HOW GOOD IS THE CERTIFIED SEED WE BUY?

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The conscientious use of the best possible seed potatoes available is a very effective control measure for potato diseases. This means certified seed and most growers in Central Washington rely on using such seed every year without fail. Experience has shown that this practice pays dividends. In a few cases, potatoes grown in the area are replanted the following year but it would appear that such growers are only seeking higher gambling odds.

Seed potatoes must provide the top productive capacity to meet the needs of our intensive production practices.

This intensive production under irrigation with the high fertility levels demands the maximum performance out of every seed piece planted. Many of our seed buyers no longer stop to look at a certified grade but seed must be of Foundation standards before they purchase. This is a natural development when the use of certified seed became a standard practice years ago.

Seed certification requirements have improved the quality of seed potatoes through the years. This generally applies to disease content which can be determined quite objectively. Reference is often made to other factors of seed quality such as vigorous strong seed, length of growing season, time of digging, age of seed, storage conditions. To date, no one has yet determined a reliable objective method of rating these seed quality factors.

Disease content is emphasized in certified seed and rightly so. Certification lists with field inspection results can be and sometimes are misleading in representing the true disease status of a seed lot. A systematic approach to evaluating seed lots being considered for purchase can pay dividends. We suggest the following approach, tabulating each stage.

(1) Select possible seed lots in current certification lists on basis of field inspection results.

(2) Study the winter test results on these seed lots where such information is available.

(3) Establish grower's past history by studying field inspection and winter test reports of previous two or more years.

(4) Check the seed grower's record of performance in the reports of the Othello Potato Seedlot Trials. These reports are available for 1961 and 1962.

The Othello Potato Seedlot Trials have been conducted for two years with plans to continue these for at least one more year. The cumulative results for the two years in terms of bacterial ring rot and leaf roll can be presented as follows:

Bacterial Ring Rot

During 1961, six different lots of certified seed were shown to have been carriers of bacterial ring rot. Four of these showed ring rot in the seed plots, while ring rot was established in two others under the state quarantine. These seed lots originated as follows: 2 from Idaho, 2 from Montana and 2 from Oregon.

No bacterial ring rot was found in any of the sample lots planted in 1962. However, two commercial fields showed some ring rot, both of which were reported to be planted with certified seed from the same certified seed grower. This was the same grower whose seed showed ring rot in 1961, but who was allowed to maintain certification on additional lots of his own seed that year.

Experience and recommendations around the country stress that the only practical way to clean up a case of ring rot on a seed farm is to dispose of all stock, clean up, disinfect and start fresh.

The Columbia Basin area has suffered tremendous losses from bacterial ring rot in past years (1960 over 800 acres) (1961 over 200 acres). The almost exclusive use of certified seed by growers every year should practically eliminate ring rot as a disease problem. Unfortunately, the experience of the past two years demonstrates quite conclusively that ring rot in the certified seed occurs too frequently. This is a challenge to the seed industry that should not be avoided.

Leaf Roll

In considering the results of the trials in 1961 and 1962 it must be stressed that these represent the seed crop years of 1960 and 1961. It is a record of performance based on one or more samples (300 tuber) of a particular seed lot.

1. Certified seed potatoes used in 1962 as represented by the samples showed marked improvement in leaf roll content as compared to those in 1961.

   (a) Only 27% of the samples showed leaf roll as compared to 43% in 1961.
   (b) There was less leaf roll in the infected lots with an average of 1.9 leaf roll plants per sample as compared to 4.1 leaf roll plants per sample in 1961.

2. As compared to 1961, improvement in terms of leaf roll content was found in Oregon, North Dakota, Washington, British Columbia and Minnesota certified seed. The reverse was true for Montana and Idaho, where samples showed slightly more leaf roll than in 1961. Even with this increase, seed from Montana and Idaho showed the least amounts of leaf roll.

3. Leaf roll content may vary as to localized areas within a supply area. This was especially true for British Columbia seed in 1961 and in the 1962 report, out of 9 Idaho samples with leaf roll, 6 originated in one area.

4. The third column is Tables I and II, rates areas of origin for freedom from leaf roll. Areas with very few samples do not get a fair rating.

TABLE I

INCIDENCE OF LEAF ROLL IN SEED SAMPLES BY AREAS OF ORIGIN 1962

(Based on 1961 Seed Crop Year)

ORIGIN	TOTAL NO. OF SAMPLE LOTS	SAMPLES SHOWING LEAF ROLL		TOTAL NO. OF LEAF ROLL PLANTS
		NUMBER	% OF TOTAL	
Montana	50	6	12	8
Idaho	48	9	18	14
Washington	17	12	70	32
B.C., Canada	6	2	33	4
Oregon	7	3	43	4
Minnesota	5	2	40	3
North Dakota	5	1	20	1
Alberta, Canada	1	1	100	2
Nebraska	1	1	100	5
California	1	0	0	0

TABLE II

INCIDENCE OF LEAF ROLL IN SEED SAMPLES BY AREAS OF ORIGIN 1961 & 1962

(Based on 1960 & 1961 Seed Crop Years)

ORIGIN	TOTAL NO. OF SAMPLE LOTS	SAMPLES SHOWING LEAF ROLL		TOTAL NO. OF LEAF ROLL PLANTS
		NUMBER	% OF TOTAL	
Montana	102	9	9	12
Idaho	96	16	17	24
Washington	40	30	75	126
B.C., Canada	43	21	49	97
Oregon	17	9	53	21
Minnesota	13	7	54	42
North Dakota	12	5	42	13
Alberta, Canada	6	3	50	5
Nebraska	3	2	66	7
California	1	0	0	0