OUR SEED POTATO NEEDS

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Potato production in Washington is a very important portion of our state's agricultural economy. The 1961 potato acreage in the state was estimated at 42,000 acres.

To plant last year's acreage, over 550,000 cwt. or about 1400 carloads of seed were required. Of this total about 900 carloads were used in the Basin area.

As a result of our climate and growing conditions - we cannot produce quality seed in the irrigated areas of eastern Washington. We draw our annual supply from seed producing areas of Washington, Montana, Idaho, British Columbia, Oregon, Alberta, North Dakota, Minnesota and Nebraska. So, you can see the market in eastern Washington for seed potatoes is important to many people.

Let's visit briefly now about some of the factors we are concerned about when we search for quality seed potatoes. To discuss these quality factors let's talk about the various agencies and people who have responsibilities and opportunities to affect the quality of the seed that is ultimately planted.

The certification agencies in each state have definite roles to play. What does potato seed certification mean? First - it does not mean immunity or resistance to disease.

Certification does mean that the seed grower has met certain rules and regulations and that the crop produced meets certain standards enforced by the certifying agency. Each agency is responsible for its own standards. There may be slight differences between states and countries, but basically they are very similar and apply to:

(1) Variety admixtures - certification assures through field inspection that other varieties are not present in more than a trace amount.

(2) Physical soundness of the tubers.

(3) Freedom from virus, internal tuber born fungus or bacterial diseases. The important ones, as far as we are concerned are: leaf roll, bacterial ring rot, nematodes, wilts, etc.

(4) Surface borne diseases - such as scab, Rhizoctonia.

(5) Tuber defects - knobs, cracks off-type tubers, etc.

In most cases, market grades are reflected in the use of color tags, but these have little significance in the production capacity of the seed potatoes.

Both parties, seed grower and commercial grower might benefit from a uniform color tag procedure. What does the tag color denote in relation to the overall seed quality? The issuance of certification tags for a crop of seed potatoes is only the start. There are many additional factors that are important to seed quality.

Certifying agencies base their classification on field inspections. Some, not all, use a post season testing program. We feel there is an essential need for all seed lots to undergo a post season test. Late season spread of virus diseases can be serious.

Now, let's consider the seed grower and the factors he's responsible for. These factors are supplementary and are often beyond the control or supervision of the certifying agency.

(1) Maturity of the crop. The use of immature seed from short season areas will normally result in a longer growing crop and higher yields or vice versa. In other words, if you want an early crop of russets use mature seed.

(2) Conscientious policy of sanitation in the handling and storing of the crop, including proper identity and segregation of each lot.

(3) Temperature effects.

a. Frost - marketing research report #507, just released, states "Emergence and yields from seed potatoes were not adversely affected by short exposure to near-freezing temperatures (as they may be subjected to during transit or during short, sudden drops in storage temperature) unless the potatoes were actually frozen and freezing symptoms appeared.

b. High storage temperatures and poor ventilation can cause blackheart or black rings in the vicinity of the vascular ring. Such seed is less vigorous than seed not subjected to these conditions.

c. Warm-up in storage - most receivers of seed in the Basin area have little or no facilities to properly warm up the large volume of seed used. The logical solution would call for seed warmed-up in storage before shipment. This could also aid in the detection of ring rot - a major source of economic loss to growers when it slips through. This one factor alone might well be worth the extra effort and cost of warming up seed at the seed grower level.

(4) Pre-cut seed - this is a development that is growing around the country. There are some real advantages - as well as some problems - it means cutting to order for each commercial grower.

(5) Breakdown or rot - it is usually dry rot that develops with delayed shipment following grading and inspection. Some seed lots showed from 7-10% dry rot last year.

(6) Deliberate substitution - this is something that doesn't happen very often for penalties are severe. But in times of high seed prices, pressure to substitute table stock are great.

Let's look at the factors affecting seed quality at this end of the cycle - the handler and commercial grower.

Good seed can be ruined with improper handling and management. Watch in-transit transportation to avoid freezing or extensive cooling. The following factors are important to maintain the qualities of the seed received:

(1) Sanitation in the holding and cutting area. Disinfect regularly.

(2) Warm-up period - warm the seed till sprout show. If you lack facilities try to arrange to have your seed supplier do so in his storage. Warm seed heals rapidly after cutting.

(3) Temperature in theholding area for cut seed should be 60° - 70°F with high humidity and good air circulation. Do not stack cut seed. Hold cut seed only if you have to.

(4) Apply seed treatment as dust or spray immediately after cutting. Dip treatments are not recommended.

(5) Plant as soon after cutting as possible. It's the BEST POLICY.

(6) Protect cut seed in transit from drying winds or hot sun. Cut seed held in trucks for 2 or 3 days in the field, which often happens, deteriorate rapidly. This results in poor emergence and stands.

In summary - seed quality may be affected by the certifying agency, the seed grower and the user of the seed. It is important that every one concerned with each lot of seed understand how he might affect the quality of the seed and do his part to maintain the quality of the seed in its journey from production in the seed area to planting in the state of Washington.

The responsibility of Extension agents is to present facts. Each of you have the responsibility to use those facts as they fit your situation. Each has a very real part to play in seeing that planted seed has been treated with proper respect.

Performance is what counts. Poor seed is costly at any price! If seed fails to produce - who was to blame?