

Rule Change Proposal No. 3

PURPOSE OF PROPOSAL

To add a paired stratified germination test for *Pinus elliottii* and *P. palustris*, Slash pine and Longleaf pine.

PRESENT RULE

Table 3. Methods of testing for laboratory germination. (cont.)

Kind of Seed	Substrata	Temperature °C	First count days	Final count days	<u>Additional Directions</u> See Sec. 4.2 and 4.9
<i>Pinus elliottii</i>	TB, PT	20-30		28	
slash pine	PT	22		28	
<i>Pinus palustris</i>	PT	20		21	
longleaf pine					

PROPOSED RULE

Table 3. Methods of testing for laboratory germination. (cont.)

Kind of Seed	Substrata	Temperature °C	First count days	Final count days	<u>Additional Directions</u> See Sec. 4.2 and 4.9
<i>Pinus elliottii</i>	TB, PT	20-30		28	Paired tests. Prechill 14 days.
slash pine	PT	22		28	Paired tests. Prechill 14 days.
<i>Pinus palustris</i>	PT	20		21	Paired tests. Prechill 14 days.
longleaf pine					

SUPPORTING EVIDENCE

Most samples of these species are now tested with paired tests because the industry requests paired testing, and it is common practice in the tree nursery business to prechill the seed before planting. Tests from 1997 through 2002 at the National Tree Seed Laboratory show an improvement in most cases with prechill. In 205 slash pine samples, prechill increased 178 samples germination 9.0% on average. Seventeen samples decreased germination 2.4% on average and ten samples had no change. Longleaf pine also responded to prechilling. 297 of 338 samples increased germination an average of 9.1%, while only 26 samples had decreased germination, an average of 2.5%, with no change in 15 samples. Prechill also resulted in faster germination. The data are shown in attached tables and graphs. See section 4.7c for reporting the results.

Slash Pine – Summary of prechilled tests compared to no prechilled tests on the same sample

Change	Number of Samples	Average change
Increase	178	9.0%
Decrease	17	-2.4%
No change	10	0

Longleaf Pine – Summary of prechilled tests compared to no prechilled tests on the same sample

Change	Number of Samples	Average change
Increase	297	9.1%
Decrease	26	-2.5%
No change	15	0

Prechill longer than 14 days does not increase total germination and unnecessarily prolongs the test period in slash pine. Only three samples were prechilled longer than 14 days in longleaf pine, not enough to draw a conclusion. In both species, 10 days prechill does not give as great an increase in germination and prevents laboratories from beginning the prechill on Wednesdays and Thursdays.

Slash Pine – Comparison of prechill length

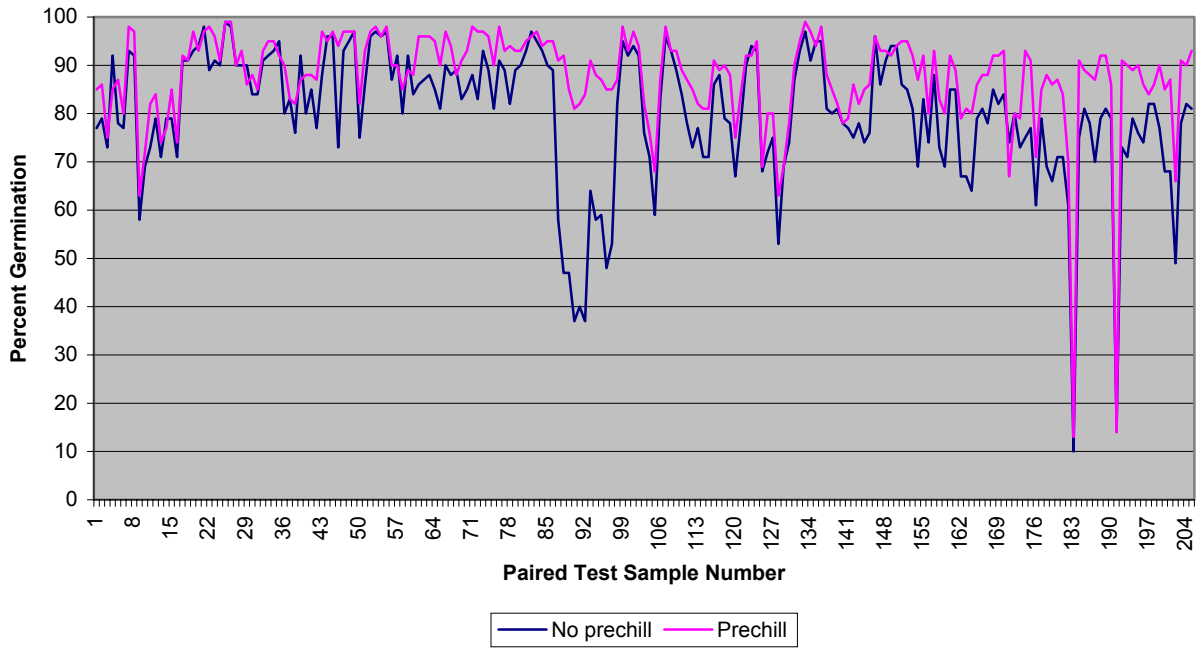
Prechill length	Average increase germination Over no prechill	Number of Samples
10 days	4.7%	57
14 days	9.3%	141
28 days	3.7%	7

Longleaf Pine – Comparison of prechill length

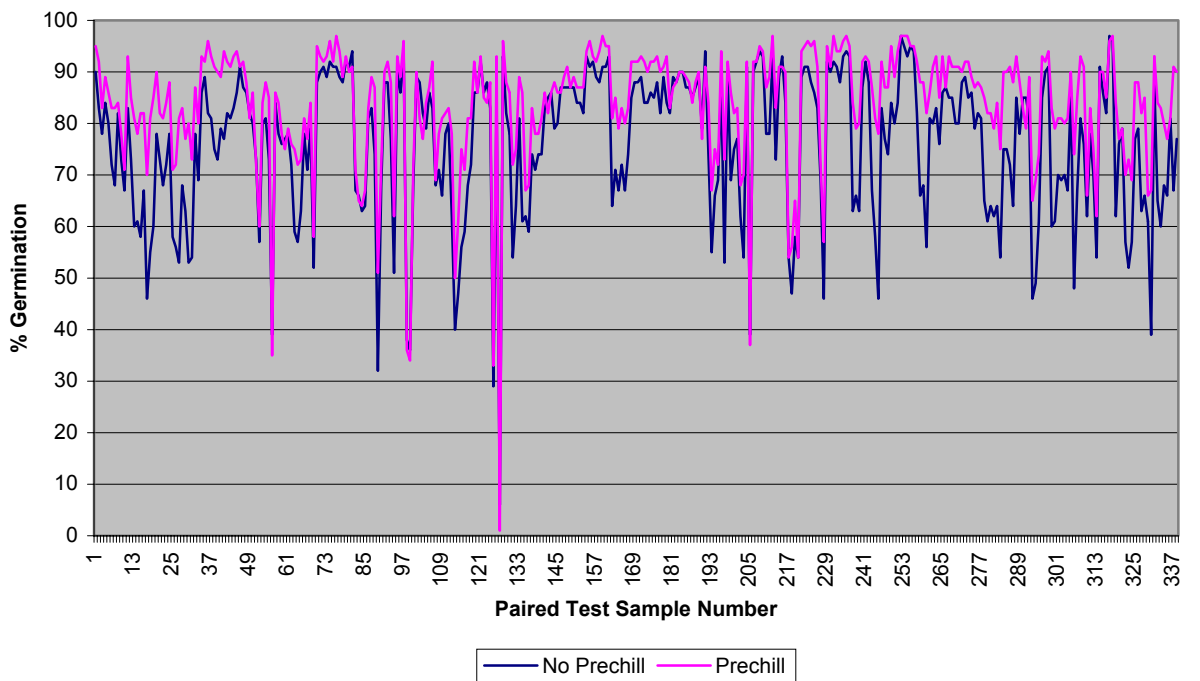
Prechill length	Average increase germination Over no prechill	Number of Samples
7 days	7.4%	59
10 days	7.7%	69
14 and 15 days	8.1%	207

Most slash pine and longleaf pine seed does not enter the marketplace because the federal, state, and private end users usually collect the seed they use. The Federal Seed Act and most state seed laws do not include these species. For seed that is sold, generally a copy of the test report and a packing slip with the poundage are sent with the seed. The containers are tagged with the species, lot number, and owner's name. Since paired germination tests generate two separate test reports, the report or report(s) supplied to the buyer is at the discretion of the seller.

Slash Pine Paired tests



Longleaf Pine Paired Tests



HARMONIZATION

The same rule has been submitted to the ISTA.

SUBMITTED BY

AOSA Tree, Shrub, and Native Forb Sub-committee, Gary Johnson
National Tree Seed Laboratory
5675 Riggins Mill Road
Dry Branch, GA 31020
telephone: 478-751-3555
facsimile: 478-751-4135
e-mail: wjohnson03@fs.fed.us

DATE OF PROPOSAL: October 15, 2002. Revised December 20, 2002.