

Making Potato Harvest Successful



In preparation for successful potato harvest, here are a few helpful hints to keep in mind as you are preparing equipment, preparing storages, and preparing fields in order to minimize losses and maximize profit!

- 1. Storage Cleaning and Disinfection:** If you haven't already done so, ensure that all storages are thoroughly cleaned and disinfected to receive the crop. This includes floors, walls, dividers, plenums, grates, etc. You don't want to bring any pathogens forward from year to year. Ensure your ventilation system is also fully operational prior to harvest.
- 2. Padding/Reducing Drops:** Inspect all of your harvesters, windowers, conveyors, bin pilers, etc for tears in rubber or padding or exposed edges that could be a source of bruising. Take the time to train any staff that will be handling potatoes to minimize drop height wherever possible, as any more than a few inches drop can significantly increase bruising, particularly black spot bruising. Consider using a bruise detection device to identify any problem areas.
- 3. Top-Killing:** Properly desiccated vines will pass through the harvester more easily, with better separation of tubers from the vines. As well, properly timed top-killing ensures sufficient time for skin set and maturation of the tubers. This is particularly important for seed, table stock, and processing varieties that are more susceptible to Fusarium rot and secondary tuber infections. **Remember...most new varieties are not as "forgiving" as Russet Burbank when it comes to harvesting green.** Find the right balance between meeting your yield goals but also maximizing tuber quality.
- 4. Flag the Wet Spots in the Field:** Prior to harvest, flag off any wet spots or depressions in the field where you have seen water laying during the growing season or prior to harvest. It is highly likely that potatoes from these parts of the field are more likely to have water soak, Pythium leak, pink rot, or other soft rot diseases. Often times, potatoes from these areas can look alright coming out of the ground, but soon cause problems in the storage. Only dig these areas if you have temporary storage where these potatoes can be placed ahead of rapid movement to processing. Don't let a problem in a small part of the field impact the rest of your crop.
- 5. Test Digs:** It is advised to dig multiple 10 foot strips from each field in advance of harvest, ideally from different zones of the field, in order to know what to expect in those fields during harvest. Pay attention for signs of wireworm/grub damage, pitted scab, pink rot, soft rot, enlarged lenticels, or anything else that could make those potatoes more susceptible to storage problems. It will also help you decide on harvest sequence, where crop is placed in your storages, and whether any of your crop will need to be moved ahead of schedule to processing or the market.



- 6. Monitor Harvest Conditions:** Where possible, avoid harvesting when soil conditions are very wet or very dry. In very wet conditions, excess soil is brought into the storage, impacting the storability of the crop. Also, harvest in very wet soil conditions will significantly increase rates of soil compaction. Harvest in dry soil conditions impacts the movement of potatoes up the chains and can increase the risk of black spot bruise and shatter bruise.
- 7. Pulp Temperature:** Pulp temperatures should optimally be between 10-18 C (50-65 F) to minimize the risk of bruise or soft rot infections. Recommendations may change based on the variety. For example, a variety more at risk of Pythium leak or other soft rot infections should not be harvested when pulp temperatures are warm. Likewise, varieties at risk of shatter-bruise and black spot bruise should not be harvested at the colder end of this range.
- 8. Suberization/Wound Healing:** Allow sufficient time after placing potatoes into storage for suberization and wound-healing before moving temperatures down. For most varieties, 2-3 weeks at 10 C (50 F) is considered optimal. In addition, ensuring adequate air flow through the pile to dry up any problematic tubers and excess moisture is a must.
- 9. List of Trials/Check Strips :** If you have any on-farm trials, either done on your own, with your agronomist, or with a researcher, make sure you have a list of any trial fields and share that with all senior staff. It is always a shame to lose data from a trial because that field was harvested before samples could be collected.
- 10. Cover Crops:** Planting fall cover crops is a best management practice following potato harvest, in order to help protect your soil against wind and water erosion, as well as helping to soak up excess nutrients (such as nitrogen) after the growing season. Many early-harvested acres are good candidates for winter wheat or winter rye as a cash crop for next year. Grains like rye and oats can be broadcast immediately prior to potato harvest, maximizing seed to soil contact. Local studies show that barley and oats will establish under early October. Winter rye is the best choice for later harvested acres, as it will emerge at cooler soil temperatures and will also green up quickly in the spring.
- 11. Biosecurity:** More than ever, keep biosecurity front of mind during the harvest season. Cleaning and disinfection of equipment coming from off your farm is essential. Cleaning and disinfecting equipment between fields is also essential for any fields under restriction. Ensure people coming on to your farm have clean footwear, trucks, etc. Keep a list of the dates that you harvested each field and in what sequence. Fields with restrictions should ideally be harvested last, where possible.

Keep Farm Safety Top of Mind!

Harvest season is a very busy time for everyone on the farm. However, it's important to prioritize farm safety at all times. It only takes a split second for one decision or one careless step to lead to life-changing injuries or worse. A few things to keep in mind:

- Keep all guards and preventative measures installed and in good working order.
- Ensure that first aid kits are available in tractors and all buildings where people are regularly working.
- Turn off tractors and machinery before trying to repair them.
- Good communication between supervisors, equipment operators and field staff can identify potential risks and how to avoid them.

Prepared by Ryan Barrett, PEI Potato Board (Sept 2022)