RESEARCH PROPOSAL FOR 1993

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

TITLE: Efficacy of ozone for control of early blight on stored potatoes.

PROJECT LEADER: Dr. Richard T. Zink and Robert Davidson

PROJECT JUSTIFICATION: Numerous claims are being made as to the benefits of ozone in potato production. One claim in particular is that ozone, when injected into the ventilation system of a potato storage, suppresses the development of early blight (Alternaria solani) lesions on tubers. Observations regarding this phenomena are inconsistent. Nevertheless, there is some scientific basis for ozone having a suppressive effect on early blight in tubers. If ozone is conducive to the control of early blight on stored potatoes it could be a highly valuable tool for growers. On the other hand, if ozone has no effect on early blight in storage, large sums of money are being misappropriated by potato growers. Therefore, it is essential that a highly objective research project be conducted to determine the effect of ozone on early blight disease of potato tubers.

PROJECT STATUS: This is a new project.

OBJECTIVES FOR 1993:

1) Under controlled laboratory conditions, measure the effect of increased atmospheric ozone on the growth rate of early blight lesions in infected potato tubers.

2) Under commercial conditions, conduct on farm evaluations where ozone is being used in potato storage to control early blight.

3) Determine the effect of atmospheric ozone on suberization and wound pariderm formation.

4) Determine the effect of ozone on the sporulation of Helmenthosporium solani the causal agent of silver scurf.

FUNDING REQUEST: 1993 request $3500.00