

## 2013 Soybean Seed Care, Seed Quality, and Treatment/Plantability Process

The 2012 drought had a significant impact on soybean growth and development, grain yield, and seed quality. Physiologically, soybean seed development is restricted both in seed coat development, mineral uptake, and dry matter integrity. Lower germs, dry seed and cracked seed coats, and seed size are the direct result of drought/weather interactions. Physical movement of the seed at times can cause mechanical damage (splits or cracking).



It has been well documented that when soybean seeds are very dry (<10%), they are more susceptible to physical damage. Damage begins with harvest operations and continues with every step of the process needed to produce a finished bag of seed. The extent of damage will vary within the seed lot and consistency can be difficult to obtain. There may be seeds with slight seed coat damage, seeds with seed coats entirely removed and split seeds. Certainly the handling required to get them to the field and planted can add to the extent of seed damage. These seeds will need extra care to retain the quality as delivered from the seed supplier. You may question if these beans should even be used for seed. We would suggest that a grower should first select the varieties that will perform best on his farm, and then select the highest quality available.



- **Minimize the number of times the seed is handled**
- **The maximum seed drop should not exceed 24 inches.**
- **Belted conveyors should not reach speeds exceeding 300 feet per minute**
- **Seed should not impact the conveyor head as it discharges from the belt.**
- **In terms of seedcare, slow and steady wins the race**



After the variety is selected the next decision is whether to treat or not to treat with a seed treatment product. Some of the rationale of not treating might be due to the additional handling and moisture required when applying seed treatment products. These are valid concerns but with extra care, this can be managed to minimize any additional damage. Damaged seed coats can provide easier entry of pathogens into the germinating seeds. Seed treatments provide protection to the germinating seed and young seedling during and after emergence and protect the yield potential of the selected variety. With the lower quality seeds, it makes sense to try to get every seed out of the ground with stands as uniform as possible.

In years when seed quality is good, we recognize the yield advantage of using treated seeds. We should also realize this benefit with seed of less than ideal quality.



If seeds are to be treated by a certified seed treater they should have equipment that will minimize physical damage. Equipment such as belted conveyors to elevate seed, and let down devices (spiral chutes) to slow the fall of seed into trucks and wagons will help reduce further mechanical damage to the seed. Try to keep the water content of the slurry mix as low as practical as this will help reduce any damage that can occur from wetting and drying the seed coat. Using a treater that is approved by Syngenta, seed treater's should experiment with their slurries to get the water levels as low as possible and still obtain acceptable coverage with the seed treatment product. Seed treating equipment that applies the seed treatment as a mist and then provides good secondary mixing will allow for the use of lower liquid rates.



Accurate calibration of the application equipment will ensure that moisture levels will not be excessive and create additional seed damage. Care needs to be exercised to handle the seed as gently as possible while performing the seed treatment and moving them into the planting equipment. The potential for further mechanical damage to occur during the treating process will be lessened if the treater is operated at or near the top capacity. Use conveyors, not augers to move and elevate seeds when loading planting equipment.



For a successful 2013 planting season, awareness of seed treatment, seed size, and bag/tag germination records, as well as planter maintenance is critical to achieve optimum plantability. Above all, take time to talk with your local planter manufacturer/service representative. Fine tuning your planting speed, hydraulics, air pressure settings, gear/chains on planter units to match seed size are yearly and necessary tasks. Please consider the following points to aid your planting operation:

- Planter speed and plant population mechanisms all interact
  - Faster planting speed and increased seeding rates force faster equipment operation. Chains, drives, pulleys, air pressure, metering units all operate at a faster speed.
  - Larger soybean seed size may impact air pressure/vacuum seed settings. Double check those pressure charts in your manufacturer's book.
- Seed treatments (fungicide, insecticide, inoculants) will impact plantability.
  - Talc/graphite may aid in enhancing flowability within planter mechanisms
  - The use of seed polymers may have a positive impact on seed flow and preventing seed "bridging"
  - Check with your local seed treatment provider and local planter manufacturer to help you achieve "top shelf" plantability.

Important: Always read and follow label instructions before buying or using these products.

Classified: Public

