Prepping Problem Potatoes for Long Term Storage

For the best chance of long-term storage success, potato tubers at harvest should be dry, disease free, and uniformly 48 to 60°F. Reality is rarely so kind, however. A wide variety of field and environmental factors often contribute to tubers entering storage in less than ideal condition. Tubers can be wet, infected with disease and/or too hot or too cold. In some cases, daily and hourly temperature fluctuations mean over-warm and over-cold tubers can be present in the same pile. Luckily, all is not lost when tubers enter storage in less than perfect condition: with extra care and attention these tubers can be conditioned for storage success.

Successful storage begins before the year's crop comes out of the ground. To prep a facility for incoming tubers, all remnants of any previous crop including soil and dust must be removed and the building fully disinfected.

Then, consider disease. Assessing disease risk depends on both one's knowledge of field history and one's careful attention. Know what is going into storage. Consider whether the field has a history of disease and/or flooding, and analyze weather history and crop health. Identify whether any parts of the field are already impacted by disease, and whether any parts of the field have been impacted by water soak or frost damage, which may lead to breakdown.

Once harvest is underway, measure pulp temperatures regularly, watching for fluctuations from throughout the day and from day to day that might cause uneven temperatures in the bin. Handle tubers very gently to minimize injury, as the majority of disease pathogens require an opening in tubers' skin.

Any tubers showing disease symptoms should be removed. Unfortunately, many more infected tubers may not yet be symptomatic. Tubers from fields displaying more than two to three per cent late blight or soft rot can cause serious problems if they must be placed in storage.

While some post-harvest chemicals can be helpful in minimizing the spread of disease, they should be a last line of defence after good field management and careful tuber handling.

As potatoes begin to be loaded into storage, ensure the supply temperature is lower than the coldest potatoes in storage. Humid air that is warmer than the potatoes will cause condensation on cold tubers.

If potatoes require warming, make sure the dew point of the ventilating air is less than the coldest tubers. Supplemental heat may be required to foster warming, but heat released by the tubers themselves is often enough in a well-insulated building.

If cold tubers need to be placed next to warm tubers, block the air ducts nearest the cold tubers to allow them to warm naturally.