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Storage of

VEGETABLE SEED

Vegetable seed dried at harvest to 4–6% moisture and stored in moisture-proof containers will maintain high germination and vigor for more than three years.

Seed germination and vigor are at their peak at harvest and decline thereafter, slowly or rapidly, depending on storage conditions. The two most important environmental factors influencing that decline are storage temperature and seed moisture. The lower the temperature, the longer the seed will maintain high germination. Seed moisture, the more critical of the two storage factors, varies with the relative humidity of the air around the seed. Low relative humidity is essential for safe seed storage.

To maintain germination for a long time, the vegetable seed should be dried at harvest to 4–6% moisture content either naturally or artificially at temperatures not exceeding 110°F and stored in moisture-proof or moisture-resistant containers. Tin or aluminum cans have proved to be the best containers but tightly sealed containers of other moisture-resistant materials are nearly as good.

The question now under study is why seeds of high moisture content die more quickly than seeds of low moisture content. Certain essential enzymes may break down in high moisture storage or an unbalanced metabolism may cause the cells of the growing points to die.—*J. F. Harrington, Dept. of Vegetable Crops, Davis.*

Progress in breeding of

HYBRID CARROTS

A current carrot breeding program is designed to improve quality and yield and shipping and processing properties and also to develop slow bolting and more resistance to insects and to plant diseases.

Production of hybrid seed from normal plants is impractical on a commercial scale because of the detailed hand work involved. However, hybrid seed can be produced through natural pollination of a strain possessing male sterility by a normal-flowering strain in an isolated planting. Some of the promising experimental hybrids are very uniform in root size and shape and are much faster growing than standard open-pollinated varieties.—*James E. Welch, Dept. of Vegetable Crops, Davis.*

Studies on the causes of

SHEEP PNEUMONIA

Three infectious agents identified with considerable frequency in cases of sheep pneumonia are being studied to determine the ability of each agent to produce pneumonia. One of the agents, a virus, offers the most promise for control, although the disease it produces is milder in experimental cases than in field cases and the lung damage is somewhat different.

Because complex mechanisms may be involved, the three causative agents, singly and in various combinations, are being tested on sheep. Some of the test sheep will be subjected to rigorous environmental stresses to determine the effect of lowered resistance.—*D. L. Dungworth, School of Veterinary Medicine, Davis.*

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