

Potato Variety Trial Project 2013

Prepared by: William Campbell
Plant Materials Center
Division of Agriculture
Department of Natural Resources



The potato variety trial was planted on June 3, 2013. The planting was comprised of 20 feet of row of each of 28 named varieties and 134 advanced selections obtained from the colored flesh breeding project. Approximately 80% of the plants emerged by June 25th. Weed control was accomplished with Matrix at one (1) oz. per acre rate followed by one inch of irrigation after application. Irrigation was initiated June 26th with approximately one inch of water applied weekly until rain began in late August. The field was monitored weekly. Hilling occurred on July 12th.

The field was scouted on a bi-weekly basis for pests and diseases. Flowering was observed on a few of the named varieties as well as some of the colored flesh selections July 25th. Wireworms were observed in seed pieces at this time. Knotweed, tansy ragwort, shepherds purse, narrow leaf hawksbeard and lambs quarters were observed in late July but the low populations did not require additional treatment. Several lines were observed to be infected with Potato Virus X (PVX) in mid July. Plants infected with Rhizoctonia were also noted at this time. Several of the numbered lines were found to be infected by Early Blight in mid August. No control treatments were deemed necessary.



Several lines of potatoes planted at the UAF Experimental Farm, Trunk Road, Palmer, Alaska.



Vines chopped and ready for digging.

Vines were removed utilizing a vine beater on September 9th ninety-nine days after planting to allow for skin set and enabling easier harvest. The field was dug on September 25th. Evaluations were performed in the morning and a field day open to the public occurred in the afternoon. Harvest and evaluations were difficult due to the excessive rain events that occurred during the first three weeks of September.

The named varieties with the exception of the variety Envol have been grown and trialed previously in Alaska. The Alaska potato growers are looking for a better russet skinned variety, a better red skinned variety and a better yellow flesh variety. Presently the white skinned varieties, Shepody, CalWhite and MaineStay are performing adequately. The white skinned variety Envol is from Quebec Canada and is touted as earlier than the varieties Jemseg and Superior. Hills dug and observed during the growing season indicated that Envol initiated tubers a few days earlier than the



Envol potatoes before removal from the field.

check varieties yield at harvest was comparable in weight but had greater tuber numbers per plant. Envol tubers were one to two ounces smaller than the check varieties. A more complete evaluation of this variety's yield potential and any disease resistances should be further studied.

The colored flesh numbered lines are materials obtained from the USDA colored flesh breeding program in Pullman WA. Funding for this project was discontinued when the USDA pulled out of Alaska in 2013. Four thousand genetically unique tubers were sent annually over a four year period. Selections from these stocks were carried over, propagated and evaluated for eye appeal and unique qualities.



Colored flesh novelty potatoes.

During the four years of observation, 150 lines had been selected for continued trials. The materials selected included yellow, red, pink and blue flesh as well as various skin color permutations. Tuber shape, eye depth, tuber number and yield were the major selection criteria. Of the 130 lines evaluated in the 2013 trial at the University of Alaska Trunk Road Experimental Farm 16 were selected to forward to the original breeder for further evaluation.

The field day was announced and promoted to the potato growers so that they could participate in the evaluations. The tubers were dug and allowed to remain in the labeled rows throughout the day. Three seed growers and one tablestock grower participated. The materials identified for further testing were collected and shipped to Pullman. Several of the selections are being maintained as tissue cultures at the Alaska Plant Materials Center to provide planting stock for the seed growers continued evaluations.