

Best Practices for Precision Multi-Pellets (PMPLs)

PMPL Specifications:

- Each PMPL contains an exact number of seeds of one or several varieties.
- In PMPL technology, each component seed is placed into a mold before being coated with a water-soluble wax. Thus, every PMPL has an identical composition.

Storage and Handling:

- PMPLs should be stored in their original packaging or a similar airtight container, in a cool, dark, and dry location.
- PMPLs can be stored following James' rule of seed storage. James' rule recommends that the sum of storage temperature in Fahrenheit and relative humidity in percentage is kept below one-hundred.
- Unused PMPLs should be returned to airtight container immediately.
- Contact with air moisture (over 80% RH), particularly at higher temperatures (over 100 °F), can cause premature softening of the wax, leading to tackiness and making mechanical sowing more difficult.

Sowing:

- PMPLs can be sown using the same methods as clay pellets - using vacuum heads, with a drum or needle seeder, or by hand.
 - For use with a needle seeder, vacuum cups must be fitted to each needle in order to avoid splitting pellets.
- Each PMPL will be slightly larger and heavier than a clay pellet of the same variety or mix containing a similar number of seeds. To compensate for this, an adequate level of vacuum suction and larger gauge vacuum heads are necessary.
 - Equipment needed to sow easily:
 - Drum seeder size: 30
 - Hole size: 30/1000 in.
 - Vacuum setting: 10 to 15 HG (requires a 1.5 horsepower pump)
 - Dust blow off: 12 psi
 - Air curtain: 4 to 6 psi
 - Seed blow off: < 1 psi (barely on)
- The divots in PMPLs will not affect sowing using drum seeder, as long as hopper is filled at least two PMPLs deep at the point of contact with the drum. This ensures that a PMPL will fill each slot on the drum. Adjusting the hopper to sit at a higher angle may help accomplish this.

Breaking Down PMPLs after Sowing:

- Water management is similar to that of a clay pellet. Simply water-in PMPLs and follow the recommended crop culture for the variety or mix.
- The water-soluble wax of PMPLs takes longer to completely dissolve even when fully submerged in water. Do not attempt to dissolve the pellet within a single watering. Instead, maintain a moisture level of four to five from sowing until the pellet is fully dissolved.
 - Media moisture levels are described in the Product Information Guide at:
https://www.panamseed.com/media/culture/PAS/13542_PAS_PIG.pdf
- Maintain high relative humidity in the germination environment along with adequate soil moisture, for dissolving the PMPLs over a few hours, exposing the seed to proper germination conditions.

- Upon dissolving the PMPLs, follow crop-specific germination stage 1 conditions as recommended in the Product Information Guide.