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Better Potato Exhibits
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BETTER POTATO EXHIBITS

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Extension Specialist in Farm Crops

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Thirty-two Potatoes of the Russet Rural Variety. This is the type of Exhibit That Wins the Awards.

MICHIGAN AGRICULTURAL COLLEGE
Extension Division
R. J. Baldwin, Director

Two copies of the report of the Committee on the Administration of the Government of the District of Columbia, 1912-1913, are being distributed to the members of the House of Representatives and the Senate.

GENERAL INFORMATION

Extension Director
W. J. Salway, Director

This report was prepared by the Committee on the Administration of the Government of the District of Columbia, 1912-1913, and is being distributed to the members of the House of Representatives and the Senate.

BETTER POTATO EXHIBITS

By H. C. MOORE

Extension Specialist in Farm Crops

Successful potato growing and marketing in Michigan is becoming more and more dependent upon the economical production of good quality potatoes. Michigan growers must be able to compete effectively on the potato markets of the country with growers from other states. To do this they must practice the best cultural methods, so that good yields of high quality potatoes can be secured. The potatoes must be graded, stored, and shipped so that they will be of first class quality when they reach the markets.



Fig. 1.—Boys' and Girls' Club Exhibits are a Source of Inspiration and Instruction.

Potato exhibits have proved of value to Michigan growers in teaching good cultural methods, standardization of varieties, and market requirements. They are a most effective agent in bettering the market quality of the potato crop and in raising the standard of production in the state, and their promotion and development is desirable.

Potato exhibits held in connection with county fairs; Boys' and Girls' Club exhibits, State Potato Show exhibits, and local or community exhibits are the most common types.

IMPORTANCE OF THE COMMUNITY EXHIBIT

Of the most benefit to growers are those potato exhibits which include a rather restricted territory and which are held in the potato producing sections.

Such shows are better attended by the growers than are the state potato shows, which are generally held in a city quite distant from the potato producing areas. Potato exhibits as ordinarily held at county fairs are usually of minor importance, and the educational features of such exhibits are practically nothing.

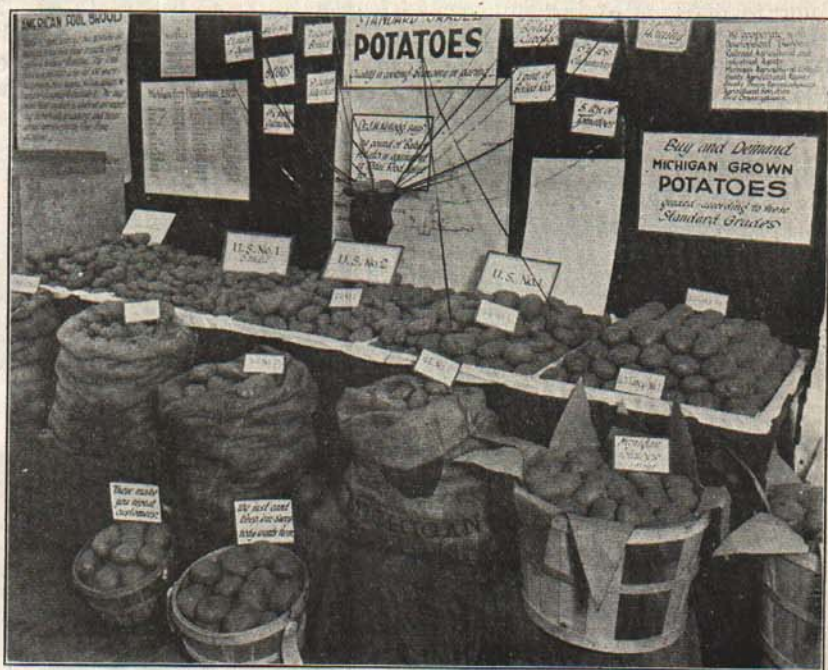


Fig. 2.—An Exhibit That Appeals to Both Producer and Consumer.
(Courtesy Mich. State Dept. of Agriculture).

Educational Features

Growers who attend the local or community potato show are vitally interested in better production methods and are anxious for information. For this reason the educational features of the local exhibit should be strongly emphasized. In addition to the regular competitive entries, the results secured by seed selection, seed treatment, spraying, use of fertilizer, and other good cultural practices should be illustrated

by means of charts, enlarged photographs, and samples of potatoes. As far as possible, the results that are obtained by the local growers should be used, since these are the most applicable and create the most interest. Educational exhibits should be attractive enough to draw the attention of the observer and should convey to him their story without the need of elaborate charts or verbal explanations.

Educational features of special importance at the local show are those in which the growers can participate. Potato judging contests, potato disease identification, and grading and seed selection demonstrations are some of the features which should generally be embodied.

To create the most interest possible in the local show, the show should be fostered by all organizations and business interests in the community that are interested in better potato production. The local co-operative marketing organization, farm bureau, growers association, chamber of commerce or commercial club, the public school, and Boys' and Girls' Clubs are some of the organizations which should work together to make the show a success.



Fig. 3.—A Certified Seed Exhibit. Charts and Photographs Illustrating the Practices Followed By Growers of Certified Seed.

The various business interests of a community are generally anxious to aid such shows by providing premiums and ribbons for the prize winners and furnishing a place for the exhibit. The exhibit should be located where it is easily accessible to the public. A school, bank or chamber of commerce room will serve the purpose and can generally be obtained.

The best time for holding such an exhibit is shortly after the potatoes are harvested, about the last of October or first of November. At this season, after the rush of the fall work is over, growers can best attend the show. Potatoes at this time are in prime condition for show purposes. A show at this season will also encourage growers to enter

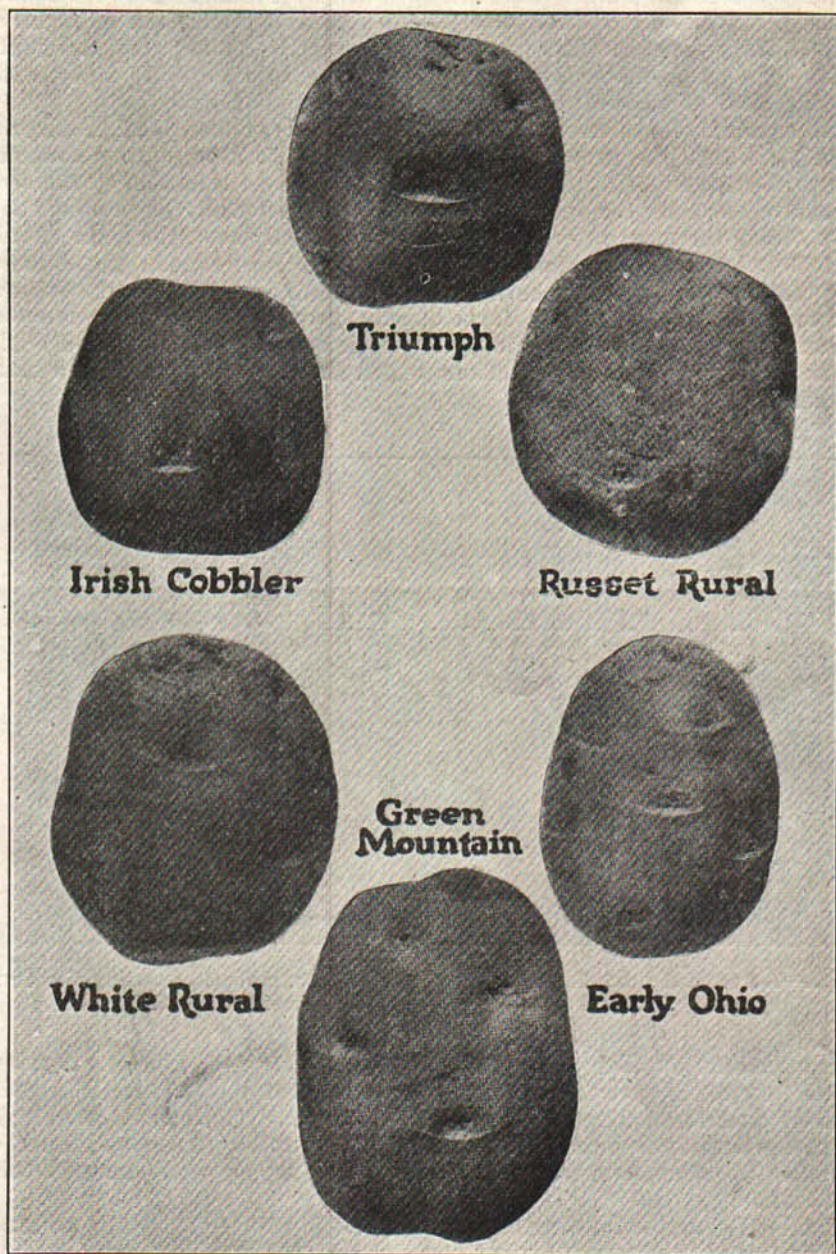


Fig. 4.—Michigan Standard Varieties.
(3-5 natural size)

their samples in the State Potato Show, which is usually held later in the winter.

Meetings at which various problems of the potato business can be discussed are of much value, and if possible they should be held in connection with the exhibit. Often, too, the potato exhibit can be combined with a poultry, corn, or apple exhibit to good advantage.

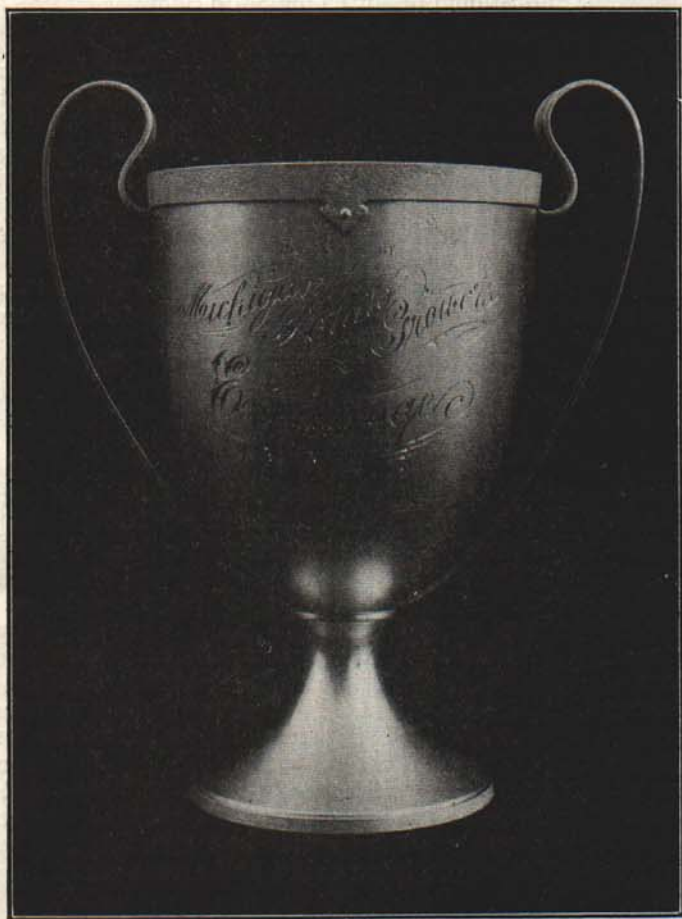


Fig. 5.—The awarding of Loving Cups and Medals for Exhibits of Special Merit Encourages the Best Efforts of Exhibitors

What has been said relative to the importance of educational features at community or local shows is applicable to other types of shows. Boys' and Girls' Club exhibits and potato exhibits at fairs should include some educational features. It is generally best at such exhibits to emphasize the importance of only one or two factors that are of outstanding value in better potato production. Any one of the following factors could well be included: use of certified versus common seed; value of alfalfa, sweet clover or clover in the rotation; seed treatment;

spraying with Bordeaux mixture, etc. Very effective work has been done by Boys' and Girls' Clubs in staging demonstrations of seed treatment and making of Bordeaux mixture at potato exhibits. Such demonstrations have been of much value to potato growers, as well as to the boys and girls.

Educational Features for State Shows

Since the State Potato Show, as well as the larger fairs are generally held in cities and are visited by both producers and consumers, it is necessary that there be exhibits that are of interest to both classes of observers. Educational exhibits pertaining to cultural practices for the producers, and, for the consumers, exhibits to illustrate standard grades, value of potatoes in the diet, potato cooking demonstrations and judging of table stock potatoes by housewives are desirable.

At the big fair or state show, the educational exhibits must be arranged in an attractive way and must tell their story in a forceful manner. Each exhibit should ordinarily express just one idea or theme, and that one so clearly that it will arouse the interest of the casual observer.

PREMIUM LISTS

Showing samples of potatoes in competitive exhibits is of inestimable value to the grower. It gives him an appreciation of quality in potatoes and furnishes an incentive toward better production. The main purpose of competitive exhibits should be to show the best types and market qualities of those varieties best adapted to Michigan conditions and for which there is the best market demand. One essential of successful potato marketing is standardization of varieties. Fairs and shows should therefore emphasize the importance of standardization by giving prominence to Michigan standard varieties in their premium lists.

The varieties now recognized as standard in Michigan are Irish Cobbler, Early Ohio, Russet Rural, White Rural, and Green Mountain. Here are five varieties which have proved suitable for Michigan and for which there is good demand on both the certified seed and table stock markets. In some restricted localities Bliss Triumph and Russet Burbank are of sufficient importance to be recognized in the premium lists.

Premium lists for big potato shows held in the state are on the whole satisfactory, only standard varieties being emphasized. It is also encouraging to note that many fair associations are reducing the number of varieties on which premiums are offered to these five or six standard sorts. There is great need, however, for more of this standardization work among fair associations. A study of the 1923 premium lists of 43 Michigan fair associations shows that premiums were offered on 63 varieties. Most of these so-called varieties are identical with our standard ones but bear names which are obsolete or which are recognized only in restricted localities. Many of the varieties listed are of no commercial importance in Michigan, and yet the amount of premium awarded these non-commercial, unimportant sorts was in all cases equal to

that awarded standard varieties. The following are a few of the variety names that should be eliminated from premium lists: Uncle Sam, Late Victor, Million Dollar, Money Maker, White Beauty, Scab Proof, Early Dixie, Early Market, Dew Drop, Early War King, Hundred Fold, John Jones, Late Imperial, Late Blue, etc.

Potato varieties closely resembling one another in type of tuber, character of plant growth, etc., have been grouped together under one head known as a varietal group. For example, in Michigan such varieties as Rural New Yorker No. 2, Sir Walter Raleigh, Carman No. 3, Million Dollar and others have practically the same tuber and vine characteristics and are grouped under the head of White Rurals. On the basis of this group classification any of the varieties grown in Michigan could be classified under one of the following heads: Irish



Fig. 6.—The 32 Tuber Exhibit When Arranged in Neat Piles Makes An Effective Display.

Cobbler, Early Ohio, White Rural, Russet Rural, Green Mountain, Triumph, Burbank, Pearl, Peach Blow, Hebron, Early Michigan, Rose.*

The first five are the standard ones and should be listed separately in premium books. The other varietal groups are of minor importance and can usually be included in the "all other varieties" class.

The premium money should be apportioned among the varietal classes according to the commercial importance of the variety in the section from which the exhibit is made. In the lower peninsula of Michigan the Russet Rural has been the most important variety for the past seven years. White Rurals, too, are important and will no doubt be more extensively grown, since they are better adapted to the heavier types of soil

*Stuart, U. S. D. A. Bul. 176

than the Russet Rurals. In the Upper Peninsula the Green Mountain ranks with the Rurals in importance.

The Irish Cobbler is the most important early variety for most sections.

At the Grand Rapids Apple and Potato Show, 1923, the following entries, according to varieties, were made.

Russet Rural	122
White Rural	16
Green Mountain	7
Irish Cobbler	15
Early Ohio	8
All other varieties including Triumph, Burbank, Early Michigan Hebron	9

As a guide to those responsible for making up the premium lists for general exhibits at county fairs and all other shows exhibiting potatoes, the following suggestions are made. These should be incorporated in the premium lists.

REQUIREMENTS

1. All exhibits shall consist of 32 potatoes (approximately 1 peck).
2. All potatoes must be entered in the class and variety to which they belong.
3. All exhibits must be in place by.....
4. No exhibitor shall be permitted to make more than one entry in any one class. Exhibitors cannot make entries for sweepstakes.

Potato Premium List

Class No. 1—Russet Rural:

First prize
Second prize
Third prize
Fourth prize
Next 4 best exhibits, each

The Russet Rural is also known as Late Petoskey, Golden Russet, Dibbles Russet, Dusty Rurals, etc. The tubers are broadly round-flattened, to short oblong. Eyes few, very shallow. Skin deep russet color and much netted. Vines upright. Stems long jointed streaked with purple. Leaves rather small, dark green. Flowers medium abundant, violet purple.

Class No. 2—White Rural:

First prize
Second prize
Third prize
Fourth prize
Next 4 best exhibits, each

The White Rural group includes such varieties as Rural New Yorker No. 2, Sir Walter Raleigh, Carman No. 3, Noxall, Million Dollar, White Giant and others. The tuber and vine characteristics are the same as for the Russet Rural except that the skin of White Rural tubers is creamy white and smooth, though occasionally it may be netted.

Class No. 3—Green Mountain:

First prize
Second prize
Third prize
Fourth prize
Next 4 best exhibits, each

Other variety names for Green Mountain are Empire State, Gold Coin, Uncle Sam, State of Maine, Carman No. 1, White Mountain, etc. The tubers are roundish flattened, to distinctly oblong flattened. Ends usually blunt. Eyes medium in number and shallow. Skin dull creamy white, more or less netted. Vines large and spreading. Stems green with no purple markings. Leaves large and light green. Flowers white and abundant.

Class No. 4—Irish Cobbler:

First prize
Second prize
Third prize
Fourth prize
Next 4 best exhibits, each

The Irish Cobbler group includes such varieties as Early Dixie, Early Eureka, Early Petoskey, Early Victor, Flour Ball, Potentate and others. The tubers are roundish with blunt ends, the stem ends often notched deeply. Eyes vary from shallow to rather deep, particularly in the bud eye cluster. Skin smooth and of a creamy white color. Vines medium in size, spreading. Stems dark green, short jointed. Leaves large, dark green, flowers abundant, large, light purple though under hot weather conditions they may be nearly white. Matures early.

Class No. 5—Early Ohio:

First prize
Second prize
Third prize
Fourth prize
Next 4 best exhibits, each

The Early Ohio group includes such varieties as Early Market, Ratekins, Red River Special, Early Acme, Early Six Weeks and others. The tubers are round oblong with full rounded seed and stem ends. Eyes numerous, shallow sometimes bulging. Skin light pink with small corky dots. Vines erect. Stems dark green. Flowers white and not generally abundant.

Class No. 6—All other Varieties of Merit:

First prize
Second prize
Third prize
Fourth prize
Next 4 best exhibits, each

Sweepstakes—for best peck in the regular entries—any variety.

SHOW MANAGEMENT

SIZE OF EXHIBITS—In order that the judging of the entries can be done on a fair basis and for the best appearance of the exhibit, it is necessary that the entries in any one class should each contain the same amount of potatoes. The exact amount required should be definitely stated in the premium lists, and exhibitors should be obliged to comply with this regulation. If the amount required is stated in terms of pounds or number of tubers, exhibitors are likely to conform to the requirement more closely than if the amount wanted is stated as a peck, half bushel, bushel, etc. Where such terms are used, they should be followed by the measurement in pounds; thus, one peck (15 pounds), one-half bushel (30 pounds), one bushel (60 pounds).

The most popular size for samples entered in competition is the peck (15 pounds). For this amount it is best to state the size; thus, 32 tubers (approximately one peck). This number of show potatoes approximates one peck, facilitates the arrangement of the sample, and insures uniformity in size of samples.

At the larger shows where premiums are offered on special classes of table stock, certified seed stock, etc., it is better to increase the size of the sample to one bushel (60 pounds). The bushel exhibit is more indicative of the general quality of the stock from which the sample was selected.

Commercial exhibits of certified seed or table potatoes are of interest mainly to the prospective buyer. These exhibits should each consist of two and one-half bushels or more of potatoes truly representative of the stock that the exhibitors offer for sale. Such exhibits should not compete for prizes.

The plate exhibit consisting of five tubers is used to some extent by Boys' and Girls' Clubs and schools. Eight and one-half or nine inch paper plates are very satisfactory containers. The five tuber exhibit serves well in teaching potato judging by use of a score card. The points of rating of a score card are generally based on multiples of five and the five tuber sample allows for easy calculation of the score.

CONTAINERS—Whatever containers are used in any one class should be uniform. Variations in size and shape of containers detract from the appearance of the exhibit and often make the containers the most conspicuous part of it. To insure uniform containers, the fair or show management should furnish them to the exhibitors.

For peck exhibits wooden flats that are 14"x16"x3" deep inside meas-

urements are very suitable. Two layers of potatoes can be put in this size flat. When only one layer of potatoes is to be placed in each flat, the size of flats should be 16"x22"x1½" deep (inside measurements).

If the samples are arranged in neat piles, it is not necessary to use any containers for peck, one-half bushel, or bushel samples. This arrangement makes the most effective display and facilitates the judging work. It is the system used at many of the state and national shows.

Tables that are approximately 30" high and 24-36" wide are generally used to hold the samples. The tables should be level and should be fixed so that they cannot be easily jostled.

The samples should be placed in piles allowing a 10 to 15 inch space between piles. The front edge of the piles should be in alignment and about four or six inches from the front edge of the table.

The tubers should be placed in the piles in layers. For the 32 tuber exhibit the customary practice is to place 20 tubers on the bottom layer and 12 on the top layer. In the one-half bushel and bushel exhibits the number of layers will vary from two to five, depending upon the amount of table space available.



Fig. 7.—A bushel (60 lb.) Exhibit of Prize Winning Russet Rurals.

The piles will present a more attractive appearance if the tubers are placed so that the eyes of the seed end all point in the same direction, preferably toward the edge of the table from which most of the observations will be made.

The tops and edges of the tables should be covered with clean white paper so that a pleasing effect will be secured.

The various entries and classes should be placed so that the judge can work to the best advantage and the exhibit as a whole will present a good appearance. All samples of a variety in any one class should be grouped so that observers can easily compare the merits of the various lots. The peck (32 tuber) exhibit should generally be placed near the center or front of the exhibit room, while the sides and back of the room are reserved for the larger exhibits.

Sufficient name of variety labels should be used throughout the exhibit so that any person can readily tell the variety of each sample shown. The labels should be neatly printed and should be uniform.

SCORE CARD AND JUDGING—The potato score card shows the relative value of points that make for a high quality exhibit. It keeps before the mind of the user the qualifications that are desirable in potatoes from both the market and show standpoints. The score card should be printed in premium lists and should be used when selecting and exhibiting potatoes.

The following score card submitted by the Committee on Potato Contests and Exhibits of the Potato Association of America is recommended as a standard.

	Perfect Score	Sample Score
Freedom from blemish and disease.....	20	
Trueness to type	15	
Uniformity in size, shape, color.....	15	
Market shape	10	
Market size	10	
Depth and frequency of eyes market standpoint....	10	
Color and texture of skin, market standpoint.....	10	
Quality of flesh	10	
	<hr/>	
	100	

A competent disinterested person should be secured for judging the exhibits. No premium should be awarded simply from lack of competition, but all samples should merit the premiums awarded them. The awarding of premiums to unworthy samples tends to lower the standard of the whole exhibit. After the judging is done and the ribbons are awarded, an explanation should be given those present of the basis on which the awards were given. This will give them a clear idea of what constitutes a good exhibit.

Competitive judging contests in which growers, members of Boys' and Girls' Clubs, or high school students take part are of much value and should be encouraged at potato shows.

GROWING POTATOES FOR EXHIBIT

It has been observed that the growers who are consistent winners of prizes at the State Potato Show invariably follow good cultural practices in growing the crop. At the "Top O'Michigan" Potato Show (Gaylord, 1923) 13 of the 18 growers who were awarded prizes in the general 32 tuber exhibit were growers of certified seed. At the Michigan Apple and Potato Show (Grand Rapids, 1923) 64 per cent of the awards given went to certified seed growers. In spite of the fact that the growers of certified seed constitute less than one per cent of the potato growers of the state, they took the majority of the prizes, because, under the rules governing the inspection and certification of seed, they are obliged to follow the most improved methods of culture.



Fig. 8.—Hand Digging and Careful Selection in the Field are Essential in Picking Show Stock

The factors that make for good quality in table or seed stock will also make for the effective selection of show potatoes. Their importance should be recognized by the grower who plans to enter potatoes in exhibit. Briefly these factors are:

1. Use of high quality seed, preferably certified seed. This is the kind that produces the largest percentage of smooth well shaped potatoes.
2. Treating the seed with corrosive sublimate to control scab and black scurf.
3. Planting in a well drained sandy loam or light loamy type of

soil. Potatoes planted in such soils make the most uniform and symmetrical development and the color of the skin is more apt to be bright.

On the heavier soils the tubers are often off-type and disfigured with second growth and growth cracks. The heavier types of soil generally produce darker skinned potatoes than do the lighter soils.

4. The intelligent use of alfalfa or clover sod, stable manure, and commercial fertilizer to keep the plants growing vigorously and to promote a uniform and constant development of the tubers. On poor soils lacking in organic matter the tubers are often arrested in their development for lack of moisture and food and become ill-shaped.

5. Closer planting to lessen the percentage of oversized, rough, hollow-heart tubers. Usually 32 to 36" between rows and 12-24" between plants in the row is satisfactory. Fertility of the soil, moisture conditions and the variety grown are factors regulating distance of planting.

6. Planting sufficiently early so that the potatoes will mature by digging time. Matured tubers do not skin as easily as immature stock and are of a brighter color.

7. Careful shallow cultivation to control weeds and grass and keep the soil in a mellow condition.

8. Spraying with arsenicals and Bordeaux mixture for the control of insects and foliage diseases.

SELECTING SHOW POTATOES

The prospective exhibitor should procure the rules and premium lists of the show at which he intends exhibiting and should study carefully the score card and the requirements that are specified. This will aid him in his selection work.

If possible the selection work should be done on a clear day when the soil is comparatively dry. Since it is imperative that show potatoes have no mechanical injuries, the hills should be dug very carefully by hand. A good time to do the selecting for shows that come late in the fall or winter is at the time the hill selecting of seed is done. Having a large number of selected hills from which to choose enables the grower to get the most desirable show potatoes.

The grower should have clearly in mind the ideal size and type of the variety which he is selecting. Such information can be obtained by studying the prize winning samples at shows and from County Agricultural Agents, growers, and others who have had experience in exhibiting potatoes.

The tubers should be smooth, free from growth cracks, second growth, and entirely free of scab, scurf or any other blemish such as wire worm and grub injury, quack grass root injury, etc. They should have comparatively few and shallow eyes. The skin should be bright and of a color typical of the variety.

Oversized tubers are not desired, either for market or seed purposes, and for exhibiting, the medium sized potato is preferred. Tubers of late varieties such as Russet Rurals, White Rurals, and Green Mountains

should weigh approximately eight to ten ounces while those of Early varieties like Early Ohio, Irish Cobbler, and Triumph should weigh approximately seven to nine ounces.

Uniformity in size, shape, and color is very important. Find a tuber that most closely approaches the ideal and then match it with other such tubers until about twice as many potatoes are obtained as are actually required for the exhibit.

Place the chosen tubers on a bag or paper and let them lie exposed to the air and sun for a few minutes until they dry. Brush them lightly with a soft-bristled brush, and, before removing them from the field, wrap each potato in paper. This will prevent the tender skin from becoming bruised in moving the potatoes from the field to the storage house.

Place the wrapped potatoes in a cool, frost proof cellar where they will not be molested by rats or mice. Keep the cellar dark to prevent the potatoes from greening.

Make the final selection for the exhibit just previous to sending them to the show. This work should be done in a room where light conditions are good so that all imperfections can be noted. Brush the potatoes lightly with a very soft-bristled brush to remove all dirt from the skin and eyes. When this is done they should be rubbed lightly with a soft flannel cloth.

DO NOT WASH SHOW POTATOES, since water impairs the natural color of the skin. After the tubers are thus cleaned, they should be placed on a table and a critical selection made of them for type, size, freedom from defects, etc. The potatoes finally selected should be as nearly alike in size, color, and shape as possible. In order to select potatoes of the same weight, a set of postal scales will prove a big help.

After the selection is made each individual potato should be carefully wrapped in paper and the entire exhibit should be packed with sufficient paper and packing material to prevent its being shaken about while in transit to the show. In a loose pack, the potatoes are likely to be badly bruised by the time they reach the show room. If the box is well lined with several thicknesses of paper, it will aid in keeping the potatoes free from frost injury. A conspicuous label on the outside of the package bearing the words **PERISHABLE** or **KEEP FROM FROST** will help the transportation company in the safe delivery of the potatoes.

The grower's name and address, as well as the name of the variety and the class in which it is entered, should be placed on both the inside and outside of the package. The instructions issued by the management of the show relative to shipping and exhibiting the potatoes should be carefully observed.

The following bulletins will prove helpful in growing, selecting and exhibiting potatoes—

Bul. 176. "Group Classification and Varietal Description of Some American Potatoes."

U. S. Dept. of Agr'l. Washington D. C.

Spec. Bul. 117. "Potato Culture in Michigan."

Michigan Agricultural College,
East Lansing, Michigan.

Spec. Bul. 125. "Michigan Potato Diseases."

Michigan Agricultural College,
East Lansing, Michigan.

Club Bul. 2. "Potato Club Work."

Michigan Agricultural College,
East Lansing, Michigan.

