

A NOTE ON THE SEPARATION OF EMPTY AND FILLED SEED OF SILVERFIR, *ABIES PINDROW*

The following methods were tested to separate filled and empty seed of silverfir, blowing and floatation in butenol.

Blowing. Four handfuls of seed were taken from different parts of a pile of seed and dropped slowly from a paper funnel in front of a table fan running at full speed. The distance over which the seed got spread was divided into three equal parts with respect to the fan; proximal, middle and distal. Twenty samples of 10 seed each were taken at random from each of the three zones. The seeds cut to find out the proportion of empty and filled seeds. These were as follows:

<i>Seed lot</i>	<i>Mean % filled seed</i>	<i>Mean % empty seed</i>
Proximal	62 ± 1.45	38 ± 1.45
Middle	41 ± 1.84	59 ± 1.80
Distal	20 ± 1.45	80 ± 1.45

Thus blowing with table fan could only partially separate filled and empty seed of silverfir.

Floatation on butenol. Butenol was employed as the floating medium because of its lower density than water (0.806 at 21° C); since floatation was tried on water but all seed floated. The percentages of filled and empty seed in floated and that settled seeds were as follows, as determined from 20 samples of ten seeds each.

	<i>% filled</i>	<i>% empty</i>
Settled	90 ± 1.21	10 ± 1.17
Floated	9 ± 0.75	91 ± 0.75

It is thus possible to separate filled and empty seed of silver fir, using butenol floatation.

To test whether butenol floatation has any adverse effect on seed germination, 30 samples of 200 seed each were taken at random from the seed settled in butenol and placed in petri dishes on moist filter paper in a seed germinator with alternating temperature of 20°C and 30°C. After 23 days the germination % was 79, indicating no harmful effect of butenol.

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