

# POST HARVEST HANDLING

## **(Field Exercise)**

*The purpose of this field exercise is to understand and perform the necessary techniques for post harvest handling of a wide variety of produce, in multiple different harvest conditions.*

### Decision Making for Harvest

- **Type of produce being harvested:** Care should be taken to understand the ability of any given item to hold up post harvest in the field. There are some that can endure a lot of stress and go to market looking great and others such as lettuce that need utmost sensitivity.
- **Time until sale:** Leafy produce should be harvested and cooled just prior to distribution or market (unless refrigeration is available). Some produce like winter squash or garlic can be processed and stored for months prior to distribution.
- **Weather conditions outside:** The time of day a certain item is harvested, and the time that item sits in the field after harvest can differ greatly depending on the weather outside. If the temp is 50 degrees, under an overcast sky, your urgency is greatly reduced. Beans and other produce, which should be dry upon harvest, should not be harvested in the rain or first thing in the morning when dew is present.
- **Cold Storage/Cool Pack resource availability:** If refrigeration is available on site, taking the “field heat” out of an item is often enough cooling before going into reefer storage. If there is no onsite reefer, top icing wax boxes is often necessary to keep produce in prime condition before delivery.
- **Field durability:** Some items hold up just fine under the sun for a brief time. Other items like greens and lettuce should be shaded immediately after harvest and hydro-cooled as soon as possible.

### Specific Handling Procedures Based on Type of Produce

- **Greens and Lettuces** should not spend any significant time in the field or without adequate shade. They should generally be harvested first, and cooled in cold water/ice bath immediately after leaving the field. Lettuces and greens should be inspected and cleaned before entering bath.
- **Green beans** should be harvested before mid-day heat is present. Beans cannot be hydro-cooled (cold bath) because of rust due to excessive moisture, therefore, should be cooled in reefer as soon as they are harvested to preserve crispness.
- **Beets and Carrots** should be forked, followed by simultaneous washing and hydro-cooling. Pull off any ugly greens of carrots; be slightly less critical of beets due to the fact that there greens are so widely enjoyed. They should be bunched and stored below forty degrees. Carrots do well in bins or perforated bags in cold storage.
- **Broccoli and Cauliflower** should be iced and or hydro-cooled immediately following harvest. Special care should be taken to insure green caterpillars are not present under the “trees.”
- **Cucumbers** should be hydro-cooled immediately and washed down to remove any “spike” that may be present. Cucumbers can be stored in lugs or flats with lids and should be kept cool between forty and fifty degrees.
- **Eggplants** should be handled with delicate care following harvest. The skin shows rough treatment and punctures with ease. Eggplants should be sold as soon as possible.
- **Tomatoes** can be harvested at any time of the day, and should be packed gently into a box immediately following. Egg crate packaging is the best for avoiding tomato damage and layers should not be stacked more than four high in a box. Large heirloom varieties have a tendency to be VERY delicate and should be handled appropriately. Green tomatoes gleaned from vine before frost can be wrapped individually in newspaper and stored in a cool area inside a wax box. They will slowly ripen and provide you with tomatoes from your garden long after the last plants outside have died off.

- **Salad Mix** is generally placed in cold-water bath after harvest. This keeps temperature down while providing the farmer a good opportunity to thoroughly mix the salad for good uniformity. It is during this time in which you can pick out weeds and ugly leaves. Following the washing and mixing the salad should be thoroughly spun dried. This can be done in a variety of ways. The most advanced being a commercial salad spinner. Washing machine spin cycles work well in conjunction with a tightly netted mesh laundry bag. It is important that the mix is relatively dried before being bagged, excessive moisture can lead to rot. Perforated bags are helpful.
- **Melons** can be harvested at your leisure although a melon harvested in the cool of morning will have a better texture down the road than a melon harvested in the deep heat. They should be stored around 45 degrees and can last for a couple of weeks.
- **Potatoes** can be harvested anytime of the day but should be handled carefully afterwards. It is now the accepted method of post harvest handling of tubers to either not wash them at all or give them the lightest of dustings. This reduces the chance of disturbing or tearing their skin and thus greatly reducing their storage time. Potatoes can be stored in jute bags or bins. Store in a cool dark place for optimal length of storage.
- **Onions/Garlic** generally need some curing after harvest. This provides an opportunity to dry the stem or “neck” out making it possible to clip then store the produce. Garlic is often cured by hanging it in bunches of ten to twenty in a relatively cool dark space. Onions can be cured by laying them out on mesh wire with decent airflow above and below them. This insures good even drying of the stem and will provide the neck a good closure. This is important to promote good storability.

This is just an example of how some veggies like to be treated post harvest, most veggies similar to those listed here can be treated in a similar way.