

18

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Montana Boys' and Girls' Clubs

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OBJECT

To teach boys and girls through demonstrations the best methods of growing potatoes. To interest them in useful occupations, which will return a net profit. To connect the work of the school, home and farm.

HOW DONE

By organizing boys and girls in school and out of school into Clubs for the purpose of study and demonstration. Selecting local leaders, who will give enthusiasm and direction which is necessary to carry the project to a successful end. By carefully studying the bulletins and direction sheets which are sent out by the State Club Leader. By keeping an accurate account of all items of expense, receipts and observations and submitting the same to the State Club Leader at the close of the season.

WHO CAN BELONG

Any boy or girl between the ages of 10 and 18 years who signs the registration card and agrees to follow all directions of the local and State Club Leader.

SIZE OF THE PLOT

To give the best results from an educational and profits standpoint, each contestant should plant one-eighth acre or one acre.

AWARDS

The greatest reward that can come to a club member is the satisfaction of having achieved something worth while. The boy or girl in each county who exhibits at the County Fair the best peck of potatoes, together with a complete record which shows the method of cultivation, cost of production, and the highest yield on one-eighth of an acre, will be entitled to a free trip to the State Fair at Helena. If a County Fair is not held in the county, the County Agent or three disinterested persons, one of whom shall be the County Superintendent of Schools, shall determine, upon the advice of the State Club Leader, the method of judging the potatoes of the county. The person winning the first prize shall bring his or her exhibit of one peck of potatoes to the State Fair. This person, however, will not be entitled to compete for the prizes offered at the State Fair. Persons who win the second, third, fourth, fifth and sixth prizes in the county are urged to send their potatoes to the State Fair, where they are eligible to compete for the five prizes offered. No person will be permitted to compete who has not signed the registration card and submitted all the required records. Record blanks will be sent each club member.

CLUB MEETINGS

The importance of club meetings can scarcely be overestimated. If the Club Leader is the teacher in the local school, one or two periods each week should be devoted to the study of "Suggestions for Potato Club Members," as given in this bulletin and to the bulletin "Growing Potatoes in Montana," which has been sent each club member. Local leaders should make certain that each club member thoroughly understands the fundamental facts of potato growing. If more than one club is organized in the community, have a joint meeting. Provide music, recitations, invite the parents to be present. If you have a County Agent in the county, ask him to be present and give a talk on potato growing.

SUPERVISION

The success of club work depends to a great extent upon local supervision during the summer months. At the early part of the season there is always a greater enthusiasm than at cultivation time. Leaders who are not in the community during the summer months should appoint some one to look after the clubs during

their absence. Select a person who is interested in club work and is willing to take the responsibility. Parents should be urged to give direction and assistance during the critical period of a club project. About June 1st is an opportune time to call a club meeting. Later in the summer arrange for a picnic, join with farmers' organizations in their summer outings, arrange with the State Leader to send a representative from the college to give a canning demonstration, serve lunch, have a play time, talk over what each member has done in his club work. Remember that if you have a County Agent to call upon him frequently for assistance. Before the summer vacation, send him the names of your club members. Whenever a member need encouragement or special help, write us at once.

MOTHER-DAUGHTER AND FATHER-SON RELATION

Mothers and fathers should thoroughly understand the purpose of club work. They should become so much interested that they will use every effort to encourage and assist their boys and girls. Every boy likes to work with Dad and every girl likes to work with Mother. Let us have their co-operation. To every father and mother who may read this bulletin, this is a direct message to you. We desire to be of more service to your boys and girls, and in this service we need your co-operation. Disappointment must not come to a single boy or girl, who takes up this work. It will not come, if you will assist us and the people in your community, who are working with us.

SUGGESTIONS FOR POTATO CLUB MEMBERS

POTATO SOILS

It is well to remember that the quality of potatoes is determined as much, if not more, by the soil in which they are grown as by any other factor. In other words, with a poor potato soil, it is almost impossible to grow potatoes that are smooth and uniform in shape and size, or potatoes with good cooking qualities. Of course, potatoes will grow on almost any soil, but if you have a choice and want to grow good potatoes, select that which is rather sandy. Choose a soil that can be worked soon after a rain without sticking to tools. If the soil on the farm is all black and heavy, a good application of well rotted manure will improve it. Fresh manure should not be used upon land which is to be planted at once to potatoes, for it

is thought to have a tendency to increase the amount of scab. If manure is used, it should be applied at least one year before potatoes are to be planted.

The best potato land is newly broken alfalfa or clover sod. If such land is available you need not use manure. Do not attempt to grow potatoes on the same land two years in succession. Potatoes do well on land previously cropped with garden or field peas.

PREPARATION OF LAND

It is a good plan to plow alfalfa or clover sod in the fall. In the spring, work it up well with the disk and replot just before planting. After this spring plowing, the land needs about one double disking and one harrowing with a spike tooth harrow. Disk and harrow before the soil has a chance to dry after the plowing. Old land may be plowed in the spring just before planting, a double disking and harrowing completing the preparation. Heavy land may be benefited by both fall and spring plowing, while rather sandy soil plowed in the fall may not need spring plowing. On the dry farm, especially where the soil is from medium to light, fall plowing gives better results than spring plowing.

VARIETIES

Some of the best early varieties are Early Ohio, Early Triumph, Irish Cobbler and Early Rose. Burbank (Russet and White) and Pearl are good late varieties. The Russet Burbank is very resistant to disease and is also of high quality.

SELECTING SEED

In selecting potato seed, pick out the tubers with shallow eyes and those of the typical shape of the variety. The typical shape would be the type most commonly produced by the variety you are growing. Do not select those that are pointed at the seed end. A pointed end generally indicates that the seed is running out. In most varieties, it is best to choose tubers that are flat rather than round, and short rather than long.

In many varieties ideal tubers have the cluster of eyes on one side rather than right at the seed end of the potato. One should always select seed potatoes at digging time. As the potatoes lie in the field after digging, go over the rows first and pick out the very best potatoes for seed. One can get a much better selection in this way.

You should select from sixty to seventy-five pounds of seed to plant an eighth of an acre of potatoes.

TREATING SEED

If there is any scab on the potato seed, it should be treated. Soak the uncut seed for two hours in a solution made up of one-fourth of a pint or one-fourth of a pound of 40 per cent formalin, and seven and one-half gallons of water. This should be enough to treat seventy-five pounds of seed at one time. Put this in a barrel or tub and drop the potatoes in either loose or in the sack. After two hours take them out and spread them out to dry. Do not put them back in the same or other dirty sacks unless the sacks are treated with the seed.

STARTING SEED

Potato seed should be stored in a cool cellar, where it will keep until at least the first of May without growing any sprouts. If you have such storage and the potatoes are dormant, they should be started before planting time. Such seed germinates quickly when planted, and the young plants are less likely to be injured by disease. Better stands are secured and the crop is ten days earlier.

To start the potatoes, lay them out in a thin layer on the barn floor, granary floor, or any place where they will get some heat and plenty of light but will not freeze. The sprouts will start but they will be short and stubby and will not be knocked off in planting. It will take three or four weeks to start dormant seed. Potatoes that have grown long white sprouts in the cellar should have these rubbed off and then be started like dormant seed.

CUTTING SEED

Under most conditions it is best to cut potatoes in about two ounce pieces. On the dry farm it may be advisable to use a little larger seed piece. Each piece should have at least one eye. It is a good plan to cut the seed from end to end so the cluster of eyes at the seed end will be divided. A half pound potato should be cut into four pieces lengthwise, and a potato weighing a pound should be cut into four pieces lengthwise and then cut crosswise to make eight pieces. Never cut the seed until you are ready to plant it.

PLANTING

Early potatoes may be planted as soon as the ground can be

prepared, but they should not be planted so early as to have the plants frosted. If experience shows that you may expect frost up until the middle of May, do not plant before May 1. Potatoes that are to be irrigated should be planted in rows at least three feet and nine inches apart with the seed pieces dropped one in a place and fifteen inches apart. The seed piece should not be planted any deeper than necessary to get into moist soil. Potatoes to be grown without irrigation should be planted at least four inches below the surface of the ground. They can be planted in furrows from four to six inches deep and covered with only two or three inches of soil. The furrow can be filled completely after the plants are up. The rows need not be over three feet apart and the plants should be eighteen inches apart in the row.

CULTIVATION

Irrigated potatoes should be given deep cultivation and each time a little more dirt should be thrown up over the ridge. At the time the first water is applied, these ridges should be at least ten inches high. If the cultivator available will not ridge up this high, the final ridging may be done with a plow or better with a lister. Non-irrigated potatoes should be given level cultivation. This should not be deep, but should be frequent enough to keep down the weeds and maintain a surface mulch. If the potatoes form near the surface of the ground, the plants may be slightly ridged at the last cultivation. After the vines cover the ground, cultivation is not necessary.

IRRIGATION

First have the ground in proper condition for irrigation as described under cultivation. If possible, do not irrigate until the potatoes are set (this will be about blooming time), but the plants should not be allowed to wilt. In many varieties, tubers which have started to ripen for lack of moisture, will grow knobs when water is applied. Plan to irrigate early enough to avoid any check in growth. Run a small stream of water in the bottom of each furrow, and run it long enough to moisten the ground well. In many parts of the State one irrigation will be sufficient. Remember that late irrigation retards ripening and produces potatoes with poor cooking qualities. Where frosts may be expected early in September, late potatoes should not be irrigated after the first of August.

DIGGING

Potatoes should be carefully dug to avoid any injury to the tubers. Bruised or cut tubers are unfit for exhibition or storage. On exhibition they will be scored down for blemishes and in storage they are likely to rot. It is best to dig small plots with a fork, keeping well away from the vine to avoid cutting any of the tubers. Pick the potatoes up as soon as dry and always handle them carefully.

STORAGE

Potatoes are best stored in cool cellars. They may be stored either in sacks or bins, and these, as well as the cellar, should be clean. It is well to leave the cellar open at first so the potatoes will cure, or dry out. The best temperature for storage is from thirty-two to thirty-five degrees.

THE POTATO BUG

This is really the only insect that troubles potato vines in Montana. The old beetles appear almost as soon as the vines are up in the spring. These are seldom numerous enough to cause really serious damage. They may be picked off by hand, and this, if done soon enough, may save spraying for the young slugs which appear later. The young often appear in such numbers as to strip all the leaves off the vines. When they begin to hatch from the clusters of yellow eggs which are usually laid on the under side of the leaves, dust the plants with Paris green. At first these young are very small, soft-bodied insects which appear almost black in color. They grow very fast and later they are more red than black. Their appetites grow even faster than they do, so do not neglect the dusting too long. The Paris green can best be applied with a powder sprayer, but it can be sifted on from a cheesecloth bag. If the poison is mixed with about four times its bulk of flour, it will go farther. Dust the plants well. A pound of Paris green should be ample to dust your one-eighth-acre plot twice. Remember that this material is very poisonous and should not be left in reach of small children or animals.

SELECTING AND PREPARING POTATOES FOR EXHIBITION

It is a fact that those who grow the best potatoes do not always win the prizes and the reason for this is that they do not exhibit their best potatoes. First select potatoes of medium, rather than

large size. In most varieties, those weighing a pound are large enough. Select those of uniform size and shape. One small or one large potato, or one of poor shape, spoils the whole exhibit. Select tubers with shallow eyes and those free from disease or injuries of any kind. In other words, if you are exhibiting twelve potatoes, have them all the same size, the same shape and all free from blemishes. Gather them carefully, wash them carefully (a sponge is better than a brush), dry them, wrap each in paper and keep in a cool, dark place until they are placed on exhibit.

STATE FAIR

To encourage boys and girls to enter the potato, corn, garden-canning and bread clubs, the State Fair Association has agreed to entertain the winners in each county contest at the State Fair. County Commissioners, Commercial Clubs and County Fair Associations are paying the railroad fare. The boys will live in a camp on the Fair Grounds under the supervision of the State Club Leader and the girls will be under the supervision of Miss Bess Rowe, Extension Professor of Home Economics. Daily instruction in agriculture and home economics will be given by members of the college faculty.

Information regarding the above contests may be had by writing to M. J. Abbey, State Club Leader, Bozeman, Montana.