during the 1969 season. Small seed samples are also available for 1969 trial plots.

Other persistent green curly top and mosaic resistant lines still being evaluated look even more promising.

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Status of Halo Blight in Idaho

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Halo blight in Idaho bean seed fields has been of great concern not only in Idaho but generally wherever snap beans are grown for processing. The decline of the incidence and the control practices employed in Idaho have been discussed in Plant Disease Reporter for both 1966 and 1967, but the report for 1968 is not yet published.

During 1968 the Idaho State Department of Agriculture personnel inspected 12,682 acres of snap beans. No halo blight, nor any other bacterial disease, were found. The program of control in snap beans will, however, be vigorously continued in anticipation of maintaining a low incidence of bacterial pathogens in Idaho bean fields.

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Bean Seed Protein Studies

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We are working on the possibility of increasing the methionine content of dry beans by plant breeding methods with the possibility of an increase in the value of beans for human nutrition. Since methionine (and cystine) occur in very small quantities in seed protein and tend to vary with total protein content, we felt that a direct analysis for methionine content would have little chance of identifying superior lines for a breeding program. Reasoning that there are several genes each one of which codes the amino acid content of a seed protein and that some of these codes might be much richer in methionine than others, it seemed more profitable to breed for regulator genes that control the amount of each seed protein synthesized. On the basis of this hypothesis, we began a characterization of the bean seed proteins. We extracted proteins from various varieties grown in solution culture with radioactive sulfate and using discontinuous vertical polyacrylamide gel electrophoresis, we separated them into 8 to 12 distinct bands. Quantification of the protein in the bands was achieved by staining with coomassie blue and densitrometry of the flat gel slabs. Separation of bean seed proteins on Sephedex G150 and subsequent gel electrophoresis of eluted fractions gave corresponding