RESEARCH PROPOSAL FOR 1998

submitted to:

SLV Research Center Committee and the
Colorado Potato Administrative Committee (Area II)

Title: Miscellaneous studies dealing with the SLV green peach aphid suppression and monitoring program.

Project Leaders: R. D. Davidson and Jeannine Willet Radtke (Agro Engineering)

Project Justification:

The green peach aphid suppression and monitoring program has been operating in the San Luis Valley since the 1970's. Over the years, it has been a very successful deterrent to the spread of aphid borne virus diseases. Recently, however, the spread of virus diseases in the SLV potato crop has increased without the presence of either green peach aphids or potato aphids, two of the best known virus vectors. There are indications that other transient aphid vectors may be playing a significant role in this spread.

Additionally, green peach aphid monitoring is expensive and time consuming. There has been a great deal of work by other research programs in the U.S. to develop a predictive model. This model estimates population peaks by using green peach aphid developmental and temperature related growing degree days.

1998 Objectives:

1) Tile traps will be placed on level with the crop canopy throughout the growing season and at different locations within the field to assess and compare trap catches with the yellow pan traps currently in use.

2) All aphids caught in both the pan traps and the tile traps will be identified and compared against know virus vectors.

3) Past weather records from the San Luis Valley coupled with actual green peach aphid numbers caught will be used to determine a predictive model for estimating green peach aphid numbers during the season. This model will be compared and validated against actual weather data and trap catches during the growing season.

Funding:

1998 Allocation:	Materials	$ 500.00
	Labor	$3760.00
	Total request	$4260.00