

Seed Use Efficiency Meeting
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Benefits of Thermal Priming and Other Seed Handling Practices

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Nurseries play a large role in ensuring that seed is used “efficiently”. Often it is thought that the relationship of seed efficiency at the nursery level pertains primarily to how the seed is dispersed in the nursery (quantitative use of seed based on seeds sown per cavity and oversow decisions made at the nursery). Thermal priming of seed in the nursery prior to sowing demonstrates that the “nurturing” practices in a Nursery can have a large impact on germination rates and vigour. Up to two weeks reduction in germination time can be successfully achieved through this practice. This can contribute to both efficient use of energy and efficient use of seed and increased seedling health. This benefit has been achieved consistently without the use of genetic manipulation.

Efficient use of seed becomes more important as the genetic worth of seed, both in terms of cost of production and potential silvicultural gain, increase. In this sense the concept of “priming” seed (or achieving full benefit of prime seed) is broadened beyond just the concept of thermal priming and becomes a more generalized and universal goal.

If we have truly committed to the development of “prime” seed is it reasonable that we would extend this effort to the development of “prime” growing conditions, “prime” seedlings and “prime” forests. While we all purport to want this it is not always clear through our behaviour that we act in ways which reflect this objective. Short term economic decisions may be posing some dysfunctional constrictions on our long term objectives.

It has been clearly demonstrated in the past that the development of genetically improved seed is worthwhile. It has been demonstrated that planting larger stock types contributes to more rapid free to grow status. It has been demonstrated that good nurturing practices can enhance the growth of seedlings in the Nursery setting. It is our belief that there is a good business case for collaborating to produce “prime” seedlings from “prime” seed in order to reach the common objective of developing “prime” forests. Growing trees that have been engineered for “prime” performance and growth, enhancing the seeds performance in the nursery and subsequently restricting the growth potential by choosing to grow in ever smaller containers may not be conducive to our collective goal of enhance field performance. Might this be the equivalent of forcing the gene-(y) back into the bottle or binding the feet of our genetically superior progeny?