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## Seed Technology: Ways to Improve Seed Results®

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### INTRODUCTION

By incorporating seed technology products into a business, a grower can save money by producing more plants for the same financial inputs. Savings can be realized in multiple ways:

- Easier handling = labor savings
- Fewer skips = more plants per plug flat
- Fewer doubles = fewer seed sown per plug flat
- Higher germination = more plants per plug flat
- Uniform germination = more transplantable plugs
- Faster germination = less bench time (less labor and less utilities)

### SEED TREATMENT METHODS TO IMPROVE PRODUCTION

**Grading.** In the early 1980s, the demand for high-quality seed was spurred by growers switching from the broadcast method of sowing to plug production. The seed are physically separated using characteristics such as: size, weight, density, and seed shape. The result was high germination and uniform germination. By purchasing a higher quality seed at a higher price, the grower could save money by substantially increasing the yield per square foot. As time progressed, the quality of seed kept improving. These days, a 95% germination standard is not unusual, with many germinating close to 100%.

**Priming.** This process was first developed in the vegetable industry, but was introduced to ornamentals in the mid 1980s. It has become the standard form for certain crops such as pansies [*Viola* (syn. *V. ×wittrockiana*)]. The best way I can describe priming is to view it as an insurance policy. Under ideal conditions, a grower can coax the best out of a lot of seed, but ideal doesn't happen too often. In addition, priming speeds up production. That quick start can reduce time in a germination chamber and time on the bench. The improved uniformity will equate to more transplantable seedlings.

In the priming process, the seed begins to germinate very slowly under highly controlled conditions. This allows slower germinating seeds to catch up with the faster seeds. The priming process is stopped just prior to radicle emergence. The seed is dried and can be stored and handled just like raw seed.

The benefits are:

- Higher germination.
- More uniform germination.
- Faster germination.
- Ability to germinate under adverse conditions.

Newer advances in priming include higher forms of priming that can germinate in extremely warm conditions. Our lab produces Genesis® II for pansy seed. This priming technology was developed to allow growers to direct sow in the heat of the summer. We recommend double sowing for this application.