

POTATO CERTIFICATION IN MONTANA

Orville W. McCarver
Secretary-Treasurer
Montana Potato Improvement Association
Montana State College
Bozeman, Montana

I am pleased to be present on this seed potato panel. This is my first opportunity to meet with certification people from other states. I am sure such meetings as this one is beneficial to the potato industry. Since these potatoes are moved on a regional, national and international basis, I feel the problems of the potato industry are of regional, national, and international concern.

Our areas of seed production are primarily in the mountain valleys of western Montana. These areas are around Deer Lodge, Ronan, Polson, Kalispell, Dillon, Manhattan, Whitehall, Twin Bridges, and a few scattered acres around Missoula and Hamilton.

In eastern Montana we have around 110 acres of red and round white potatoes. In the mountain valleys of western Montana, we have besides 3,253 acres of Russets, a few acres of White Rose and Kennebecs. Our field inspection reports list all certified growers according to varieties. Copies of these reports are available to you.

I know of no serious disease problems in our certified seed at this time. All potato growers in Lake County are certified and all growers in the Deer Lodge Valley, except one, are certified or use certified seed. Our 1961 fields were isolated or quite apart from home gardens and commercial potato fields.

With two inspectors, Mr. E. E. Isaac, and myself, we give each field three inspections and one cellar inspection.

Our rules and regulations tolerate no ring rot, *Fusarium eumartii*, and a maximum tolerance of $\frac{1}{4}$ percent of virus leaf roll, $\frac{1}{4}$ percent Blackleg, and 2 percent total all virus diseases. There is a 0 tolerance for ring rot, leaf roll and *Fusarium eumartii* in Foundation seeds. When any field exceeds these tolerances, we reject it. Five growers were turned down in 1961 for not fulfilling the rules and regulations.

In 1958 we found one case of *Fusarium eumartii* in a field planted from seed shipped in. The following year the farm was sold to a dairyman. This incident is the only known case of *Fusarium eumartii* in Montana.

One of our problems is a lack of funds to perform the indexing operation as we would like. In our greenhouse testing we space the eyes 4 x 4 inches and take readings when the plants are from 8 - 10 inches high. With more facilities and funds we could have more space and leave the eyes long enough to detect diseases that we may or may not find under our present setup. I hope that not far in the distant future we will have funds available to extend our indexing program.

We are well aware of the leaf roll problem and in the areas where leaf roll was showing in 1959 and 1960 several of our growers now apply Thiodan in sprinkler irrigation systems to control aphids. In addition, all who had leaf roll in 1959 have since either cleaned up by roguing or have changed seed stocks.

Our other problem is no law prohibiting the planting of uncertified seed potatoes. We know this is contrary to the objectives of our Improvement Association. We require seed growers to plant not less than 200 feet away from non-certified fields. In Montana the isolation of fields is not difficult so the problem of non-certified plantings is not as great as it might be in a state with more concentrated potato producing areas.

I want to congratulate the State of Washington for its move in requiring the planting of certified seed and your testing program that is being conducted by your Extension Service. In the long run, I am sure the growers of certified seed in my state will benefit from this program.

We have no post-harvest testing program, except the one cellar inspection and our greenhouse indexing operations. I want to tell a little bit about our greenhouse indexing program. It is carried on mainly for the purpose of detecting diseased potatoes so the growers of Foundation seed may keep their stocks disease-free. Each eye we grow in the greenhouse may represent one tuber or one selected hill of tubers. In taking the readings we pass only those hills showing perfection in the greenhouse. We have erred at times by calling a poor looking plant Mosaic or Spindle tuber. We also throw out all hills slow in coming up and those that look malformed in any way. Beyond doubt we eliminate perfectly disease-free hills of potatoes from seed stocks, but we would rather err by eliminating what may be good than to err by accepting what may not be good.

In November we publish a list of growers passing certification. The information on this list includes acreage, varieties, diseases, and each grower's location.

Several hundred copies of this report have been sent out this year and more are available upon request.

Tag Information: Grades as specified apply only to potatoes in containers which are tagged with the official tag and seal of the Montana Potato Improvement Association, cooperating with Montana State College, to indicate that they have passed the field and grade requirements. Potatoes offered for sale that do not have the official tag and seal of the Montana Potato Improvement Association attached to the containers in such a manner as to constitute a seal shall not be considered as Montana Certified Seed Potatoes.

Each grower of certified seed potatoes is responsible for maintaining the identity and grade of each lot of seed potatoes so certified, while such potatoes are in his actual possession.

Montana certified seed potatoes shall consist of potatoes which have passed the final field inspection and grade requirements of the Montana Potato Improvement Association and shall have been tagged in the prescribed manner with the official tag and seal of said Association.

Insect damage to foliage to the extent that it interferes with inspection shall disqualify the field. Improper irrigation and poor cultural conditions also shall constitute reasons for rejecting such fields. The officers of the Association reserve the right to reject any field, which, in their opinion, is likely to produce low quality seed tubers.

Prompt efficient roguing is the grower's job. Diseased plants shall be removed as early as possible so as to prevent further spread of disease. Seed pieces, when left in the ground, often develop new plants and must, therefore, be removed with the plant. In case of late roguing, all tubers large enough for single drop seed or larger must be removed from the field.

Potatoes grown for certification in Montana must not be stored together with non-certified potatoes, or potatoes of any other certifying agency. The practice of bringing non-certified potatoes into storages where potatoes grown for certification are stored, for grading or storage, shall constitute reasons for refusal to issue tags for certified seed stored in said storage. All storage space must be cleaned and disinfected during the summer period. Potatoes grown for certification, under Montana rules and regulations, having passed field inspection, shall be stored in the State of Montana until properly graded and tagged for shipment.

The vitality and yielding power of potatoes may be seriously lowered through improper storage. Well-ventilated, frost-proof cellars or warehouses, in which temperatures and moisture can be controlled, are essential to high quality seed. Such conditions as black-heart, excessive wilting, and sprouting may result from improper storage. Potatoes showing these conditions shall not be tagged and sold as certified seed. Zero tolerance of bacterial ring rot and of *Fusarium eumartii* apply to potatoes in storage as well as in the field.

There is a non-warranty clause on our tags. This was put there because of the facts crop failures are caused by many things besides poor seed; and because good seed may become contaminated after leaving our growers' cellars. Certification does not mean disease resistance or immunity as Mr. Waud has pointed out. The sanitary handling of seed should be as binding on the consumer as it is on the producer. At any time a consumer is not satisfied with a lot of seed from Montana, we are willing to investigate the situation. We will respond only to those complaints coming through official channels. If you have a complaint, please contact your inspector so we may have a statement of opinion from him, or any official from your State involved in potato work.

Our tags become invalid if they are altered in any way after they leave our office at Montana State College. Writing, typing, or erasing of information on these tags is not legal.

We want to see our good growers stay in the seed potato business, and I am sure you do too. Neither our Association nor its officials perform any functions directly related to the pricing and selling of potatoes. But when you are buying, please consider the position of the seed grower and remember he must have fair returns for his product; or put another way, he must have incentive if he stays in the business. It has been estimated that a bag of seed potatoes costs the grower \$1.00 more than the cost of 100 pounds of table stock.

We now have several good buyer-grower relationships. Some of you visit with some of our growers prior to planting time. By doing this it helps the grower in planning his hill spacing, irrigation, fertilization, and cellar management, enabling him to come closer in producing what you as an individual want.

In conclusion I want to assure you the members and officers of the Montana Potato Improvement Association are fully aware of our obligations to the potato industry. We feel our rules and regulations are quite rigid and are so enforced. They are drawn up for the purpose of spelling out the obligations of the certified grower.