



DECCO BEST PRACTICES

Get the most from your DECCO products with these best practices.

Storage:

After harvest, storage treatments play a key role in your ability to have fruit store in acceptable condition for packing when the storage is opened. The storage treatment process includes the application of fungicides and scald inhibitors. With the addition of the DECCO Aerosol method the packer is no longer dependant on a drencher to apply these crucial treatments. Long storage times increase the risk of scalding. The proper application of DECCO scald inhibitor can keep fruit looking fresh and natural even through the most difficult season. To assist in your application of scald inhibitors and fungicides DECCO offers in the field service / testing and skin residue testing from our full-service laboratory.

Dump Tank:

The dump tank is an important step in the decay control process. The fruit in this step is first brought into contact with sanitizing agents. Water temperatures should be between 70° and 80° Fahrenheit. Heat is very important, even a moderate temperature of 70° can make a huge difference in the final end product of your apples appearance. This is assuming the fruit has been pre-conditioned and warmed. Chlorination should be used at sufficient levels to control water quality and prevent cross contamination. A pH buffer is used to bring the water pH to a level that makes the chlorination active as a sanitizer. Another method of dump tank treatment is to acidify to aid in calcium mineral deposit removal. The third treatment option is to treat the water to an alkaline level to aid in removal of natural wax deposits (sometimes referred to as Orchard Bloom). A fourth method is to use neutral pH surfactants in the dump tank to act as wetting agent to the fruit.

Cleaning Section:

To insure a good wax application it is necessary to remove some of the fruit's natural wax, field dirt and field residues like calcium mineral deposits or orchard bloom from the fruit. This is accomplished in the cleaning / washing section by application of the appropriate cleaner for the fruit conditions. As a general rule of thumb soap should be applied at a rate to generate a visible sudsing on the skin of the fruit. Follow label dilution ratio's on cleaners, the philosophy of a little is good a lot is better does not apply. A contact time of 15 to 30 seconds is optimal for adequate cleaning. The typical wash section consists of @ 12 brushes. They are normally operated at speeds of 100 to 150 rpm. Speed of brushes is determined by fruit and fruit conditions. Depending on the fruit there are several scenarios that can arise; use of acid soap for removal of calcium/mineral deposits, and alkaline soap for removal of natural wax. There are neutral pH soaps that are especially useful in sensitive varieties i.e. Gala, Golden's, and those with lenticel sensitive issues. Running brushes at different speeds, set A slow and B faster, generally a 3 to1 ratio will create a tumbling action or spin that aide in the cleaners working better. Removal of compound deposits i.e. sunburn protectant products that have a sticker and clay compound may necessitate using 2 cleaner bars of opposing chemistry. Acid to loosen the clay and Alkaline to remove the sticker.

Rinse Bar:

Rinse section is located after the wash section and is comprised of an adequate number of nozzles and bars to remove soap / cleaner residues. This happens to be one of the most critical areas of your pre-wax application, the water should be hot (100° F), and depending on the volume and flow of fruit you should have a minimum of 2 rinse bars with good pressure, preferably 3. It is critical that you rinse off all cleaners from dump tank and cleaning areas, if they are not rinsed off they can carry all the way through the brush bed to the wax area. Check the fruit after it goes through the rinse area, if there are suds there is cause for concern. Rinse water is required to be potable water quality.

Waxing:

A good wax coat is a complete and uniform film applied on the surface of the fruit. The choice between carnauba and shellac is based on ship to location and desired end result of coating i.e. shellac seals vs. carnauba allows fruit to breathe (preferred for export). There are probably as many application systems as there are varieties of wax. A typical system includes @ 6 brushes, and overhead applicator and pump. Brush speeds are @ 80 RPM. Ask your representative for a recommendation to fit your specific needs. Every packing line is different; a system that works at one location may not work for another. For optimum performance, trials and adjustments are required to get the best results for any line.

Post Production Cleaning & Sanitizing:

Post production cleaning and sanitation of equipment is as important if not more important than any other step in preparing fruit for shipment. Without an adequate post-production cleaning and sanitation program the fruit will be subjected to poor cleaning, waxing and risks the chance of cross contamination.

To get the best possible result the following must be observed.

1. Fruit pre-conditioned and screened prior to packing.
2. Proper temperature and soak time in the dump tank.
3. Use the correct cleaner in sufficient quantity to clean the fruit and deposits.
4. Adequate time on the brushes in the wash section to thoroughly scrub the fruit surface.
5. Correct brush speed to get complete rotation on the fruit.
6. Thorough rinse removing all cleaner and dirt residues.
7. Good dewatering and drying of the fruit surface prior to wax.
8. Adequate amount of wax applied to get even coat.
9. Sufficient time in the dryer tunnel ensures ample cure time for the wax.
10. Complete equipment cleaning and sanitation.

