

Rob

SUMMARY RESEARCH PROGRESS REPORT FOR 1994 AND RESEARCH PROPOSAL FOR 1995

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

Title: Control Strategies for Early Blight Tuber Decay

Project Leaders: R. T. Zink and R. D. Davidson, SLV Research Center

Project Justification:

Tuber damage caused by *Alternaria solani* is likely the most troublesome and unpredictable post harvest disease facing potato growers in the San Luis Valley. The loss of Captan as a post harvest tuber treatment and the introduction of highly susceptible cultivars has greatly exacerbated the problem. Grade and quality economic losses due this disease are currently in the hundreds of thousands if not millions of dollars. Since chemical control strategies are becoming less available, more emphasis must now be placed on cultural practices to reduce the impact of early blight on stored potatoes. To this end, a comprehensive research effort will be initiated at the San Luis Valley Research Center. Some of the components of this program are in progress, while others will be started this year.

Project Status: New

1995 Objectives: In 1995 we propose to investigate:

- 1) The effect of vine kill methods on spore levels at harvest and their impact on incidence of tuber blight. This will include establishment of the actual amount of inoculum necessary, under SLV conditions, for tuber infection.
- 2) The role of N level in the plant at time of vine kill as it relates to tuber maturity and potential for disease.
- 3) The virulence of SLV isolates of the fungus.
- 4) The role of initial storage temperature and humidity on the healing process, infection and lesion development.
- 5) Existing and potential chemicals for their effectiveness in controlling tuber blight.

Funding: Total - \$5,500 (Labor - \$4,000, Materials/Supplies - \$1,500)

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Project Status: New

Objectives:

The following areas will be investigated as to their effect on the incidence of tuber infection by *A. solani*:

- 1) The effect of vine kill methods on spore levels at harvest and their impact on incidence of tuber blight. This will include establishment of the actual amount of inoculum necessary, under SLV conditions, for tuber infection.
- 2) The role of N level in the plant at time of vine kill as it relates to tuber maturity and potential for disease.
- 3) The virulence of SLV isolates of the fungus.
- 4) The role of initial storage temperature and humidity on the healing process, infection and lesion development.
- 5) Existing and potential chemicals for their effectiveness in controlling tuber blight.

Funding Request:

Labor	\$4500
Materials/Supplies	\$1000