



POTATOES & PESTS PAPAS

Actionable Science Against Nematodes

Selecting for Success: Digging up Weeds, Rocks, Potatoes, Oh My!

Around the beginning of September, the Cornell potato breeding program prepares for the start of harvest. It's a time when all energy is focused on getting the tubers out of the ground and selecting the best potatoes before the weather turns cold.

The harvest begins with a two-row digger making passes up and down the field. As the tractor drives over the hills, the digger slices into the ground and lifts up soil, rocks, weeds, potato vines, and tubers. These move along a chain conveyor as the tractor moves forward. The soil falls through the chains, while larger rocks, weeds, vines, and tubers fall onto the ground at the tail end of the conveyor.

Similar to the tales of farmers picking out rocks from their fields over decades and still finding more, the Mount Pleasant fields seem to have an endless supply of rocks as well. The size of some stones are so large that they occasionally bring the digger to a complete halt. If the weeds and vines are too numerous, crew members use hooked poles to guide them over the conveyor. This prevents possible mixing of plots as they move down the conveyor.

Once the digger has dug a pair of rows, breeder Walter De Jong and field manager Matt Falise evaluate the tubers laying on the ground. Beyond the four-hill phase, where selection decisions are made quickly and independently because there are thousands of clones to evaluate, in later stages selection is more of a collaborative conversation. They deliberate over factors like yield, tuber shape, and size. For selected clones, tags are created on the fly, with cross ID code and a selection number. Tags are placed on selected plots for the crew to use to label wooden harvest crates.

When a crate is full, it's loaded onto a truck. At the end of the workday, the truck heads towards Cornell's campus where the crates are put into cold storage. The tubers stay in storage until further data collection like grading and frying which happens after the end of the harvest season.



Article and Photos by Pia Spychalla

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Supported by the USDA National Institute of Food and Agriculture award number 2022-51181-38450