.C. shortleaf	19.6	0	0.6	20.3	256
Jefferson shortleaf	8.2	0.4	1.1	9.7	173
Daniel Boone shortleaf	2.1	1.1	4.3	7.5	157

An examination of a very small sample of the scales indicated present mortality at about 10 percent with approximately 55 percent having begun egg laying. The latter is probably the result of the unseasonably warm weather this winter.

Some of the infested trees in the orchard may die as a result of this infestation. In order to keep mortality to an absolute minimum, the trees will have to be sprayed when the crawlers emerge this spring.

2.

Two pesticides are registered for use against this insect or scale crawlers: Cythion 57 percent E.C. and Zectran 2E and 25W.

Cythion 57 percent E.C. should be mixed in the proportion of 4 pints of concentrate to 99.5 gallons of water. The spray should be applied in a manner to insure good coverage.

Zectran 2E is mixed in the proportion of 3 pints per 100 gallons of water, or 3 pounds of 25W/100 gallons of water. Again application should be made to insure good coverage.

Timing of the spray is critical. It is suggested that several infested branches be cut and held outdoors for easy examination. When numerous crawlers are present, the first application should be made. If Cythion is used, another spray should be applied 10 days after the first and repeated in that manner until no crawler activity can be found. Zectran should be applied as necessary, which, in view of its short active life, may be as often as every 3 to 5 days. The exact timing of the spray should be determined by observations of crawler activity.

If you have any questions, please don't hesitate to call.



THOMAS H. FLAVELL
Supervisory Entomologist

For: JOHN L. RAUSCHENBERGER
Field Office Supervisor

cc: Yasinski
Flavell