

DEWINGING DAMAGE TO SLASH PINE SEED

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The seed coat of slash pine (*Pinus elliottii* Engelm.) is much softer than the coats of some of the other southern pines. It is characterized by a very thin outer coating, varying in color from tan to black, which is easily removed by rubbing. Scarification or removal of this coating from the outer seed coat is common during the dewinging process. Scarified areas on the seed are usually light brown.

The Region Eight Tree Seed Testing Laboratory makes germination tests for a majority of the tree nurseries in the southeastern United States. Slash pine seed received for testing is collected from all parts of the range of the species and is dewinged by various types of dewingers. Seed samples generally have from 25 to 50 percent of the seed scarified in varying degrees.

To study scarification damage, seed from nine lots were segregated on the basis of scarified and nonscarified seed. All seeds showing visible signs of scarification were classified as scarified. Seeds in this classification had surface injury ranging from a minute amount to markings on almost 100 percent of the surface. In the nine lots, scarification injury was found on 35 to 50 percent of all seeds. Germination tests on each lot are recorded as follows:

<u>Full Seed Germination</u>		
<u>Lot</u>	<u>Scarified</u>	<u>Nonscarified</u>
	<i>Percent</i>	<i>Percent</i>
1.....	51	73
2.....	67	77
3.....	83	86
4.....	85	86
5.....	83	83
6.....	70	71
7.....	82	90
8.....	91	92
9.....	90	91

Germination loss from scarification, did not occur in all lots. Most of the low quality seed lots showed the greatest loss in germination. Scarification injury to seed of high vigor may be less damaging than injury to seed of low vigor.

Decreasing brush pressure in the dewinger is the solution to most scarification problems. This may result in increasing the number of partially dewinged seed. However, most planting machines can effectively sow the larger partially dewinged seed. If uniform sowing of a mixture of wholly and partially dewinged seed proves too difficult, sizing of seed may be necessary. For dewingers with adjustable brushes, regulation of the seed opening is simple. However, for those dewingers that are not adjustable, use of shorter brushes or redesign may be necessary.