Summary Research Progress
Report for 1988

Submitted to:
San Luis Valley Research Center Committee
and the
Area II Potato Administrative Committee

Title: Evaluation of Advanced Clones for Ringrot Expression

Project Leader: Monty Harrison

Project Justification: Bacterial ringrot continues to be a significant problem in the San Luis Valley for both seed and commercial producers. The unique environment in the Valley does not favor strong expression of ringrot symptoms. The possibility of releasing a new variety which either does not express ringrot symptoms under Valley conditions or which expresses them poorly exists. Such a situation could potentially expose ringrot free stocks to an undetected source of ringrot bacteria. It is, therefore, important to know the response of advanced clones to ringrot infection before they are released to producers as new varieties. This project is designed to provide this information early enough in the development of a new clone that it can be considered when that clone is considered for naming and release.

Project Status: This is a continuing project that has been functioning for several years. New clones are included annually and tested for an average of three years prior to release.

Significant Accomplishments - 1988: Twenty advanced clones were tested in 1988 and compared with three standard cultivars for their response to ringrot infection. Results showed that all of the clones tested were susceptible to ringrot infection. However, wide differences were found among them with regard to the length of time from planting to the appearance of first recognizable symptoms and in regard to the percentage of inoculated plants which showed recognizable symptoms by the end of the season.

Minimum time for symptoms to appear ranged from 50 to 92 days. Thus, the earliest expressing clones showed symptoms 5-6 weeks earlier than the latest expressing ones. The percentage of inoculated plants which showed symptoms by the end of the season ranged from 5.6% to 85%.

Based upon the results of the 1988 work, clones were grouped into three categories. Two clones were included in a "potentially dangerous" category based upon late expression of ringrot symptoms and very low numbers of inoculated plants which expressed any recognizable symptoms. A second group composed of five clones which showed symptoms somewhat later than standard varieties and expressed symptoms in only 20-30% of the inoculated plants compared to 50-55% in standard varieties. This group should be carefully evaluated before being released as new varieties.

The majority of the clones tested (13) were equal to or better than the standards regarding ringrot expression.

Objectives for 1989: Fifteen to twenty advanced clones from the Colorado breeding and selection program will be inoculated and evaluated in the field in the San Luis Valley as in past years.

Funding:

1988 Allocation:	$2,350.00	
1989 Budget Request:	$2,350.00	
Budget Detail:	Plot Maintenance	$ 500.00
	Labor	$ 900.00
	Travel	$ 800.00
	Supplies	$ 150.00
	TOTAL	$2,350.00