

## ORE-IDA'S SEED POTATO SELECTION PROGRAM

by  
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Ore-Ida Foods annually procures from 60,000 to 100,000 cwt. or Russet Burbank seed potatoes, largely or entirely on a pre-season contract basis negotiated with seed growers located in an isolated, high-altitude seed-producing area of Southeastern Idaho.

While leafroll and ring rot are potentially the most serious of the seedborne potato diseases, the seed certification program in Idaho has usually provided adequate protection from these diseases. Ring rot, of course, can be devastating when serious; but such occurrences are rare. In recent years Ore-Ida has not encountered a problem with ring rot in its Idaho seed procurement program. Leafroll content in these lots has been well below the tolerance allowed in Idaho's certification program.

The most serious seedborne disease problem we have encountered in our program has been with blackleg/soft rot. Although all of our seed lots have consisted of certified seed, some have been highly contaminated with blackleg.

Idaho, for many years, has had a 2% tolerance for blackleg in certified seed. This was not because blackleg was considered to be a seedborne disease but because if many plants showed blackleg symptoms, accurate leafroll readings could not be made in field inspections.

It is now known that blackleg is largely seedborne. However, field inspections will ordinarily detect only a small percentage of the blackleg present in a seed lot since environmental conditions in the seed-producing areas are often not favorable for expression of the disease.

A seed lot, thus, may be highly contaminated with blackleg and still pass certification. When that seed is then planted in an area where conditions are favorable to "trigger" blackleg, losses occur such as Dr. Harrison has described in his presentations at this conference. Since our work with Dr. Harrison showed that blackleg was responsible for significant losses in terms of seedpiece decay problems and tuber rots in the field and in storage, we have been most anxious to determine how we can reduce these losses in the Southwestern Idaho-Eastern Oregon area served by our seed procurement program. In other potato-producing areas where conditions are different, losses due to blackleg/soft rot may be insignificant. Different varieties may be either more or less resistant to blackleg/soft rot than Russet Burbank.

In 1974, we started sampling Russet Burbank seed lots and sending them to Dr. Harrison to be assayed for their blackleg content in laboratory tests capable of detecting the blackleg organisms on individual seed tubers. We are grateful to Dr. Harrison for devising a rotting index or rotting potential which has aided us in determining whether any of our seed lots were likely to cause field and storage problems due to blackleg/soft rot.

If a seed lot produced by one of our seed growers has a high rotting potential due to blackleg/soft rot contamination, either he obtains a new seedstock having a low level of contamination or we do not procure seed from him the following year.

Last year (1977) was the third year of Ore-Ida's selection program. We believe that the low rotting potentials of all our 1977 seed lots and the correspondingly low incidence of seedpiece decay in fields planted with the seed is a good indication that we have made progress in improving the quality of the seed we procure for planting by our commercial growers.

Ore-Ida has found that seed does not necessarily have to originate from a stem cutting program in order for it to have a low rotting potential. We certainly would feel more comfortable if we knew that our seed growers were obtaining their basic seedstocks from a stem-cutting program. However, our experience so far has been that most of our seed lots recently derived from a latent virus testing program have had a low rotting potential. In the process of freeing seedstocks from latent viruses, they are also freed from seedborne bacteria such as those which cause blackleg/soft rot. However, we feel that our seed growers must frequently replace their seedstocks with new material in order to keep blackleg/soft rot contamination at a low level.

We realize that we don't have all the answers yet, to say the least. We recognize that if conditions are right, some commercial growers will have no problem with seed lots that have a relatively high blackleg/soft rot content (rotting potential). However, we also recognize that every year some commercial grower will, for whatever reasons, not be able to provide the best handling and planting conditions for their seed. If they then have highly contaminated seed, serious problems for both the grower and Ore-Ida are likely to develop. So far, Ore-Ida feels its seed selection program has served us and our growers well in minimizing these problems.