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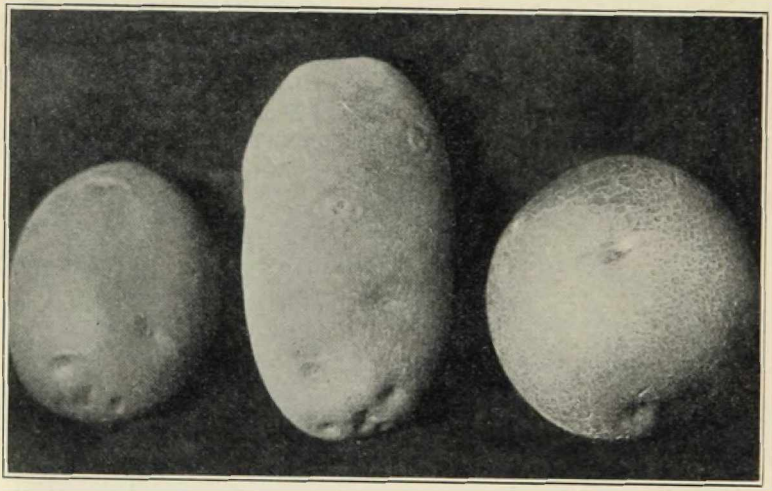
IDEAL TYPES FOR COLORADO STANDARD POTATO VARIETIES

By C. H. Metzger



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IDEAL TYPES FOR COLORADO STANDARD POTATO VARIETIES

By C. H. Metzger

The present-day potato market is not the same as 30 years ago or even 5 years ago. The consuming public has learned that a potato is not just a potato but that there is a marked difference in quality between different lots. Consumers have changed their methods of living, larger numbers living in apartment houses, and there is more hurry and less patience with anything that requires an abnormal amount of time. This present-day market demands "QUALITY."

Production Tendencies.—Certain changes have taken place in the production of potatoes, keeping pace with the changing market demands. Variety standardization has eliminated inferior varieties and reduced the number of varieties of commercial importance in the state to eight. The producer who made a practice of growing all the varieties he could find has practically disappeared and all progressive growers are now specializing on one or two varieties. This standardization program has not only reached the individual grower but has also affected the different producing sections of the state, each section specializing on two or three of the standard varieties. With these things accomplished, attention is now being centered on the individual varieties and all efforts concentrated on the improvement of QUALITY and YIELD and on lowering the cost of production. An active production campaign is being carried on in the state, the slogan of which is "More U. S. No. 1 Potatoes per Acre." This campaign is being furthered thru the medium of county potato-king contests, the state 600-bushel club and potato shows. Better seed, seed treatment, larger seed piece, more seed per acre, and crop rotation are all playing their part in producing higher yields of better quality. A high-quality product demands an attractive package, so even-weight, branded bags of all sizes, 120, 100, 25 and 15 pounds, are being used and crates of 50-pound capacity as well as 15-pound cartons are taking care of extra-quality even-sized lots.

ACKNOWLEDGMENTS.—The specimens from which the cuts are made were obtained thru the courtesy of the exhibitors and management of the San Luis Valley Seed Show at Alamosa and the State Seed Show at Colorado Springs.

The terms used and some suggestions were obtained from the Proceedings of the Potato Association of America and Professor William Stuart's book, "The Potato."

The photographs, with the exception of the cover plate, and Figures 9 and 12, were made by Grant C. Eddy, college photographer.

Quality Defined.—The potato show or potato exhibit is based on this idea of QUALITY. The term "quality," based on the interpretation of the U. S. grades or on a scorecard, includes several subdivisions or factors which determine the quality of a given lot or sample of potatoes. These include trueness to TYPE, freedom from disease, freedom from mechanical or insect injury, uniformity, most desirable size, general appearance and from the market standpoint, the amount of waste in preparing for the table. All these factors are self-explanatory and generally understood by those interested in potatoes from the market or show standpoint except varietal type.

Type Defined.—There has been some confusion and a lack of standardized ideas over the state as to what constitutes trueness to type in a given variety. It is the purpose, then, of the following discussion, to present the ideal type of each of the leading commercial varieties of potatoes for the benefit of growers who select seed or show samples and students of potatoes who are interested in judging.

The first question which naturally arises is: What is meant by varietal type? Varietal type refers to the shape or form of the tuber, to the color and texture of the skin and to the location, number and depth of eyes. All of these things are more or less variable and depend upon certain inherent and environmental factors. The variety is, of course, the greatest determining factor of type and type is fairly constant within the variety but is influenced, modified and changed by a number of different factors.

Effect of Disease.—One of the most important of these factors is disease, particularly the degeneration or virus diseases, which cause what is known as "running out." Spindle tuber probably has a more pronounced effect on type than any other disease. Tubers from spindle-tuber-infected hills are generally more or less lengthened along the longitudinal axis, spindle shaped and cylindrical, the eyes are more numerous and smaller and the eyebrows are more pronounced than in normal tubers. A change in color may also occur as a result of spindle-tuber infection. This has been observed particularly in the Triumph and Peachblow varieties, infected tubers being lighter in color than normal tubers or blotched light and dark.

A comparatively new disease known as giant hill also has a marked influence on tuber shape. "Tubers are generally elongated and thickened, pointed at one or both ends, frequently constricted at some point on the longer axis and provided with numerous eyes which are either flush with the surface or some-

what protuberant." Giant hill is closely related to spindle tuber or may merely be a phase of it.

Mosaic and leaf-roll-infected plants often produce abnormally smooth, perfectly formed tubers under our conditions so growers should beware of these and select eyes normal for the variety and not extremely shallow-eyed specimens. The parasitic diseases may also, at times, exert an influence on the type of the tubers. A pointed or wedge-shaped stem end is sometimes associated with fusarium. Rhizoctonia may cause knobbyness or misshapen tubers because of crowding in the hill.

Effect of Environmental Factors.—Various environmental factors may also affect the type of the tubers. The first of these is soil. In order that a tuber may assume its normal shape it must be grown in a mellow, well-prepared soil, free from rocks and clods, well drained and containing abundant fertility. Well-shaped tubers cannot be grown on a soil which is tight, not plowed deeply enough, not pulverized finely enough or is not fertile enough. Soil may not only influence the shape of the tuber but may also affect the texture of the skin. On some soils, russeted varieties have a very light netting and in other cases smooth-skinned varieties are produced with a roughened lightly netted skin. In poorly drained soils poor-shaped tubers with large russeted dots on the skin are produced. Much better-shaped tubers are produced on light than very heavy soils.

A second environmental factor is moisture. The plants must constantly have enough moisture to keep them in vigorous growing condition. An irregular moisture supply causes rough, irregular and knobby tubers. An excess of moisture encourages disease and causes some varities to growth crack.

The third environmental factor is temperature. The potato is a cool-season plant and develops perfectly only at relatively low temperatures. In Nebraska it was found that high soil temperatures had the same effect on tuber shape as the spindle-tuber disease.

Selection has considerable influence on type and on the elimination of diseases.

Even tho tubers have been produced under the optimum of all the above-mentioned conditions, considerable variation is still found in the length, width, thickness, smoothness and position and depth of the eyes in individual tubers. For this reason it has been necessary to arbitrarily select the ideal type. Symmetry and the proper degree of smoothness have also had a very important bearing in the selection of the ideal type.

Irish Cobbler

The Irish Cobbler is an early variety generally grown thruout North America. In Colorado it is grown commercially, as an early crop, in the Fruita district in Mesa County, the Fort Morgan-Brush district in Morgan county and to some extent in the Greeley district in Weld County. Certified seed of this variety

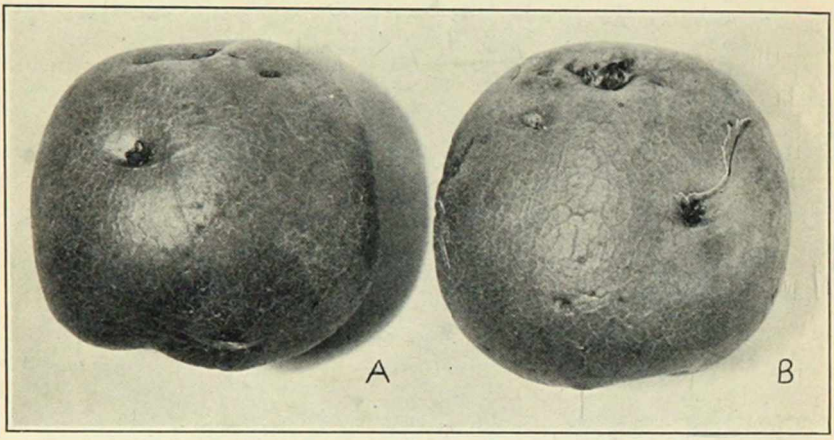

Figure 1.—Ideal types of Irish Cobbler.

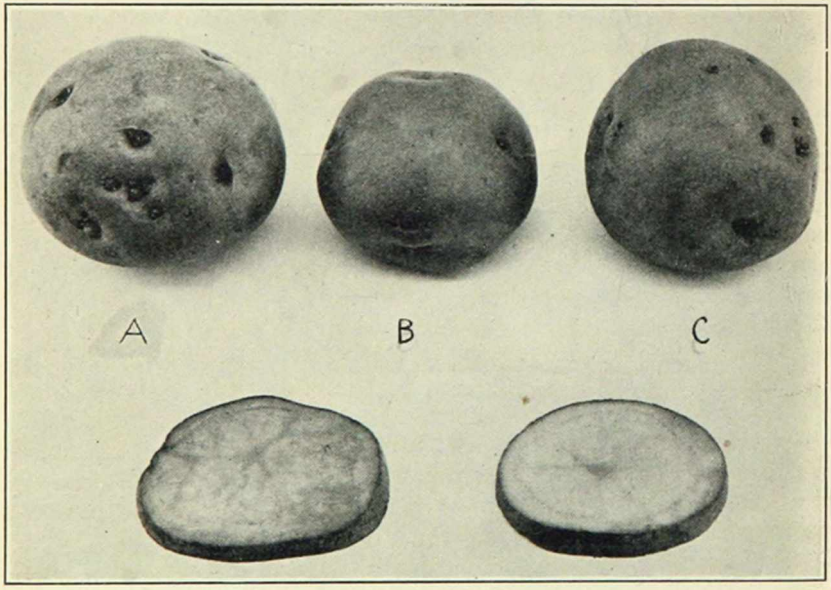

Figure 2.—Apical, basal side view and cross-sections of excellent Irish Cobblers.

is produced, without irrigation, in several other counties at elevations ranging from 6000 to 9300 feet.

The tubers tend to be more or less irregular in shape which makes it somewhat difficult to get a perfectly uniform sample.

Description.—Shape—Roundish
Apical end rounded
Basal end rounded, distinctly depressed, often notched and shouldered.
Skin—On some soils the skin is light, creamy-white and perfectly smooth. On other soils it is creamy yellow and lightly netted.
Eyes—Medium in number, mostly at the apical (bud) end, varying from shallow to rather deep, particularly in the bud-eye cluster which is set slightly on the side. (Fig. 1B)

The tubers should be short, as thick as possible, and round in outline. This ideal is illustrated in Figures 1 and 2. The bud-eye cluster should be slightly toward the top as shown in tuber B, Figure 1. The eyes in this tuber, however, are too shallow. More desirable eyes are shown in tuber A, Figure 1, and A, Figure 2. Note the thickness of C and the cross-sections in Figure 2.

Common faults found in Cobblers are lack of thickness, too much length, and too deep or too shallow eyes.

Measurements of a perfect type, 6-ounce Irish Cobbler:

Length	2¾ inches
Width	2⅞ inches
Thickness	2¾ inches
Longitudinal circumference	8½ inches
Transverse circumference	9 inches

Bliss Triumph

This is also an early variety grown commercially for the very early crop in the southern states. It is also grown for seed in a number of northern states. In Colorado it is used for the early crop in the Greeley district, San Luis Valley, Montrose section and more recently around Rifle. It is also the most successful variety in most of the non-irrigated sections. The heaviest production of certified seed in the state, during the past 3 years, has been of this variety. The certified seed has been grown in dryland sections in the northeastern and northwestern corners of the state and in non-irrigated sections of high altitude. It is a very desirable variety for the home garden.

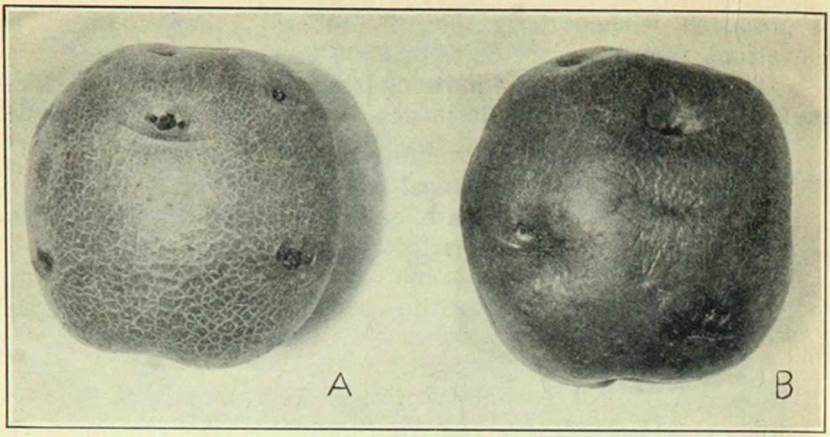

Figure 3.—Ideal types of Bliss Triumphs.

Description.—Shape—Cubical, rounded,
Apical end blunt
Basal end blunt, depressed.
Skin—On some soils, smooth and red or magenta colored; on other soils, lightly netted and somewhat paler in color.
Eyes—Medium in number, rather shallow; bud-eye cluster generally more or less depressed and set squarely on the end.

The tubers should be as near a cube as it is possible to get them, short, thick and blunt on both ends. Figures 3 and 4 illustrate the ideal type. In Figure 3, note the shallower eyes and netted skin of A, caused by a sandy alkaline soil, and the perfect type of B. Note the thickness of the tubers in Figure 4.

Shallow tubers, pointed ends, too much length and displacement of the bud-eye cluster from the center of the apical end are common faults found in Triumphs.

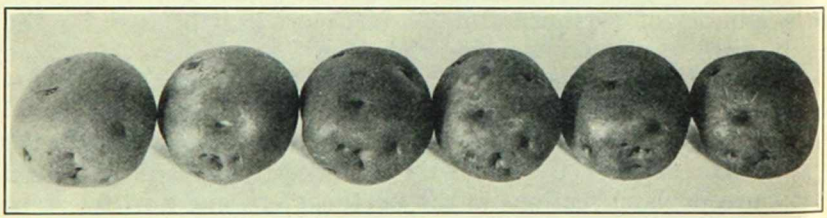

Figure 4.—Ideal types of Bliss Triumph, showing thickness and position of bud-eye cluster.

Measurements of a perfect type, 5-ounce Bliss Triumph:

Length	2⅜ inches
Width	2½ inches
Thickness	2¼ inches
Longitudinal circumference	7 11-16 inches
Transverse circumference	7⅞ inches

Early Ohio

This is also an early variety, popular in home gardens and grown commercially in the Red River Valley of Minnesota. In Colorado, both the market and certified seed crops are grown in El Paso County. It is also grown in gardens in other parts of the state.

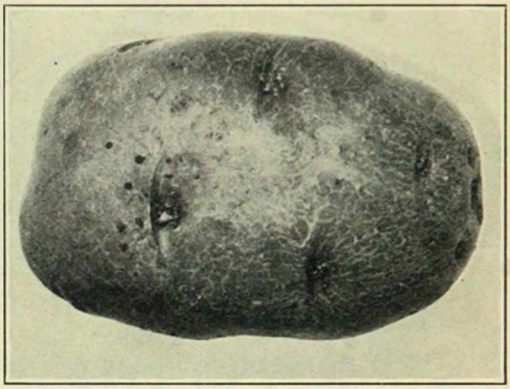

Figure 5.—Ideal type of Early Ohio.

Description.—Shape—Round, oblong to cylindrical
Apical end blunt
Basal end blunt and only slightly depressed

Skin—Flesh or light pink slightly deeper around the eyes and at the apical end. Either slightly netted or smooth, depending on soil. Some strains are paler colored than others and may be nearly white except for eyes which are pink. Surface dotted with small corky, raised dots (lenticles) more conspicuous when grown on some soils.

Eyes—Numerous, rather shallow but strong, bud-eye cluster square on the end or very slightly to the top, not much depressed, nearly flush with the surface.

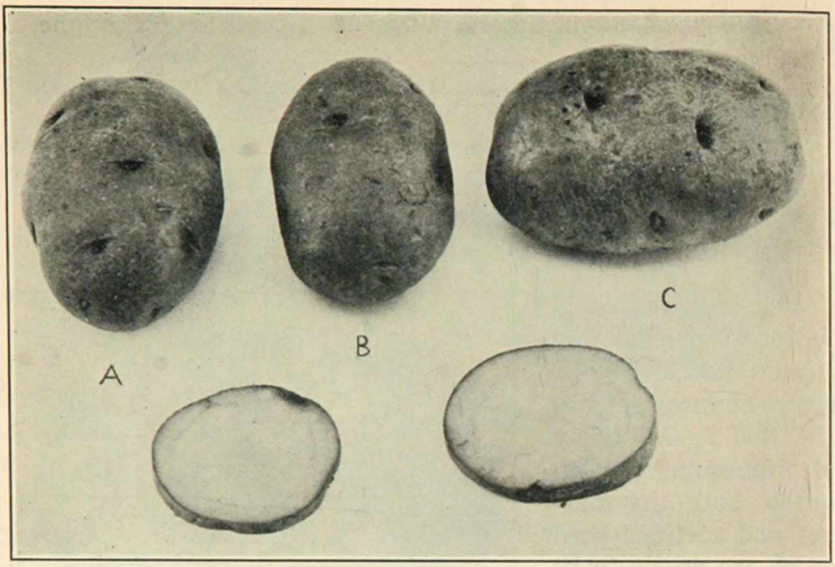

Figure 6.—Apical, basal side and cross-sections of Early Ohio tubers.

Thickness is also desired in this variety. Note tuber C and the cross-sections in Figure 6. The tubers should also be quite short as in Figure 5 and rounded but full on the ends. Figure 5 may be criticised for being a little rough at the basal (stem) end. The apical end however, is good compared to A and B in Figure 6. Note the tubers are slightly pointed which is undesirable.

Common faults in Ohios are pointed ends, flat tubers, too much length and too deep eyes.

Measurements of a perfect type, 9-ounce Early Ohio:

Length	3⅞ inches
Width	2 7-16 inches
Thickness	2 3-16 inches
Longitudinal circumference	10 9-16 inches
Transverse circumference	8⅛ inches

Russet Burbank

The Russet Burbank is grown in a few western states, Washington, Idaho, Montana and Utah, where it is most generally known as the "Netted Gem." In Colorado it is grown both for market and for certified seed in the Carbondale district, the Eagle Valley and mostly on the heavier river-bottom soils in the San Luis Valley. It is late in maturing and is considered one of the highest quality varieties grown.

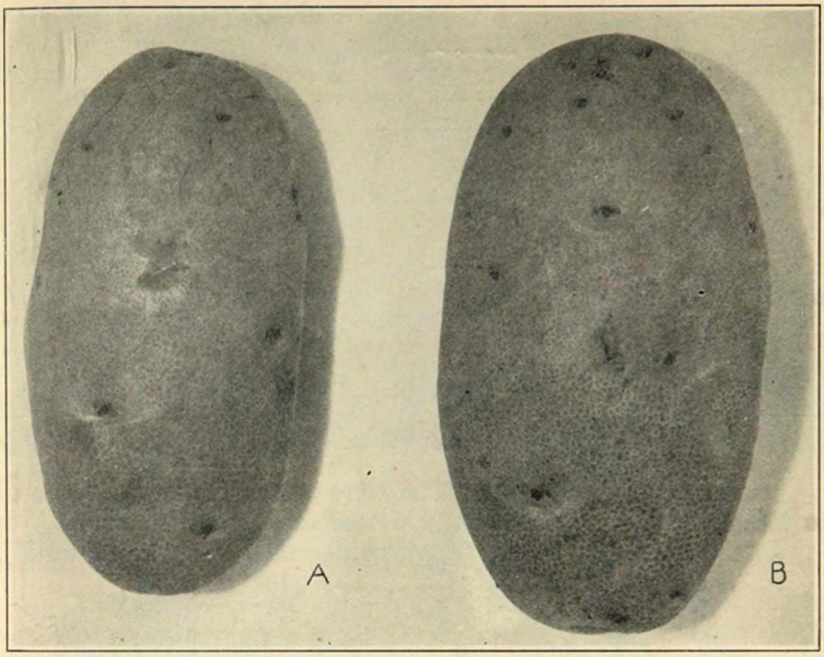

Figure 7.—Ideal types of Russet Burbank.

Description.—Shape—Cylindrical to oblong, rounded, inclined to be somewhat spindle shaped.

Apical end—runded but full

Basal end—rounded, full, but very slightly depressed. The depression is often almost entirely absent.

Skin—Heavy russeted or heavily netted. The degree of russeting depends on the soil and the altitude at which grown. Heavy netting is most desirable. The color is more pronouncedly influenced by soil color than any other variety. In very sandy soils the color is bright golden. Other heavier and variously colored soils transmit their color in a greater or lesser degree to the tubers. A few farms around Gypsum and Carbondale have brilliant red soils which adhere to the tubers producing the famous

"Red Soil Burbanks." Chocolate and black soils have a similar effect. In Idaho the volcanic ash soils give the tubers a grayish cast.

Eyes—Numerous, evenly distributed, shallow but indicating strength. Too shallow indicates weakness. The bud-eye cluster is shallow but not flush or protuding and is located slightly toward the top-side of the tuber.

Tuber B, Figure 7, shows an ideal type Russet Burbank, tuber A being slightly too spindle shaped. In Figure 8, tuber A is slightly pointed, B is a side view of a perfect tuber; note the thickness and perfect eyes in this specimen and the thickness in the cross-sections. The broader tubers are more apt to be a little flatter.

Common faults of this variety are: Pointed ends, too deep or too shallow eyes, not heavily netted and too much length.

Measurements of a perfect type, 9-ounce Russet Burbank:

Length	4¾	inches
Width	2⅜	inches
Thickness	1 15-16	inches
Longitudinal circumference	11⅜	inches
Transverse circumference	7 11-16	inches

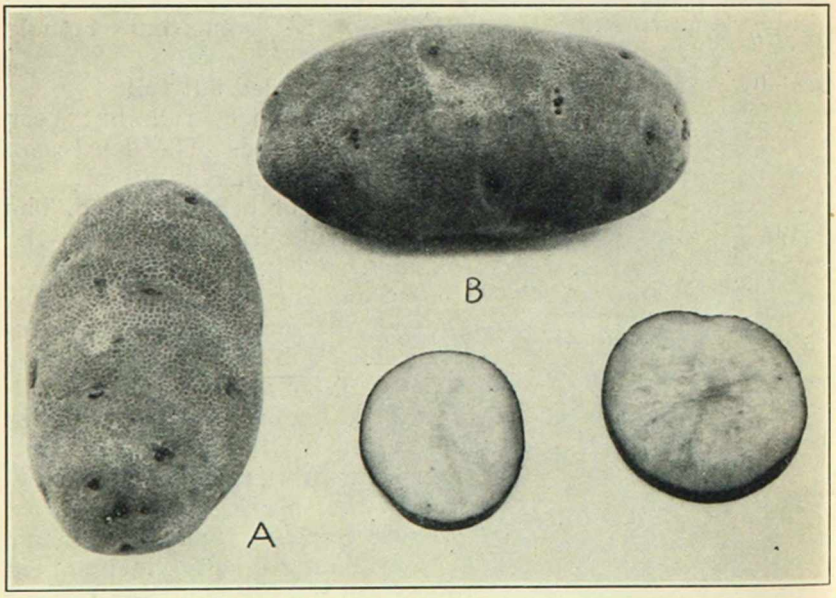

Figure 8.—Apical, side and cross-sections of excellent Russet Burbank tubers.

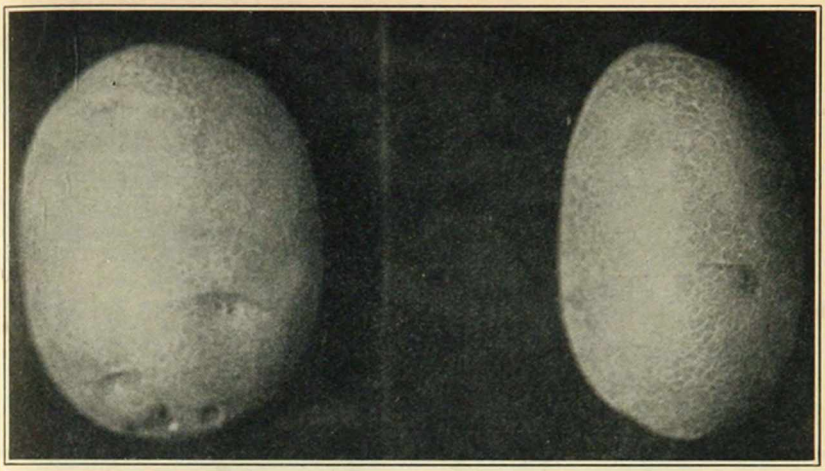

Figure 9.—Top and side view of the same Brown Beauty tuber.

Brown Beauty

This variety is the chief one grown in the San Luis Valley of Colorado, where it seems peculiarly adapted to the conditions. Attempts to grow it outside the valley have met mostly with failure except in a few cases during the last 2 or 3 years where certified seed was used. The variety sets very heavy, and consequently requires abundant moisture and fertility to make the tubers of marketable size. The American record was broken in 1929 by L. G. Schutte of Monte Vista, with 1145.17 bushels of Brown Beauties on a measured acre.

Description.—Shape—Oval rounded to slightly flattened. Apical end rounded but full, smooth Basal end rounded but full, only slightly depressed, very smooth.

Skin—Creamy yellow to buff, when first dug tinged with pink in eye depressions, which tends to fade out on exposure to light or after a period in storage. Glossy and smooth on some soils but generally dull and lightly netted or flaked.

Eyes—Medium in number, often shallow or fleet, preferably medium in depth with a long eyebrow. Bud-eye cluster medium deep and situated slightly toward the top side of the tuber.

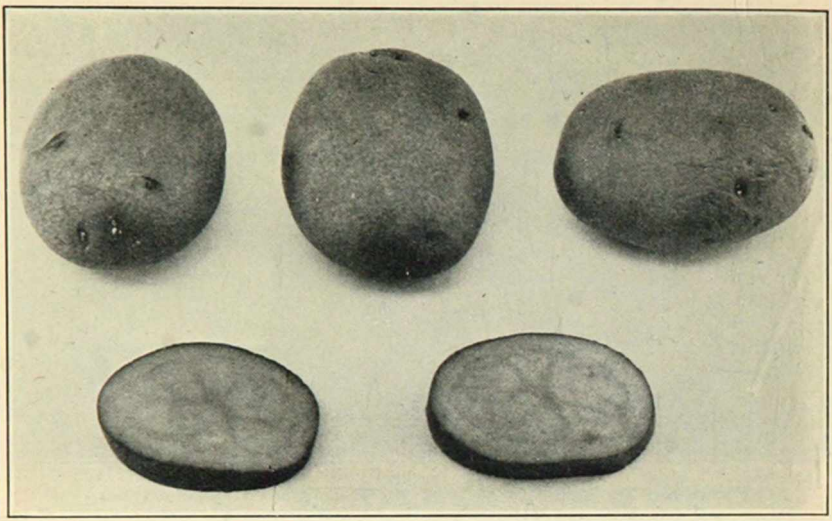

Figure 10.—Apical, basal, side and cross-sections of good Brown Beauty specimens.

Note the thickness, depth of eyes and oval shape of the tuber in Figure 9. Even thicker tubers with deeper eyes have given excellent results but the symmetry in this type tuber is lost. Figure 10 shows extremely smooth, symmetrical tubers but still having a fair degree of thickness.

Common faults in Brown Beauties are extreme flatness, extreme smoothness, too much length and pointed ends.

There are also several off-types which occur in Brown Beauty stocks. Blue-blossomed individuals should be rogued from the field. Giant hills or "bastards" are also too common in some stocks. Two white-eyed types also occur. One is very smooth and round and generally small, as high as fifty of this type occurring in the same hill. The other is large and generally rough. The small round tubers occur on a spinach-leaf plant. The leaves are shorter and wider than normal; in other words heart-shaped instead of long, narrow and sharply pointed.

Bin selection of seed, as commonly practiced, will never rid stocks of these evils.

Measurements of a perfect type, 6-ounce Brown Beauty:

Length	3 15-16 inches
Width	2⅜ inches
Thickness	1 9-16 inches
Longitudinal circumference	8¾ inches
Transverse circumference	7¼ inches

Peachblow

The full and proper name for this variety is "Perfect Peachblow," sometimes erroneously called Red McClure, and should not be confused with other numbers of this group grown in southern and eastern states. Like the Brown Beauty it is grown on a commercial scale, exclusively in Colorado. It ranks next to the Brown Beauty in the San Luis Valley but is becoming more popular and threatens to surpass the Brown Beauty. It is also grown to a more limited extent in the higher mountain sections particularly around Carbondale.

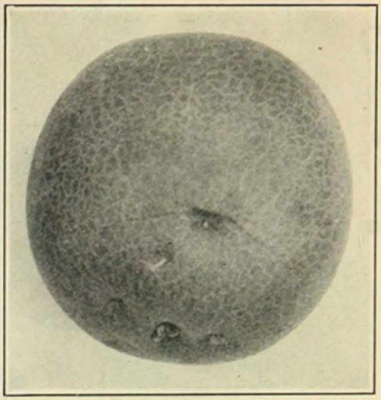

Figure 11.—Excellent type of the perfect Peachblow.

Description.—Shape—Roundish, rounded almost spherical
Apical end rounded
Basal end rounded with a very shallow depression.

Skin—Red or magenta around eyes grading to light pink on a yellow background. On some soils, and in some strains, the yellow and light pink are not as perceptible as on others. On some soils the skin is smooth and shiny and on others, smooth and dull, but it is generally lightly netted or heavily flaked.

Eyes—Few in number, four outside the bud-eye cluster in perfect specimens. Shallow, located mostly at apical end. Bud-eye cluster, medium in depth.

Figure 11 shows the round outline of the ideal type. Note the light netting of the skin. The bud-eye cluster is a little shallow in this specimen and it does not show the strength shown by the specimen in Figure 12. A side view and top view of the same tuber are shown in Figure 12. Note the thickness of this individual and how this thickness is carried thruout the length of the tuber from apical end to basal end. The eyes are

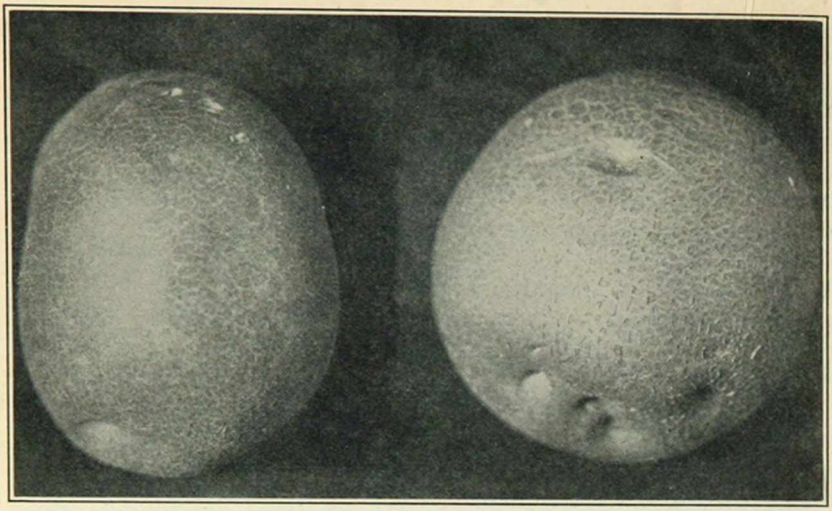

Figure 12.—Side and top view of the same perfect Peachblow tuber.

stronger and more desirable from a seed standpoint than those in Figure 11. Also, note the flaking of the skin contrasted with the netting of the specimen in Figure 11. The distortion of the top view is caused by the angle from which the photo is taken. A better view of the same individual is shown on the cover of this publication.

Common faults of Peachblows are flatness, too much length, pointed ends, oval shape instead of round and splashes of color, known by growers as "zebras," instead of the even blending of colors.

The same off-types occur as are found in the Brown Beauty. The high percentage of virus or degeneration diseases has resulted from continued bin selection. Giant hill, mosaic, spindle tuber and leaf-roll are much too common in both these varieties. The Peachblow is also the most susceptible to blackleg.

Measurements of a perfect type, 6-ounce Peachblow:

Length	2⅝ inches
Width	2⅝ inches
Thickness	2⅛ inches
Longitudinal circumference	8¼ inches
Transverse circumference	8¼ inches

Rural

Members of the Rural group of potatoes probably lead all others in commercial production in the United States. A large part of the crop in New York, Michigan, Wisconsin, Minnesota,

Pennsylvania, Ohio and Iowa consists of varieties in this group. In Colorado two members of the group are grown: Rural New Yorker No. 2, and Russet Rural. These are the major varieties in the Greeley district and the smooth type is the most important in the Bostwick Park section of Montrose County. They are the latest maturing varieties grown in the state.

Description.—Shape—Short, oblong, somewhat flattened.
Apical end blunt.
Basal end blunt, slightly notched.
Skin—Creamy white, sometimes having a buff sheen, glossy or sometimes lightly netted in the Rural New Yorker No. 2. Dark russet in the Russet Rural.
Eyes—Medium in number, shallow. Bud-eye cluster strong and slightly depressed, situated very nearly on the end slightly toward the top side.

Tuber A in Figure 13 is an excellent specimen but is a trifle too long. It is of the type commonly picked for show purposes but a shorter specimen is more desirable. Tuber B is of a rounder type and has the desired shortness but blockier ends are a little more desirable. Figure 14 shows three views (side, apical end, basal end) and cross-sections of the same perfect individual.

Show samples of this variety have had fewer faults than the others. The most common fault being too much length. In the

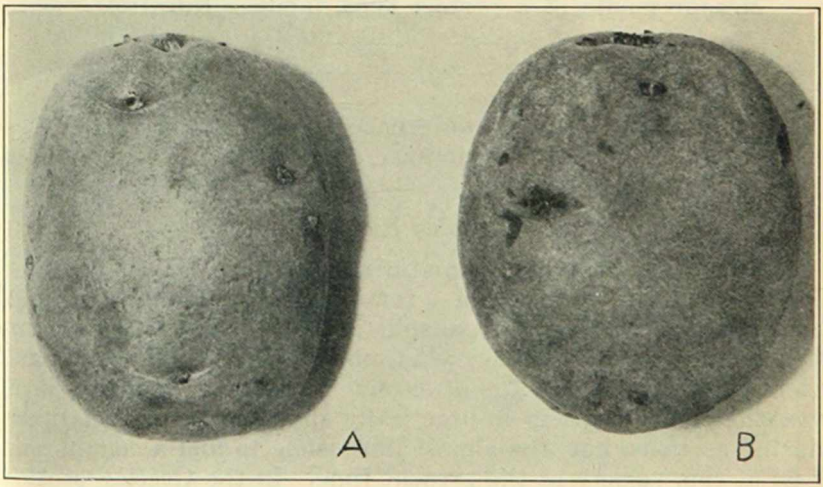

Figure 13.—Two good specimens of the Rural New Yorker No. 2.

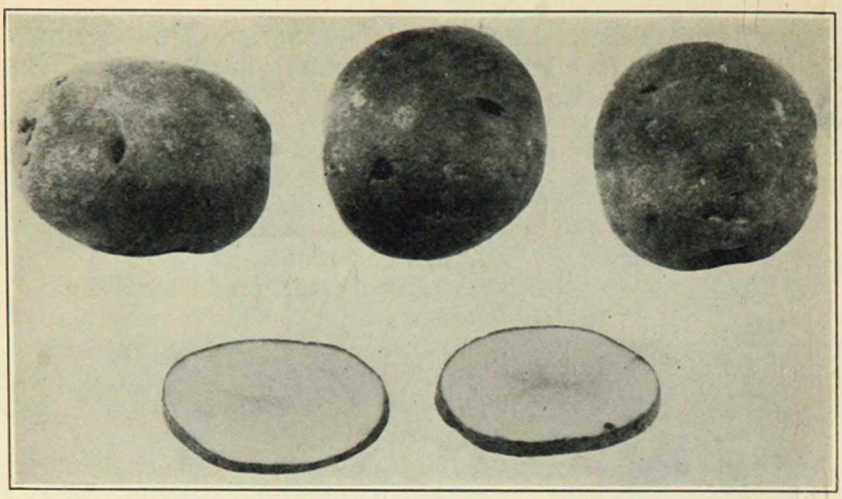

Figure 14.—Side, apical end and basal end of the same Rural New Yorker No. 2 tuber.

field, the most common defect is pointed ends and deep eyes resulting from spindle-tuber infection.

The tubers of this variety are sometimes confused with those of the Brown Beauty. The Brown Beauty has a faint pink coloration around the eye while the Rural has no color around the eye, but has purple leaf scales and tips on the sprouts. This color is not generally evident, however, until late in the storage period when sprouting starts.

Measurements of a perfect type, 9-ounce Rural:

Length	3¾	inches
Width	3 1-16	inches
Thickness	1⅞	inches
Longitudinal circumference	9 15-16	inches
Transverse circumference	8⅝	inches

Peoples Russet

This is a medium late-maturing variety belonging to the Pearl group. It is grown in a few localities on a limited scale, chiefly on heavy river-bottom soils in Montrose and Delta counties and around Rifle in Garfield County. The Peerless or Pearl, identical with Peoples Russet except that it has a smooth skin, was the pioneer variety in practically all of our commercial producing sections, but it is almost impossible to find a commercial field of this variety at the present time. In the Greeley section it has been replaced by the Rural and in the San Luis Valley by

the Brown Beauty and Peachblow. The Blue Victor, also identical except that it has a blue skin sometimes splashed with white, is still grown in a few isolated sections, but is unmarketable and is used only for home consumption and local demand. Mosaic has been the primary cause for the downfall of this group.

Description.—Shape—Short, heart-shaped, flattened.
Apical end rounded
Basal end blunt, depressed in Peoples, more or less deeply notched and shouldered in Pearl and Blue Victor.

Skin—Dark russet brown, netted. If dug before mature the brown pigmentation in the skin is present and the netting is absent. Occasionally white sploches occur. When one of these occurs over an eye, that eye gives rise to white tubers. White tubers and russet tubers sometimes occur in the same hill. The Pearl is dull white. When freshly dug it has a faint pink tinge in the eye depressions, fainter than in Brown Beauty, which also tends to fade as in Brown Beauty. The skin is sometimes lightly netted or flaked. The Blue

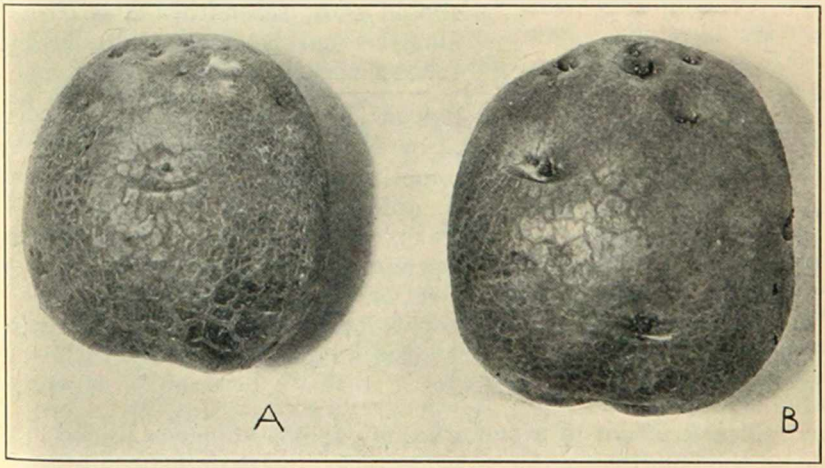

Figure 15.—A. Good type Peoples Russet. B. Good type Peerless or Pearl.

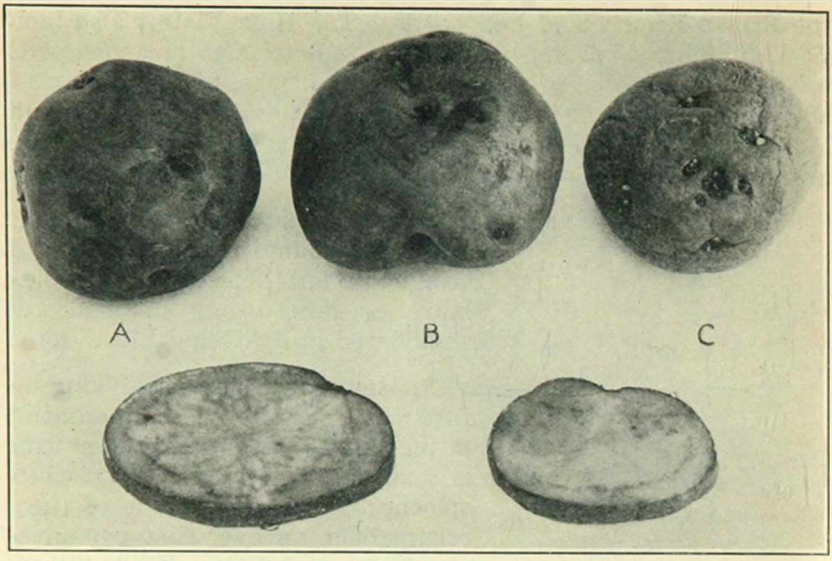

Figure 16.—Different views and cross-sections of the Pearl group.

Victor, as the name implies, has a deep blue color which is confined to the skin and does not extend into the flesh.

Eyes—Medium in number, shallow. The bud-eye cluster is quite shallow but should show strength. It is placed almost squarely on the end slightly toward the top.

The ideal type Peoples Russet is shown in Tuber A, Figure 15. Tuber B is an excellent type Pearl. Note the difference in the netting. The Pearl is sometimes flaked instead of netted. A and B in Figure 16 show the apical and basal ends of an excellent type Blue Victor. C is the apical end of an excellent Peoples Russet. Notice the strong sprouts. D is a cross-section of a Blue Victor and E is a cross-section of a Peoples Russet.

Common faults of the Peoples Russet are: Extreme length, oblong shape instead of short heart shape, deep eyes with heavy eyebrows and pointed ends.

Measurement of a perfect type, 8-ounce Peoples Russet:

Length	3 3-16 inches
Width	3 1-16 inches

Thickness	2⅛	inches
Longitudinal circumference	9¼	inches
Transverse circumference	9	inches

It is not to be inferred from the foregoing discussion of type that it is a reliable index of the quality of seed or that it should serve as the sole basis for seed selection, as the best-type tubers often come from the lowest-yielding hills. This discussion is merely to serve as a guide in the selection of show samples and to establish an ideal toward which to work in a hill-selection program or tuber-unit seedplot program. These and other methods of potato improvement and maintenance are discussed in another publication by this station.

Picking the Show Sample

The best time to pick the show sample is when the crop is being dug. The digger should be followed and the good-type specimens picked up, always being careful in handling them that they do not become cut or bruised. The great tendency is not to pick enough from which to select a sample—1200 or 1500 pounds are none too many in this day of keen competition. These should be stored in boxes in a cool, dark place until such time as the sample can be picked out. They should then be laid out and matched, making the sample as nearly uniform in size and shape as possible. Always pick the number required by the show (40 or 32) and several alternates. The discarded ones may be very advantageously used in a tuber-unit seedplot the next season. The tubers of the sample should then be individually wrapped in paper, placed in a box and stored in a cool, dry, dark place until the show. The tubers must never be washed but may be cleaned and brightened with a small hand brush.

Judging

The judging of the samples is based on certain definite standards which are slightly different for market and seed classes. The placing of the samples is based on QUALITY and the quality of a sample is made up of several factors. It is extremely difficult to arbitrarily assign a certain weight to each of these factors even tho these weights determine the placings. A scorecard names these factors and assigns to each a certain definite weight which is a measure of their relative importance. An experienced judge seldom uses a scorecard as it is very diffi-

cult to make one which will fit all the conditions which may be met in actual practice. The following scorecards will give an idea of the points considered, and in general the relative importance of each. The size of tuber and number of tubers required are generally specifically stated in the premium list. Exhibitors should always make a careful study of this list and of the rules of the show.

SCORECARD FOR SEED CLASSES

1.	Freedom from disease	30
2.	Trueness to type	25
3.	Freedom from mechanical or insect injury	15
4.	Uniformity	10
5.	Finish	10
6.	Seed size (5 to 8 ounces)	10
		100

All these terms are self-explanatory and easily understood except finish, which may seem to be a repetition of numbers one and three. However, when properly interpreted, such is not the case. Some soils turn out tubers with a much better finish than others, which adds to the general appearance. Maturity also generally adds greatly to appearance. It is these points and not loss in general appearance caused by disease or injury which are included under this head.

SCORECARD FOR MARKET CLASSES

Amount of waste in preparing for the table (type, disease and injury are included)	50
General appearance	25
Uniformity	15
Market size (9 to 12 ounces)	10
	100

In this case general appearance includes not only maturity and finish but also disease injury and type as it is considered from the housewife's standpoint.

Disqualifications: There are only a few disqualifications in judging potatoes:

1. Washed tubers
2. A mixture of varieties in the sample

3. A sample in the wrong class as Peachblow in a Triumph class or Rural in a Brown Beauty class
4. Any number of tubers other than that stated in the premium list.

All other defects are duly considered and if bad enough may throw a sample out of the money, but do not disqualify it.

Remember that a large part of the marketing problem can be solved in the production phase. There is always a demand for an assured supply of a superior-quality product. Good quality and high yields prevent losses in those years when prices are low and assure greater profit in good price years.

Make "More U. S. No. 1 Potatoes per Acre" your goal.