



Guidelines for Mixing Inoculant and Cleaning Applicators

Mixing inoculants in water:

- Add the inoculant powder slowly to water with continuous agitation. Adding the powder slowly reduces the tendency to form lumps. Never add water to the inoculant powder. Avoid adding the inoculant powder to non-agitated water.
- Premix the inoculant powder with 1-3 gallons of water. Never mix directly in applicator tank.
- The inoculant powder will disperse more easily in *warm* pre-mix water if it is available. Never use water warmer than is comfortable to the hand.
- Allow at least 1 minute of continuous agitation, rapid stirring or shaking – shaking is preferred, for the powder to disperse.

Cleaning of applicators:

Given enough time a biofilm (slime causing organisms) will become established in any applicator. Solutions are sometimes held in applicators much longer than recommended, particularly when there is a weather delay or between cuttings. Spray lines and strainer canisters are frequent reservoirs for biofilm organisms. A new solution in an applicator with an established biofilm population will clog more quickly (sometimes just a few hours) than in a new or properly sanitized applicator. Slime forming biofilms can be held in check with proper application sanitation.

Guidelines for proper sanitation of applicators:

- Thoroughly rinse and flush applicators with clean water between batches of inoculant solution.
- Sanitize applicators between cuttings or when an applicator will be stored for more than 48 hours. Fill the applicator with water and add household chlorine bleach at a rate of 1-2 tablespoons ($\frac{1}{2}$ to 1 ounce) per gallon to effectively sanitize applicators. To prevent a reaction of bleach with trace amounts of the applicator's contents (ex. baled hay acid), it should be thoroughly rinsed of its previous contents.
- Bleach sanitizes best in equipment that is already relatively clean. To be effective this solution must have at least 20 minutes of contact time. Stronger solutions, up to 2 ounces of bleach per gallon of water, or longer contact times will remove heavier accumulations such as algae or mold.
- Applicators should not be stored for long periods of time with bleach solutions in them since it may weaken some plastics or corrode metals. The sanitizing solution should be circulated through the applicator spray lines, screens and nozzles.
- Applicators should be double rinsed after sanitizing to remove all traces of the sanitizing solution.
- Spray lines and nozzles should be flushed with clean water.
- Some water applied inoculants contains an insoluble stabilizer. Once in suspension this stabilizer is rendered inert and no longer critical to the effectiveness of the inoculant. This material may precipitate out of solution as a thin white film after a few hours of storage in a non-agitated system. This material has never been observed to plug or damage an applicator even under severe abuse conditions. Proper applicator management will limit accumulation of this precipitate.