

APPENDICES

APPENDIX A Glossary of Terms

1. Bacterial Ring Rot A disease caused by *Clavibacter* (equals *Corynebacterium sepedonicum*). There is "0" tolerance for this disease and the discovery of a single infected plant in the field, or tuber in the storage, is sufficient for rejection of certification.
2. Blackleg A disease caused by a complex of two organisms: *Erwinia carotovora* var. *atrosep-tica* and *Erwinia carotovora* var. *carotovora*. Due to the unpredictable pathogenic nature of these two pathogens, the blackleg disease infection has been excluded from the certification disease list in Table 1 on page 15. The visual reading of this disease infection from individual seed lots can be obtained from the MSU Seed Potato Certification Office.
3. Columbia Root Knot Nematode A disease (infestation) of the nematode *Meloidogyne chitwoodi*. There is no tolerance (zero tolerance) for this disease and the discovery of a single infected plant in the field, or tuber in the storage, is sufficient for rejection of certification.
4. Disease Tolerance Since "disease free" seed is unknown except in extremely special circumstances, certification rules and regulations attempt to specify certain levels of disease infection that are low enough to reasonably preclude significant effect on seed quality.
5. ELISA means "enzyme-linked immunosorbent assay" It is a modified serology test. At the MSU Potato Lab, an enzyme-labeled antibody is used to react to antigen (viruses). By adding substrate, the resulting enzyme-substrate reaction provides easy detection of the antigen.
6. Greenhouse Indexing Basically, a quality control program for seed that is intended for replanting a grower's seed plot. Single eyes are removed from numbered tubers, planted in greenhouse benches and allowed to grow to about a height of 10 inches. These plants are examined for disease and genetic aberrations and the grower receives a written report detailing the results.
7. Grower A single operation actively engaged in raising and producing seed potatoes whether as a family farm or farms, individual, partnership, corporation or firm.
8. Hollow Heart A non-parasitic condition of the tuber caused by uneven growing conditions in the field. It is confined mainly to large or oversized tubers and is characterized by the presence of variously sized, irregularly-shaped white to brown cavities in the centers of the tubers. Hollow Heart has not been shown to affect seed quality.
9. Late Blight A fungal disease caused by *Phytophthora infestans*. There is a one percent (1%) maximum tolerance of visible tuber symptoms for this disease.
10. Latent Virus A virus infecting a plant that fails, under normal climatic and cultural conditions, to cause visible symptoms on the diseased plant. Examples are Potato Virus X and Potato Virus S.
11. Line Selection The selected plant units from unit selection be planted as lines for comparison of plant performance and yields. The best line, after two years of comparison, can be used as Nuclear, PVX-Nuclear and SC-Nuclear.

12. Lot A field or the potatoes harvested therefrom.
13. Microtuber A tuber produced in tissue culture medium.
14. Mini-tuber A tuber produced from a plant grown in an insect-proof greenhouse. The source of the parent plant must be a disease-free tissue culture plant or microtuber.
15. Non-latent Virus A virus infecting a plant that almost always causes visible symptoms on the diseased plant. The symptoms may at times be used synonymously with the virus. An example of such a case is Calico (symptom expressed by the plant) which is caused by Alfalfa Mosaic Virus.
16. Post-harvest Test (also known as Hawaii or Southern Test) Because a late season infection of certain virus diseases cannot be detected under Montana field conditions, samples from seed lots are planted during the winter in Hawaii and observed for symptoms of seed-borne viral infection. It is not intended to be substituted for laboratory testing, but only to supplement it. The post-harvest test is mandatory for seed potatoes to be used for seed purposes.
17. Plant Units: Tuber Unit A method of planting whereby cut seed pieces (usually four) from one tuber are planted in a row. Hill Unit A method of planting whereby tubers from a single plant are dropped consecutively in a row. These tubers may be drop seed or cut seed. Family Unit A method of planting where tubers produced by plants grown in a single hill unit, or plants cut from a single tissue culture plant, are planted consecutively in a row. Tubers may be cut seed pieces or drop seed.
18. PVX prefix means that a lot of seed has been tested for potato virus X using the ELISA method and the infection rate is less than the maximum allowable percentage set for each seed class set forth in the Montana State University Rules and Regulations for Seed Potato Certification.
19. PVY prefix means that a lot of seed has been tested for potato virus Y using the ELISA method and the infection rate is less than the maximum recommended percentage set for each seed class set forth in the Montana State University Rules and Regulations for Seed Potato Certification.
20. Rejected As applied to a field or lot of potatoes, means that the potatoes (plants and/or tuber) failed to meet the certification standards as stated in the official Rules and Regulations of MSU.
21. Roguing The removal and destruction of all diseased or undesirable plants, hill units or tuber units and potatoes produced thereon during the growing season.
22. Seed Plot A field that is planted in tuber or hill units.
23. Sunburn Caused by exposure of tubers to sunlight or strong diffused light. Tubers develop a green or reddish color due to chlorophyll formation. Sunburn (greening) does not adversely affect a seed potato's quality.
24. Zero "0" Tolerance The 0.0% tolerance is not intended, nor may it be construed, to mean that

the lot inspected is free from the disease. In cases of bacterial ring rot and Columbia root knot nematode, it means only that said disease was not identified during the inspection process. In cases of other disease, it means only that the diseased plants observed were required to be rogued out.