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349



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College of Agriculture

Knobby Tubers

Factors Affecting Their Production

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Knobby tubers have bulges or knobs arising from the eyes of the tuber (Figure 1). These knobs may vary from slight bulges to 6 or 8 ounces in size. When one or more knobs of sufficient size are formed and if the knob will break off easily, then the knob must be cut off in grading and such potatoes become U. S. No. 2, or culls.

Factors Affecting Knobby Tubers

Knobby tubers are caused from an excess amount of material going into the tuber. Thus anything that decreases the set or increases the amount of tops will increase the amount of knobby tubers.

Set of Tubers

Few tubers per hill will result in an increase in knobby tubers. Hills having three stems will have more tubers than hills of one or two stemmed plants. The size of the seed piece governs the number of stems per hill. To have the desired number of stems

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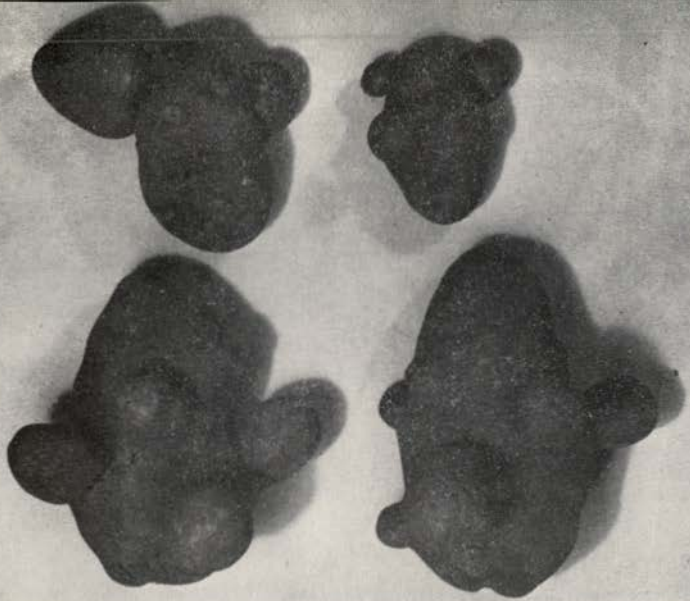


Figure 1.—Knobby Russet Burbank tubers.

per hill the seed piece should be from 1½ to 2 ounces in size.

An early first irrigation will increase the amount of tubers set. Irrigate within 40 days after planting.

A soil-borne disease known as rhizoctonia will cut off the set which may result in too few tubers per hill. To control rhizoctonia maintain loose soil in the hill and do not over-irrigate.

Amount of Top Growth

As the amount of top growth increases in relation to the number of tubers there will be an increase in the amount of knobby tubers. The amount of top growth is largely governed by the number of hills per acre as related to the amount of nitrogen present for the potato crop. As the rate of nitrogen is increased it becomes essential that the planting rate be increased and a good stand of potatoes obtained.

Temperature will affect the amount of knobby tubers by its indirect effect on vine growth. Day temperatures of over 86° F. favors vine growth over tuber development. Ideally, potatoes should be planted so that temperatures are not above 86° F. during tuber development. In Idaho, the normal growing season tends to fit the desired development of the potato.

Recommendations to Prevent Knobby Tubers

1. Plant $1\frac{1}{2}$ to 2-ounce seed piece.
2. Treat seed and plant in soil having adequate moisture when the soil temperature is above 55° F. at 6-inch depth, so as to obtain a good stand.
3. Adjust planting rate to fertilizer practice. If more than 10 percent of the tubers are knobby at harvest, the planting rate should be increased with the same fertility level used the following year. Use the *University of Idaho guide, Bulletin 325, for fertilizers*. This will give a uniform fertility level year after year and allow the proper seeding rate for maximum production.
4. Irrigate within 40 days after planting.
5. Irrigate with light frequent irrigation during the hot portion of the summer.