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Fruit and
Vegetable
Division

Fresh Products
Branch

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Beets, Turnips and Rutabagas

Market Inspection Instructions

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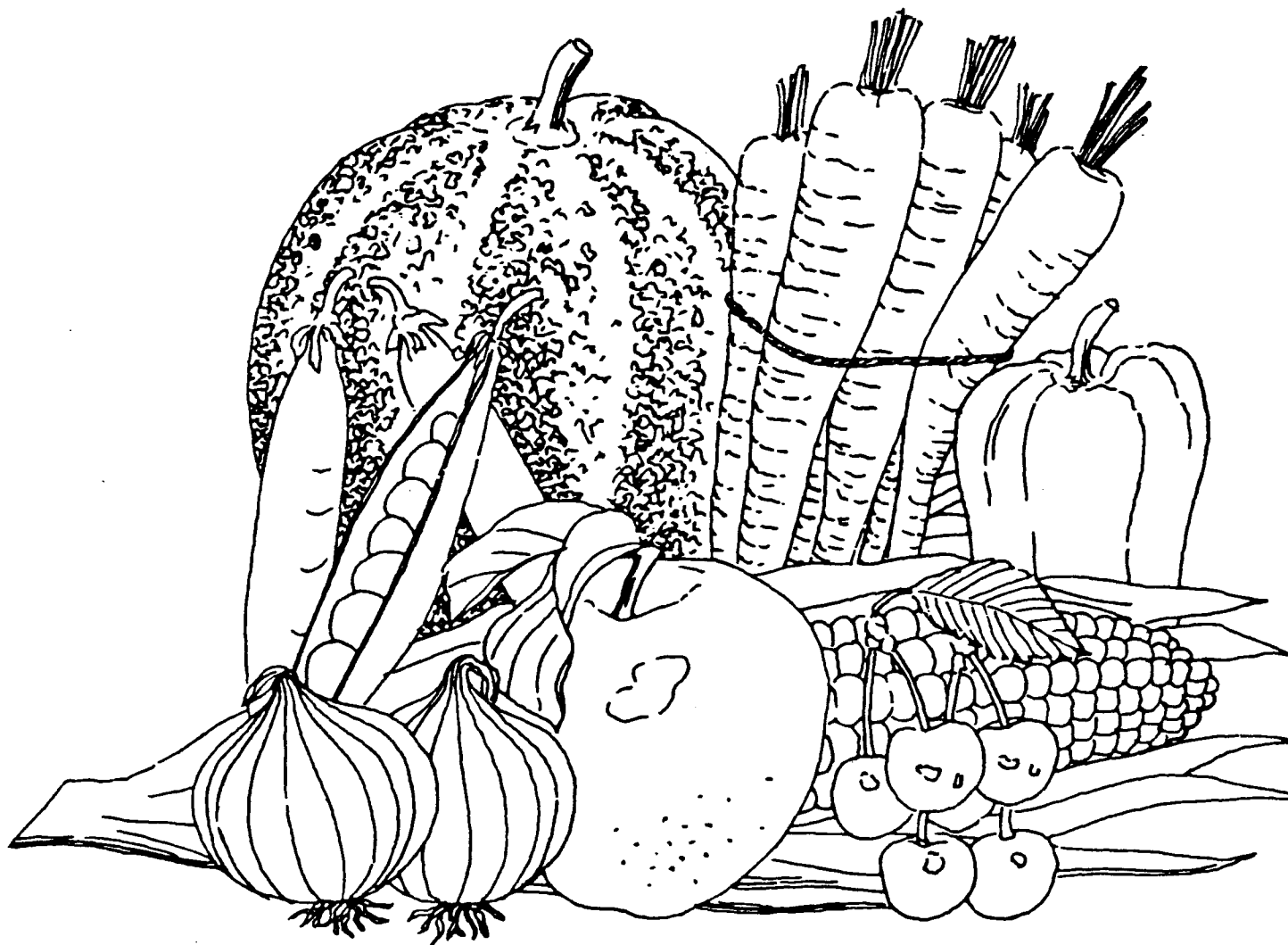


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UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
FRUIT AND VEGETABLE DIVISION
FRESH PRODUCTS BRANCH

MARKET INSPECTION INSTRUCTION
FOR
BEETS, TURNIPS AND RUTABAGAS 1/

PRODUCTION AREAS

The production of turnips and rutabagas has increased substantially (1)
over the past few years. Practically all shipments are transported
by truck or trailer. Records indicate that more than 1,800 truck
lot shipments were made in 1976. The major producing States being
California, Oregon, Texas, Indiana and New Jersey. During the same
period over 1,000 truck lots of rutabagas were imported from Canada.

In 1976 over 670 truck lot shipments of beets were recorded. The (2)
principle production areas being California, New Jersey and Texas.

HANDLING AND PACKING METHODS

The handling and packing methods vary according to the producing (3)
areas. Rutabagas are mostly grown in the Northern States, stored in
warehouses and marketed through the winter months. Most rutabagas

1/ These instructions supersede "Market Inspection Handbook for
Beets, Turnips or Rutabagas" issued August 1957.

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are washed and waxed prior to shipment. The wax is applied by submersion in a warm paraffin solution, leaving a heavy coating of wax. Local shipments are generally not waxed, but are washed and trimmed to remove secondary rootlets, coarse tops, etc.

- (4) Topped beets and turnips may also be stored similarly to rutabagas. Beets and turnips that are "bunched" or with "short-trimmed tops" are marketed at time of harvest. Washing is very common as it enhances the saleability of white turnips or purple-top turnips.

GENERAL INSPECTION INSTRUCTIONS

- (5) The grade requirements for beets, turnips and rutabagas are so similar that we have combined them in these instructions. It is important for inspectors to familiarize themselves with each of the U.S. Grade Standards, grade interpretations and inspection policies prior to making an inspection. Separate fees should be charged for commodities covered by separate Standards. The same policy of familiarization should be followed in making inspections of Canadian rutabagas on the basis of Canadian Standards. It is also important to keep in mind that under the present U.S. Standards there are two grades, U.S. No. 1 and U.S. No. 2, and three different styles.

The styles are as follows:

(6)

Bunched Beets or Turnips: those tied in bunches, with full length tops or tops removed to not less than 6 inches.

Beets or Turnips with Short-Trimmed Tops: Unless otherwise specified leafstems do not range more than 4 inches in length.

Topped Beets: tops removed to not more than 1/2 inch in length.

Topped Turnips or Rutabagas: tops removed to not more than 3/4 inch in length.

Canadian Standards only provide for topped turnips or rutabagas. The basis of sale must be known before the inspection is started in order to apply the proper grade. Canadian Standards for Turnips and Rutabagas are on a COUNT basis. The U.S. Standards applying to Topped or Short-Trimmed Tops on Beets, Turnips or Rutabagas are on a WEIGHT basis. Bunched Beets and Bunched Turnips are on a COUNT basis.

(7)

APPLICATION OF TOLERANCES - U.S. STANDARDS

For packages which contain more than 5 lbs. and a tolerance of 10% or more is provided, individual packages in any lot shall have not more than 1-1/2 times the tolerance specified, provided the average for the entire lot is within the tolerance specified. Also, for packages which contain more than 5 lbs. and a tolerance of less than 10% is provided, individual packages in any lot shall have not more than

(8)

double the tolerance specified except that at least one defective and one off-size specimen shall be permitted in any package.

- (9) For packages which contain 5 lbs. or less, individual packages in any lot are not restricted as to the percentage of defects and off-size; provided, that not more than one beet, turnip, or rutabaga which is frozen or affected by soft rot may be permitted in any package.

NOTESHEET AND METHOD OF SAMPLING

- (10) There are separate tolerances in the Bunched Beet and Bunched Turnip and Beets and Turnips with Short-Trimmed Top styles for defects affecting roots and those affecting the tops. Therefore, it will be necessary to keep separate columns for each. Also keep in mind that there is a 5% tolerance for serious damage and this will have to be taken into consideration on the notesheet. In scoring defects of the root the individual beet or turnip is the unit, while the bunch is the unit in scoring defective tops. Beets and Turnips with Short-Trimmed Tops are not considered as a bunched commodity, therefore defective tops are scored as individuals. It is suggested that bunched beets and turnips be examined in multiples of ten, since a 10% tolerance is provided for defective tops including 5% decay. Topped Beets, Rutabagas and Turnips are usually packed 25 to 50 lbs.

Number of bunches and roots examined:

Freshness, firmness and cleanness.

Refer to General Market Instructions, Part II. (12)

Refer to General Market Inspection Instructions, Part II. (13)

PRODUCTS INSPECTED AND DISTINGUISHING MARKS

- (14) Under this heading report the following factors:
- Product, Variety and Style (Topped, Bunched
or Short-Trimmed)
Type of Container
Brands or Distinguishing Marks
Origin (State or Country)
Quantity Inspected
- (15) Product, Variety and Style: There are many varieties of beets, turnips and rutabagas. Variety should not be certified unless the inspector is positive of the variety. If the variety is manifested, it may be reported if requested by the applicant. Market inspectors should not attempt to certify varieties. Generally a thorough description of the variety will be sufficient for all purposes.
- (16) Rutabagas and white turnips are the terms used by the trade in referencing two types of turnips commonly found in terminal markets. The rutabaga is stronger in flavor than white turnip and usually has a yellow flesh. They may be further described as "bronze top" or "purple top." It will be permissible to certify that rutabagas have been "waxed" when a coating of paraffin is noticed.
- (17) The "Style" shall be shown under this heading.

Containers: Beets and turnips that are "bunched" or with "short-trimmed tops" are usually shipped in cartons or crates of various types. Topped beets, turnips or rutabagas are normally shipped in burlap, cottonnet, papernet sacks, film bags and bushel baskets. A complete description of the container should be made. (18)

Brands or Distinguishing Marks: Trade-marks, brands, sizes and name and address of shipper as found on the container should be reported. (19)

Origin: The place of origin as marked on the container or manifested should be reported. (20)

Quantity Inspected: The number of containers in the lot being inspected should be reported on the certificate, either as a statement on authority of the inspector, or as "applicant states," "manifested as," etc. (21)

Examples:

Topped BEETS in open mesh sacks stenciled "50 lbs. net." Manifested as 50 sacks of Ohio grown beets. (22)

Bunched BEETS in waxed fiberboard cartons printed "2 doz., Triumph Brand, Vegetables; A. B. Charles, Somers, Ariz." Inspector's count 28 cartons.

Waxed RUTABAGAS in burlap sacks printed "P.E.I. Brand, Waxed Rutabagas, Large, 4-1/2-6", Paul Edgar Inman, Summerside, P.E.I., Canada." Applicant states 800 sacks.

Topped White TURNIPS in tub type 1/2-bushel baskets stamped "Joe's Topless, U.S. No. 1, 2 inch minimum, Joseph J. Joseph, Stevens, WI." Manifested as 525 baskets.

CONDITION OF LOAD AND CONTAINERS

- (23) Refer to General Market Inspection Instructions.

PACK

- (24) When the product is in sacks, the "Pack" heading on the certificate should be blocked out.
- (25) When the product is in cartons, crates or baskets, etc., the pack may be described as "well filled," "fairly well filled," and "slack." When the term "slack" is used, it must be followed by the degree of slackness reported in inches or fractions of inches. If the pack is faced or pack ice is used these should also be reported under this heading. Refer to the General Market Inspection Instructions for more detailed information.

REPORTING NET WEIGHTS

- (26) Refer to General Market Inspection Instructions.

SIZE

- (27) Under this heading report the following:

Range in diameter of roots.

Percentages of off-size
 Length of Tops. (Bunched or Short-Trimmed)
 Percentages of off-length
 Standard Bunches (when requested).
 Count of roots per bunch or bunches per
 container (when requested).

Size of Roots: In reporting size of roots state the range in diameter and unless the range is comparatively narrow a "mostly" range should be shown. The occasional specimen that is outside the general range should be ignored and covered by use of the term "generally" preceding the range statement. (28)

The U.S. No. 1 and U.S. No. 2 grades provide that unless "otherwise specified" the diameter of each beet shall be not less than 1-1/2 inches and the diameter of each rutabaga or turnip shall be not less than 1-3/4 inches. The tolerances specify that not more than 5%, by weight, when "topped" or with "short-trimmed tops" and by count when "bunched" may be below the specified minimum diameter and not more than 10% may not meet any maximum diameter which may be specified in connection with the grade. In case a minimum size other than that provided for in the grade is specified, the same 5% tolerance shall apply. (29)

- (30) Length of Tops: (Bunched Beets and Turnips) The U.S. No. 1 and U.S. No. 2 grades for bunched beets and turnips specify "...the tops shall be full length or removed to not less than 6 inches." Not more than 5%, by count, may be off length. Most bunched turnips have full tops so this fact need not be mentioned. If the tops have been clipped or are not full, this fact should be reported as "Tops clipped to 12 inches."
- (31) Standard Bunches: Inspectors should not certify Standard Bunches unless specifically requested to do so by the applicant. In that event, the factors applying to Standard Bunch requirements should be reported under the "Size" heading on the certificate, but the actual certification should be made under the "Grade" heading. The percentage of bunches complying or failing to comply shall be reported under the "Size" heading.
- (32) Requirements for Standard Bunches: If bunches do not meet the minimum weight requirement (1 pound per bunch), or have less than the required number of roots (3 per bunch), they must be reported in percentages as the requirements for Standard Bunches provide a tolerance of 10%. The bunches must also be fairly uniform in size.

Number of Bunches Per Crate Upon Request: It is permissible to certify the number of bunches or the "dozen bunches per crate" when specifically requested by the applicant. If the applicant is interested only in the number of bunches per crate, it will be necessary to make reference to this fact under "Remarks." The entire contents of several crates should be examined to determine the count of bunches. Actual count should be reported or if count is found to be as marked on the containers, it may be reported as "conforms to dozen count as marked" or other facts in reference to count of bunches. (33)

Examples of Size Statements:

(U.S. No. 1 Standard Bunches) Generally 1-3/4 to 2 inches in diameter. Undersize within tolerance. From 3 to 7, mostly 3 to 5 beets (or turnips) per bunch. Roots fairly uniform in bunches. Bunches generally weigh from 1 to 2 pounds. Tops 6 to 12 inches in length. (34)

(U.S. No. 1) Generally 1-3/4 to 2-1/2 inches, mostly 2 to 2-1/4 inches in diameter. Undersize within tolerance. Tops 6 to 12 inches in length.

(Count) Generally 1-3/4 to 2-1/2 inches in diameter. 3% undersize. Tops 6 to 13 inches, 3 to 9, mostly 3 to 5 beets (or turnips) per bunch. Range from 30 to 38, average 35 bunches per crate.

(U.S. No. 1) Generally 1-1/2 to 3-1/4 inches in diameter, full tops 12 to 16 inches in length; undersize within tolerance.

NOTE: Under the "Remarks" heading: "Count per bunch and bunch count reported at specific request of the applicant."

- (35) Beets, and Turnips or Rutabagas with Short-Trimmed Tops: The same size specifications and tolerances apply to beets and turnips with short-trimmed tops as to bunched beets and turnips, except for the specification for length of tops. Beets or turnips with short-trimmed tops mean, unless otherwise specified, beets or turnips showing leafstems ranging to not more than 4 inches in length. There is no minimum length requirement as to length of tops.
- (36) Count or Weight Basis: It must be remembered that in order to determine percentages you must refer to the grades for the basis of determination. All bunched beet and turnip percentages are figured on a count basis while topped beets, and turnips and rutabagas, and those with short-trimmed tops percentages are determined on the weight basis. All percentages used in applying the Canadian Standards for Rutabagas and Turnips are on the count basis.
- (37) Canadian Grades (dated 1972) specify that turnips or rutabagas may be packed to any marked size range, or to size classifications in connection with the grade as Small (2 to 4") - Small Medium (3-1/2 to 5-1/2") Medium (4 to 6") - Large (5" and up). Until August 31 of each crop year a 3 to 5-1/2 inch range is permitted for Small-Medium. Canadian rutabagas or turnips should be inspected on the basis of the Canadian

Standards unless the applicant specifically requests the inspection on the basis of U.S. Standards. The inspector should study a copy of the Canadian grade before inspecting on that basis. The Canadian grade has an unusual tolerance for off-size specimens. It permits 10%, by count, of the specimens to be larger than the specified maximum diameter, provided individual containers do not exceed 15%, but of this none may be more than 1/2 inch larger. In addition, not more than 10%, by count, may be smaller than the specified minimum diameter, but none may be more than 1/2 inch smaller than such diameter.

QUALITY

The following factors should be described under this heading: (38)

Shape
Trimming
Smoothness
Cleanness
Permanent Defects

Shape: In describing shape of beets, rutabagas and turnips, the type or variety should be considered in determining the proper term or combination of terms to be used. Some varieties are naturally long while others are oval, short, blocky and even flat in some cases. When shape is in question on turnips and rutabagas, refer to the photographs. Descriptive terms used are: well shaped, fairly well (39)

shaped, misshapen, and seriously misshapen. They are defined as follows:

- (40) Well shaped means the normal shape characteristic of the variety.
- (41) Fairly well shaped means that the root is not misshapen to the extent that its appearance is materially affected. This term is the lower limit passable for U.S. No. 1. The definition of fairly well shaped under the Canadian No. 1 grade means that the turnip or rutabaga is reasonably regular in contour and that the length of the trimmed specimen is not more than one and one-half times the diameter.
- (42) Misshapen means that the beet, turnip or rutabaga is misshapen to an extent that its appearance is materially injured, but is not sufficiently misshapen to be classed as "seriously misshapen." Misshapen roots are defects in the U.S. No. 1 grade and in the case of turnips or rutabagas, are defects of the Canada No. 1 grade.
- (43) Seriously misshapen means that the root is forked or misshapen to the extent that the appearance is seriously affected. Beets, turnips or rutabagas described by the use of this term are culls.
- (44) Trimming: The U.S. and Canadian grades require beets, turnips or rutabagas to be "well trimmed." The definitions in both U.S. and Canadian Standards are approximately the same.
- (45) The following terms should be used to describe trimming of topped beets, turnips or rutabagas:
- (46) Well trimmed (as applied to U.S. Standards) means that unattractive secondary rootlets have been smoothly

removed, and that any objectionably long or coarse tail-like parts are cut off, particularly on lots of large size turnips or rutabagas, whereas on small size stock the small tail-like top root is not considered objectionable and often is not removed. Refer to photographs on trimming for turnips or rutabagas. (None available for beets).

Poorly trimmed means that the tops are trimmed below the point of attachment removing a portion of the crown and exposing a large portion of the flesh or affecting the natural curvature of the root or materially affecting the appearance. The Canadian grade does not allow trimming on the upper half of rutabagas. The Canadian grade requirement for beets is "not trimmed into the shoulder." (47)

And/or means the secondary rootlets had not been satisfactorily removed or the lower half of the root has been too deeply trimmed or the general shape has been altered by trimming.

Topped beets, turnips or rutabagas: In the case of topped beets, the U.S. Standard for style permit a 10% tolerance for tops over 1/2 inch in length and in the case of turnips, 3/4 inch in length. There is no separate tolerance for such tops in the Canadian Standards. (48)

Beets and Turnips with Short-Trimmed Tops: This style has a separate tolerance of 10% for leafstems over 4 inches, or any length specified. There is also a tolerance of 10% for defects of the leafstems including 5% for leafstems affected by decay. (49)

Smoothness: Beets, Turnips or Rutabagas must be "fairly smooth" to meet the requirements of U.S. No. 1 or Canada No. 1 grades, and be (50)

not "excessively rough" in the U.S. No. 2 grade. The following terms should be used to describe smoothness:

- (51) Smooth means that the root has a fairly even surface, not rough or ridged.
- (52) Fairly smooth means that the root is not rough or ridged to the extent that the appearance is materially affected. Very slight roughness over the crown or very slight pitting caused by shedding of dead leaves shall not be construed as materially affecting the appearance of beets.
- (53) Rough means that the root is materially ridged or grooved, but not to the extent that the appearance is seriously affected. Beets, turnips or rutabagas falling into this category would be passable for U.S. No. 2, but would be defective for U.S. No. 1 and Canadian No. 1 grades.
- (54) Excessively rough means that the root is rough or ridged to the extent that the appearance is seriously affected. Such roots would be defects of U.S. No. 2 and considered culls.
- (55) Cleanness: The U.S. No. 1 grades specify that the beets, turnips or rutabagas shall be fairly clean. This means that the individual root is reasonably free from dirt or other foreign matter and the general appearance of the roots in the container is not more than slightly affected. The U.S. No. 2 grade requires that individual roots and the general appearance of the roots in the container shall be free from serious damage by dirt or other foreign matter. Dirt should be considered from the standpoint of either soil adhering to the roots or stain from soft rot. In determining whether the stock is dirty or

stained enough to affect grade, the appearance of the individual root must be taken into consideration as well as the general appearance of the roots in the container. The Canada No. 1 grade for rutabagas and turnips specifies "free from damage by dirt."

The following terms should be used to describe Cleanness:

Clean means that the roots are practically free from dirt or staining. (56)

Fairly clean (lower limit for U.S. No. 1) means that the individual root is reasonably free from dirt or other foreign matter, and that the general appearance of the roots in the container is not more than slightly affected. (57)

Slightly dirty. This term is not defined in the Standards but may be used to describe roots not considered "fairly clean," but not so dirty that they are damaged by dirt. Slightly dirty roots are not U.S. No. 1, but will meet the lower limit requirement for Canada No. 1. (58)

Dirty. This term may be used to describe roots affected by dirt to the extent that it materially affects the appearance of the lot or individual roots. Such roots would meet the minimum cleanness requirements for U.S. No. 2 grade. (59)

Serious damage by dirt. This term applies to roots whose appearance is seriously affected by dirt or staining. Individual roots with more than 1/2 of the surface caked with dirt (lesser amounts when the dirt is thick or dark) should be scored against the U.S. No. 2 grade. Roots described by this term are culls. (60)

- (61) Dirt affecting tops. When the appearance of the tops is materially affected by dirt, the bunch shall be scored as damaged under the separate tolerance of 10% provided for defective tops. Remember that in scoring damaged tops for Bunched Beets or Turnips, the entire bunch is scored on the count basis, while Beets and Turnips with Short-Trimmed Tops are scored on the basis of weight.
- (62) Permanent Defects: Root vegetables cannot be held to the same degree of perfection that is required of fruits and some vegetables. It is almost impossible to avoid all blemishes in handling, and furthermore, slight blemishes do not materially detract from the appearance or value of the product as they do in the case of many other products.
- (63) Ordinarily only those defects which are sufficiently serious to affect the grade should be reported on the certificate. If the applicant specifically requests that such minor blemishes be reported, the description of such blemishes should be followed by the statement "not affecting grade," and further stated under the "Remarks" heading that such blemishes, not affecting grade, are reported at the request of the applicant.
- (64) In scoring defects of the roots, the individual root is the unit. In scoring defects of the tops, the bunch is the unit in the bunched beet and turnip style. Therefore, it is necessary to keep separate columns for scoring defective roots and tops. There are separate tolerances

for roots and tops. Bunched beets and turnips are scored on the basis of count for defective roots and tops, while topped beets, turnips or rutabagas and those with short-trimmed tops are scored on the basis of weight. All factors are determined on the count basis in the Canadian Standards.

Th U.S. Standards use the following terms to distinguish between defects of U.S. No. 1 and U.S. No. 2 grades. The inspector must have the proper interpretation and understanding of these terms before proceeding with the inspection. (65)

Free from means that regardless of the size or appearance of the defect, the affected specimen is scorable against the tolerance. (66)

Free from damage briefly means any defect which materially affects the appearance, edible or shipping quality, or causes a loss of more than 5%, by weight, in the ordinary preparation for use. The Standards pinpoint some factors considered as damaged under the definition of terms. (67)

Free from serious damage means any defect which seriously affects the appearance or edible or shipping quality or causes a loss of more than 20%, by weight, in the ordinary preparation for use. (68)

Brown Heart or Watercore (Rutabagas and Turnips): Brown Heart is recognized by irregular streaks and patches of discolored tissue and watersoaked areas. When the disease is encountered it is necessary to cut liberal samples to determine the percentage as there is no (69)

external evidence. If it causes more than 5% waste, it should be scored as a defect of U.S. No. 1 and Canada No. 1. If more than 20% waste is involved it is scored as a defect of U.S. No. 2.

- (70) It is advisable to cut several roots at random while scoring samples and if it is definitely established that internal damage or serious damage is present, enough specimens should be cut to determine the percentage. The container tolerance applies and therefore individual containers of more than 5 lbs. may not have more than 1-1/2 times the 10% tolerance. If such containers have less than 10% defects, double the tolerance is allowed.

- (71) Internal Black Spot (Beets): Internal Black Spot is characterized by black, irregular patches of broken down tissue, usually in the central part of the root. The discolored areas are moist and of about the same texture as the normal tissue. They do not dry, form cavities, or cause unusual shrinkage of the root. Beets may be severely affected without showing external symptoms of this disease. However, occasionally some tissues are affected near the surface of the root and cracks occur. These permit secondary rot-producing fungi to invade these areas.

This should be handled as described in cutting for Brown Heart.

Cuts: Mechanical damage or cuts which are large, rough, and ragged (72)
cuts which materially damage the appearance or cause more than 5%
waste should be scored against U.S. No. 1 grade. When packing tur-
nips or rutabagas, growers and packers frequently trim the roots by
cutting away small decayed spots, worm damage or other surface blem-
ishes. Cuts which are not large, discolored, rough or deep should be
ignored.

The Canadian No. 1 grade provides that the stalk and root may be cut (73)
back and the lower half of the root smoothly trimmed to remove sur-
face blemishes. If the appearance is seriously affected or there
would be more than 20% waste, the specimen is scored as a defect of
U.S. No. 2.

Growth Cracks or Air Cracks: Slight cracks that do not materially (74)
affect the appearance, which are shallow or fairly smooth, should be
passed. If a crack is deep, discolored, rough, or materially affects
the appearance, it should be scored against U.S. No. 1 grades. When
a crack seriously affects the appearance it shall be considered as
serious damage, and scored against the U.S. No. 2 grade. Growth
cracks are scored against the Canada No. 1 grade for rutabagas and
turnips when they affect 25% of the lower half of the turnip or cause
a waste of 5% by weight, including peel, covering the defective areas.

- (75) Insects or Rodents: Insect or rodent injury to the root should be scored against U.S. No. 1 when the injury materially affects the appearance of the root, or causes a loss of more than 5% by weight, or the edible quality of the root is materially affected. When the appearance of the tops is materially affected by insect injury the entire bunch is scorable as a defect against the 10% tolerance for defects of tops.
- (76) Insect damage would be scored against Canada No. 1 grade for rutabagas and turnips when it causes more than 5% waste, including peel covering the defective area, or affects more than 1/4 of the surface in the aggregate of the lower half of the root. Any amount is permitted on the upper half provided it does not cause more than 5% waste.
- (77) Pithiness is probably the result of unfavorable growing conditions resulting in the texture of the roots being tough, woody and stringy. Excessive freezing and thawing of the roots while in the ground or storage may cause some increase in pithiness. The damage, however, is primarily due to unfavorable growing conditions and when occurring sufficiently to cause the root to be open textured, spongy, woody or

stringy, it should be scored as a defect. The U.S. Standards for Turnips or Rutabagas require that U.S. No. 1 be free from damage by pith which means that the edible quality is not materially affected by pith. Pith is not specifically mentioned in the Beet Standards, but the same definition mentioned above for turnips could apply to beets.

Secondary Rootlets: It is impossible to fix a minimum number of root- (78)
lets that a turnip or rutabaga may have before it would be considered damaged, because of the variation of size of roots, size and length of rootlets, as all would have a bearing on the effect they would have on the general appearance. One or two fairly long rootlets on an occasional specimen should be ignored. Two or three excessively long rootlets on a large percentage of stock would materially affect the appearance and should be scored. Inspectors should not become technical in scoring rootlets in lots which have a satisfactory appearance.

CONDITION

Under this heading the following factors should be reported: (79)

Firmness of roots
Freshness of tops
Color of tops
Condition defects other than decay
Decay

- (80) Firmness of Roots: All grades, including Canada No. 1, require the roots to be firm. Firmness should be described by use of the following terms:

Firm means that the roots are not soft, flabby or shriveled.

Fairly firm means that the roots are slightly wilted, soft or flabby. (Fails to meet firmness requirements of all grades.)

Flabby and wilted means that the roots are badly wilted, flabby, soft, limp or rubbery.

- (81) The range and average percentage of roots which are not firm should be reported. The location of roots in the package and in the car should be reported as this has an important bearing on indicating whether wilting occurred prior to loading, or during the transit period due to lack of adequate refrigeration.

- (82) Examples:

From 5 to 35%, average 15% flabby and wilted roots scattered throughout the pack, remainder firm.

In most samples none, in some crates adjacent side-walls 5 to 10% of roots next bottoms of crates are flabby and wilted, remainder firm.

- (83) Freshness of Tops: Both U.S. No. 1 and U.S. No. 2 grades require the tops of bunched beets and turnips or those with short-trimmed tops to be "fresh." The term "fresh" means that the tops are not badly wilted and in the case of bunched turnips, the tops are also of normal green color.

Color of Tops: The color of tops refers to the color of the leaves and not the leafstems. In describing the color of the tops of turnips, the following terms should be used: (84)

Good green color means that the leaves show a good bright shade of green color.

Light green color means that the leaves show a light shade of green color.

Turning yellow or yellow means that the leaves are turning from light green to yellow.

In describing the normal color of the tops of bunched beets, the term "good characteristic color" should be used which means that the leaves show a good shade of green and red color characteristic of the variety. (85)

Condition Defects Other than Decay:

Discoloration of Tops of Bunched Beets and Turnips: Discoloration of tops includes dark discoloration which may be caused by bruising, a watersoaked condition, or freezing damage to the tops, as well as brown or yellow discoloration. In scoring discoloration of the tops, the bunch is the unit. Individual beets or turnips cannot be scored. If the discoloration is sufficient to materially affect the appearance of the bunch, the bunch should be scored as a unit under a separate heading on the back of the notesheet. Since there is separate tolerance of 10% for damaged tops, the lot as a whole will not (86)

be considered as having damaged tops if not over 10% of the bunches are so damaged, or over 15% in an individual container.

- (87) Inspectors should check sidewall row crates loaded with bottoms tight against sidewalls, particularly during the summer months. If yellowing or discoloration is found, it should be described as accurately as possible, indicating the number of inches this condition extends into the crate.
- (88) Freezing: All freezing damage or frozen stock that occurred after packing should be treated as a condition factor in the markets and reported under the "Condition" heading. Roots that are frozen or in a thawing condition, which may or may not be damaged after thawing, should be fully described as to location, etc., without trying to anticipate whether there will be damage or serious change. The grade statement should be based upon the condition at the time of inspection. Thus, "Now meets quality requirements but fails to grade U.S. No. 1 only account condition."
- (89) For a complete description of the various methods of reporting transit freezing refer to the General Market Instructions, Part II.

New Top Growth: Near the end of the storage season, topped roots may (90)
be found showing new top growth. Such growth in excess of 1/2 inch
in the case of beets and 3/4 inch in length in the case of turnips
shall be scored as a condition defect.

Decay: Two types of decays may be found in beets, rutabagas and (91)
turnips: dry rot and soft rot. Dry rot should be included with
other defects while soft rot carries a special tolerance in U.S. and
also in Canadian Standards. For a complete description of the vari-
ous decays, see Agriculture Handbooks No. 155 and No. 184.

Dry Rots such as Fusarium Rot or Black Rot should not be (92)
reported with soft rot. They should be scored on the
basis of appearance and waste under the general defini-
tions of damage and serious damage as the case may be
and scored against the tolerances for general defects.

Soft Rot is defined as a soft, mushy, or leaking condi- (93)
tion of the tissue and must be reported separately from
other defects. The grade provides that beets, turnips
or rutabagas must be "free from soft rot." If no soft
rot is found, the certificate should state "no soft rot."

All U.S. Standards covering the various styles (topped, bunched, or (94)
short-trimmed tops) provide a tolerance of 1% for soft rot affecting
the roots, and when the tops are attached, an additional tolerance of
5% is provided for decay affecting the tops or leafstems. This 5%
tolerance applies to any kind of decay.

- (95) It must be remembered that when scoring on the basis of Canada No. 1 grade for Rutabagas and Turnips, that this grade provides a tolerance of 5% for soft rot and percentages are determined by count.
- (96) In scoring and reporting decay, the inspector should report the name, amount and degree of the decay. If the inspector cannot name the decay, it will be satisfactory to describe it. The most important diseases affecting the roots are: Fusarium Rot, Gray Mold Rot, Bacterial Soft Rot and Alternaria Root Rot. A clear description of the degree of soft rot found is important in order that interested parties may properly evaluate the lot.
- (97) Watersoaked or Bruised Leaves: A word of caution to the inspector. Do not confuse watersoaked or bruised leaves with decay. Leaves affected with Bacterial Soft Rot become slippery and disintegrate when rubbed between the fingers; while bruised and watersoaked leaves have a similar appearance, they will not disintegrate when rubbed. The U.S. Standards provide a separate tolerance of 5% for decay affecting the tops. Bruised and watersoaked leaves are scorable as condition defects at terminal markets against the general tolerance of 10% for defective tops.

GRADE

Under this heading a definite statement pertaining to the grade of (98)
the lot should be made. If the load consists of different lots, it
will be necessary to report them separately. The grade statement is
an interpretation of the facts reported in the body of the certifi-
cate. Whenever a lot is reported as failing to meet the requirements
of the grade, the reason for its failure must be given. Thus: "Fails
to grade U.S. No. 1 account grade defects."

Reporting Grade when Condition Defects are Involved: When applying the (99)
Canadian Standards to beets and rutabagas, it should be remembered
that an additional 5 percent tolerance is allowed at destination. DO
NOT SPECIFY THE REASON FOR FAILING IN THE GRADE STATEMENT when the
Canadian tolerances are exceeded. The only grade statement should read:
"Fails to grade Canada No. 1" regardless of the reason for failing.

Reporting Percentage of U.S. No. 1 Quality: If the percentage of (100)
U.S. No. 1 quality is to be reported, the total percentages of
defects, including decay, should be subtracted from 100 to determine
the percentage of U.S. No. 1 Quality. If the percentage of soft rot

exceeds the tolerance (1%) affecting roots, it should be shown following the grade statement. Thus: "Approximately 85% U.S. No. 1 Quality, 4% soft rot." When a minimum or minimum and maximum size is to be reported in connection with the percentage of U.S. No. 1 Quality, the percentage of off-size roots should be added to the defects before subtracting from 100.

(101) Reporting Grade of Bunched Beets and Turnips When Tops are Damaged:

In the bunched beet and bunched turnip packs, when a lot shows over 10% of the bunches, by count, damaged by discoloration, or individual containers exceed one and one-half times the tolerance (15%), the lot would fail to grade account of damaged tops. As the 10% of the bunches permitted showing damaged tops is scored on the bunch basis, such percentages must not be added to the total defects, which are scored on the basis of the individual root, to arrive at a percentage of U.S. No. 1 Quality.

(102) If the bunches with damaged tops are more than 1% but less than 10%, they should be reported by the use of the term, "Generally," either alone or in connection with the grade defect statement, thus as in the case of turnips: "Tops generally fresh and green" or "Tops generally fresh and green, damage by yellow leaves average within

tolerance." In the case of beet tops, the word "green" in the above sample would be replaced by the words "good characteristic color."

If the percentage of damaged tops exceeds the tolerance, the range (103)
and average percentage of damaged bunches must be reported. If a lot is out of grade account damaged tops, no percentage of U.S. No. 1 quality may be reported. However, a percentage of U.S. No. 1 quality or grade of the roots aside from the tops may be stated.

Examples:

"Meets quality requirements but fails to grade U.S. No. 1 only account condition, but roots average 85% U.S. No. 1 Quality." (104)

"Turnips (or Beets): Meets quality requirements but fails to grade U.S. No. 1 only account condition, roots are of U.S. No. 1 Quality."

Size in Connection with the Grade: When no minimum size is speci- (105)
fied in connection with the grade, it is assumed the minimum size is that stated in the grade. However, the applicant may specify a different minimum size. If undersized beet, turnip or rutabaga roots exceed the tolerance (5%), either a lower minimum size may be specified in connection with the grade statement or the lot may be reported as failing to grade account the excessive undersize reported under the "Size" heading. The applicant should be consulted

as to the size specified in his sales contract and this size shall be used for the basis of size description. Remember when sizes other than those specified in the grade are reported, they must be stated in connection with the grade, thus: "U.S. No. 1, 2-1/4 inches minimum." When requested, Standard Bunches may be reported in connection with grade statement, thus, "U.S. No. 1 Standard Bunched."

REPORTING SERIOUS DEFECTS OF A PROGRESSIVE NATURE

- (106) Refer to General Market Inspection Instructions.

CANADIAN IMPORT REQUIREMENTS

- (107) Topped beets, rutabagas or turnips or those with short-trimmed tops shipped to Canada must be certified as meeting the requirements of one of the U.S. Grades. Other specified sizes than those provided in the grades will be acceptable to the Canadian authorities. No certification is required for bunched beets or turnips for importing into Canada.

REMARKS

- (108) Refer to General Market Inspection Instructions, Part II.

GENERAL EXAMPLES

Canada No. 1 Topped Rutabagas.

Size: Generally 2 to 4-1/4 inches, mostly 2-1/2 to 3-1/2 inches in diameter. Undersize and oversize within tolerances.

Quality: Fairly well to well shaped; well trimmed, mostly smooth, many fairly smooth; fairly clean to clean. Grade defects average 4% consisting of insect damage and cuts.

Condition: Generally firm, From 1 to 6%, average 4% soft rot, consisting of Bacterial Soft Rot and Gray Mold Rot in advanced stages. Less than 1% dry type rot.

Grade: Canada No. 1, Small.

Canada No. 1 Large (showing transit freezing).

Size: Generally 5 to 7-1/2 inches in diameter. Undersize within tolerance.

Quality: Fairly well to well shaped; generally well trimmed, mostly smooth, some fairly smooth and clean. Grade defects average within tolerance.

Condition: Firm. In bottom layer sacks 1 to 2 layers of rutabagas next to floor racks and many rutabagas in 2nd layer sacks adjacent to sides and end walls frozen, so located as to indicate freezing occurred in car. No decay.

GRADE: Fails to grade Canada No. 1.

(Fails U.S. No. 1) Topped Rutabagas.

Size: Generally 2-3/4 to 6-1/2 inches, mostly 3-1/2 to 6 inches in diameter. Average 5% under 2-3/4 inches.

Quality: Mostly well shaped, some fairly well shaped; generally well trimmed; fairly smooth to smooth; mostly clean, some fairly clean. Grade defects range from 5 to 40%, average 25% consisting of insect damage, cuts and pithy.

Condition: Generally firm. Range from 2 to 6%, average 4%, Fusarium Dry Rot. 2 to 5%, average 3% Bacterial Soft Rot occurring fairly uniformly throughout load, mostly in advanced stages.

Grade: Fails to grade U.S. No. 1, 2-3/4 inches minimum account excessive defects, now contains approximately 65%, U.S. No. 1 quality 2-3/4 inches minimum. 3% soft rot.

Bunched Beets or Bunched Turnips (Now fails account soft and flabby roots and damaged tops.)

Size: Roots from 1-3/4 to 3 inches, mostly 2 to 2-1/2 inches in diameter. Average 2% under 1-3/4 inches. Full tops from 10 to 14 inches in length.

Quality: Roots are generally well shaped, well trimmed, smooth and clean. Grade defects from 2 to 10%, averaging 5%, consisting of insect damage and cuts.

Condition: Roots are mostly firm. In most samples none, in many from 3 to 25%, averaging 15% soft and flabby roots scattered throughout pack and load. Tops are mostly fresh and showing good characteristic color (good green color in the case of turnips). From 5 to 40%, average 25% of bunches damaged by some to many yellow or brown discolored and/or watersoaked leaves. No decay.

- Grade: Meets quality requirements but fails to grade U.S. No. 1 only account condition. Roots average approximately 80% U.S. No. 1 Quality.
- Beets or Turnips with Short-Trimmed Tops (Fails account excessive leafstems).
- Size: Roots generally 1-3/4 to 2-1/2 inches in diameter, less than 1% under 1-3/4 inches. Leafstems from 3 to 6 inches in length with 5% to 20%, average 15% leafstems over 4 inches in length.
- Quality: Roots well shaped; mostly well trimmed; fairly smooth to smooth; fairly clean to clean. Grade defects within tolerance.
- Condition: Roots firm. Leafstems fresh; good characteristic color. (In the case of turnip "light green to good green color.") No decay.
- Grade: Fails to grade U. S. No. 1 account excessive leafstems over 4 inches in length.

POINTS TO REMEMBER
CANADIAN GRADE FOR RUTABAGAS AND TURNIPS

Canada has only one grade, namely, Canada No. 1. All factors, (109)
including size, are determined on-the-basis of count. Canada No. 1
permits 5% soft rot, while the U.S Standards permit 1% soft rot
affecting the roots.

- (110) Whenever tolerances, including the 5 percent destination tolerance, are exceeded the grade statement should read "Fails to grade Canada No. 1."

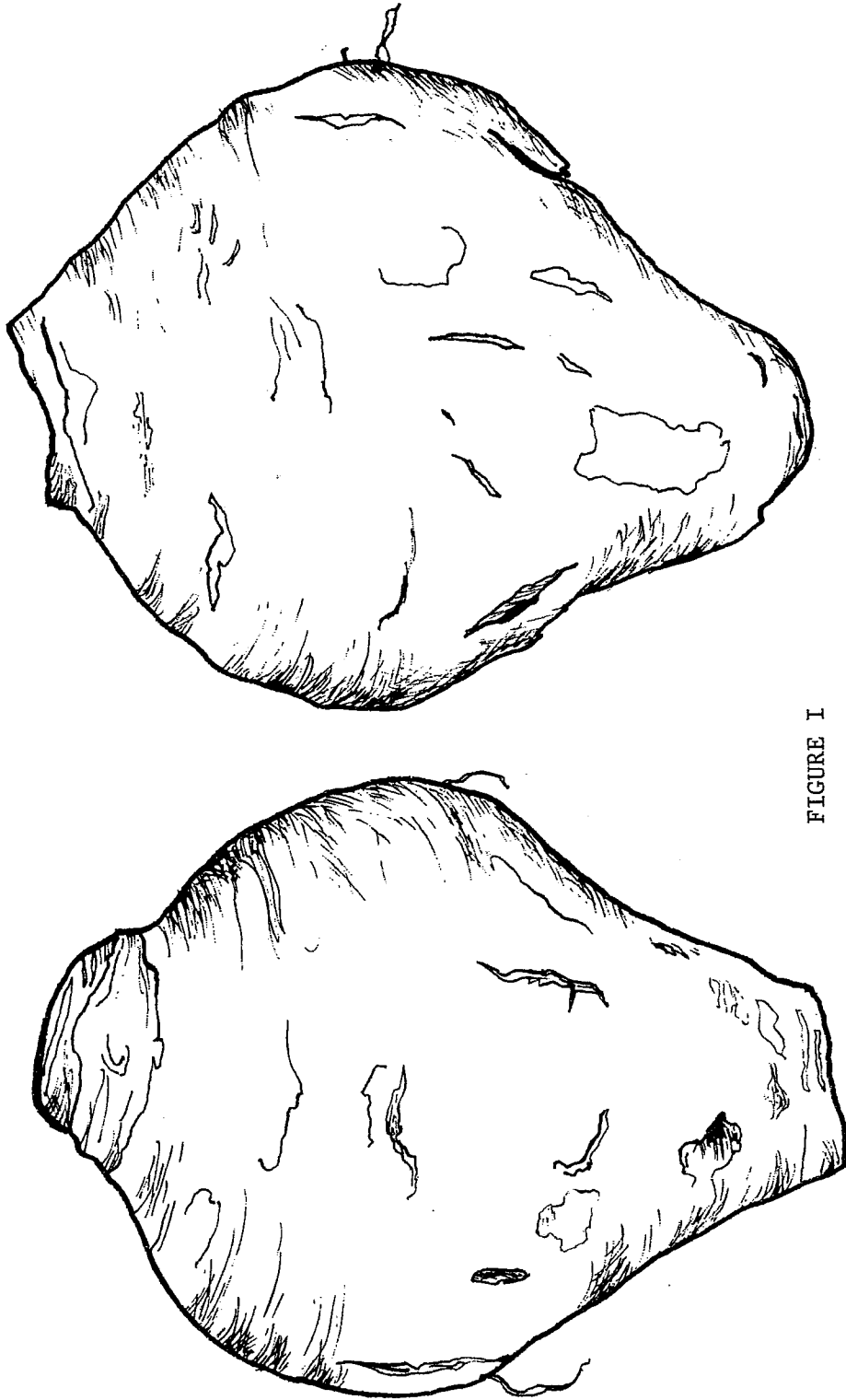
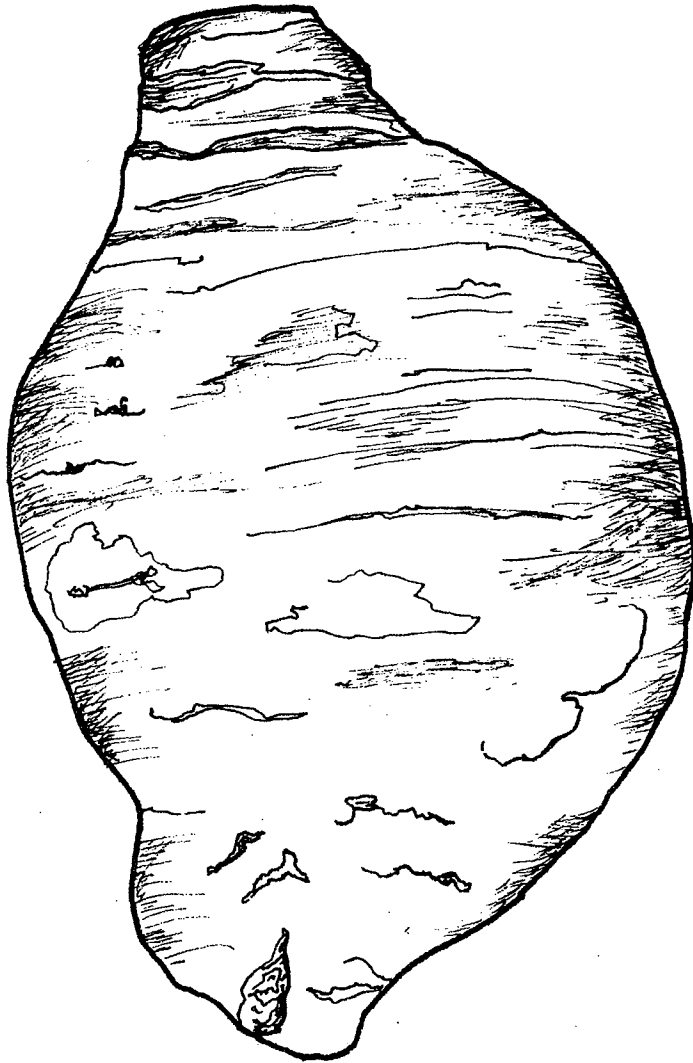


FIGURE I

FAIRLY WELL SHAPED
(above two views--same Rutabaga)

MAXIMUM ALLOWED
U. S. No. 1

SHAPE
FAIRLY WELL SHAPED



MAXIMUM ALLOWED
U.S. No. 1

FIGURE 2

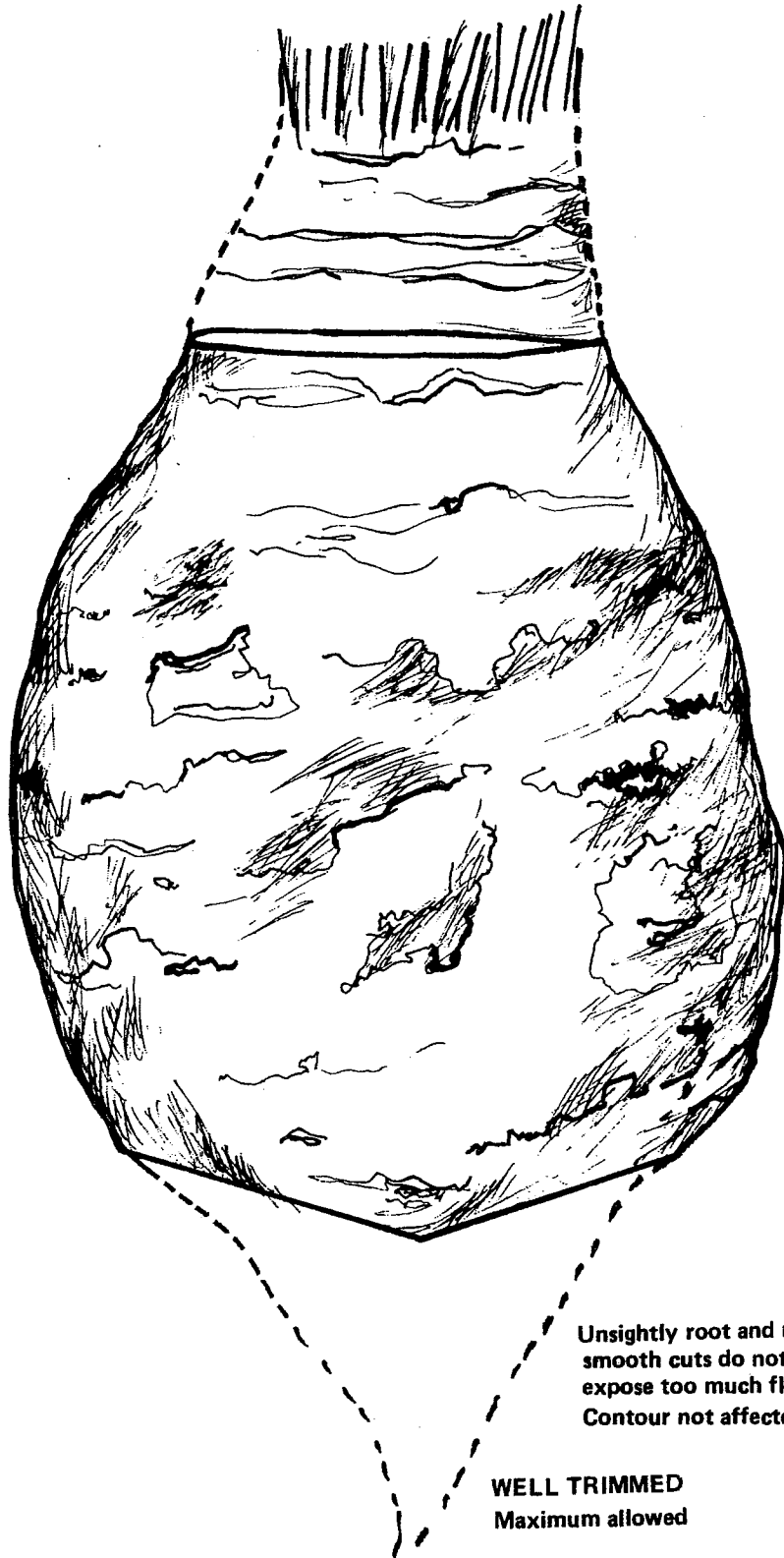


FIGURE 3

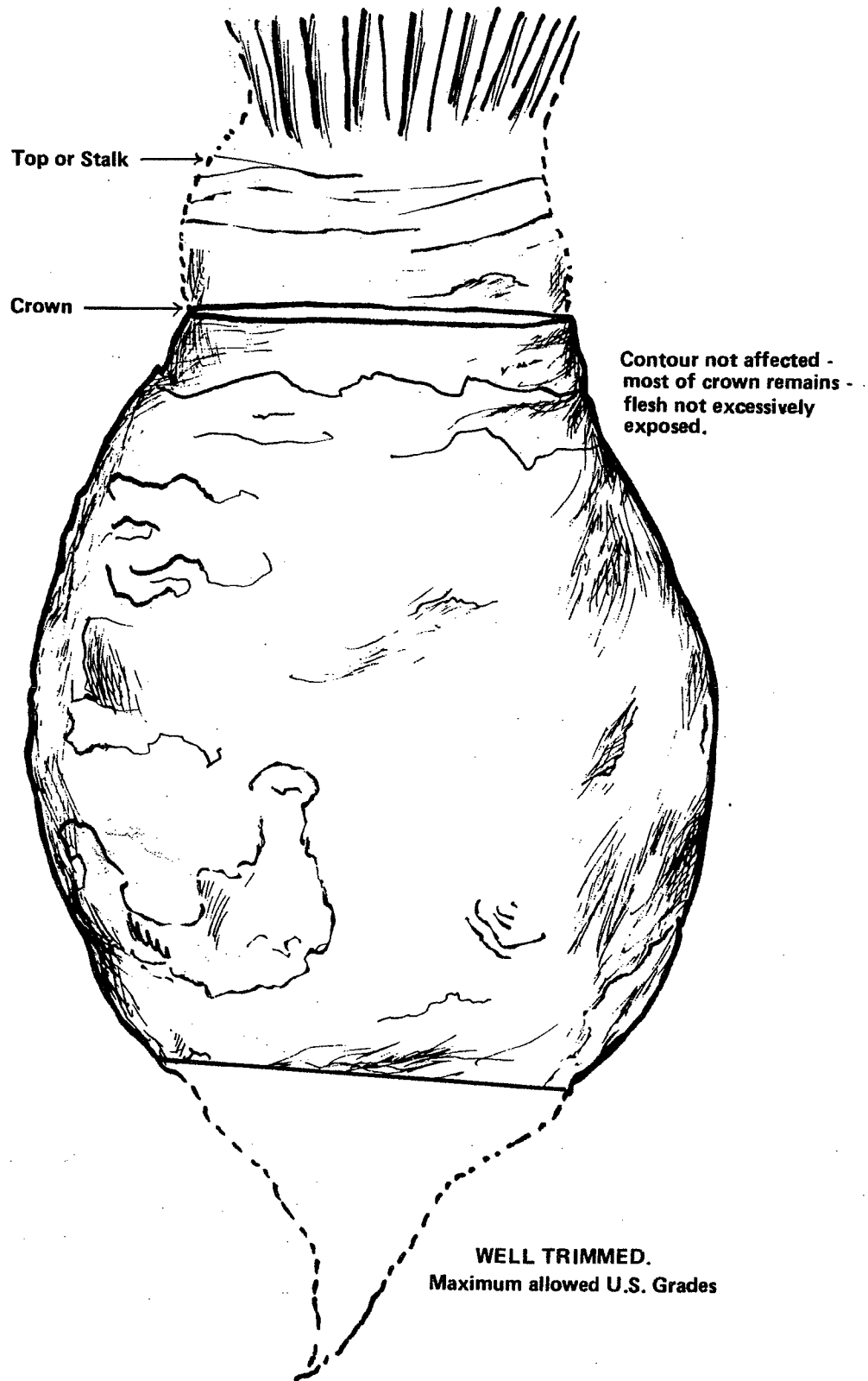


FIGURE 4

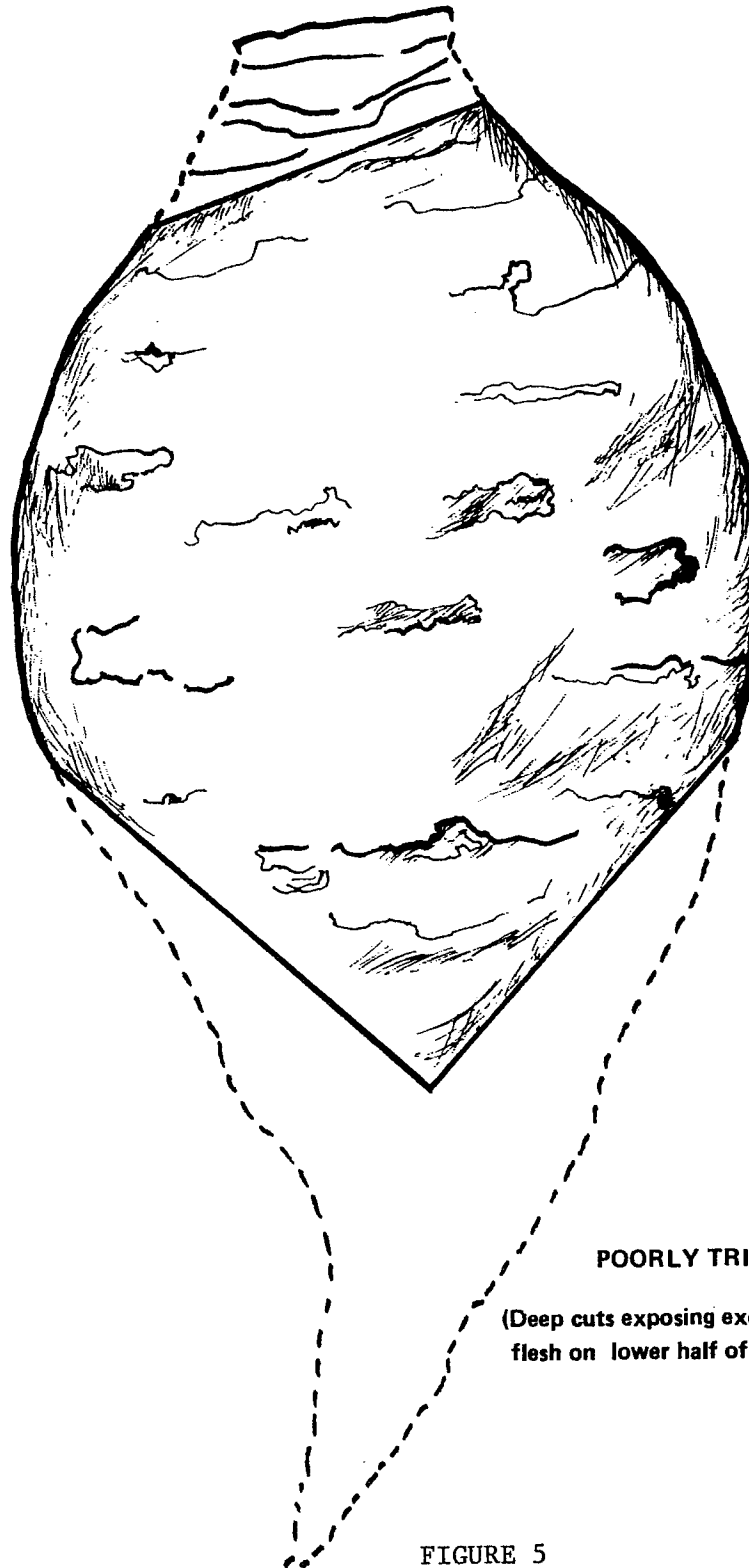


FIGURE 5

Crown completely removed--
deep cut exposing flesh.
Contour of root affected.

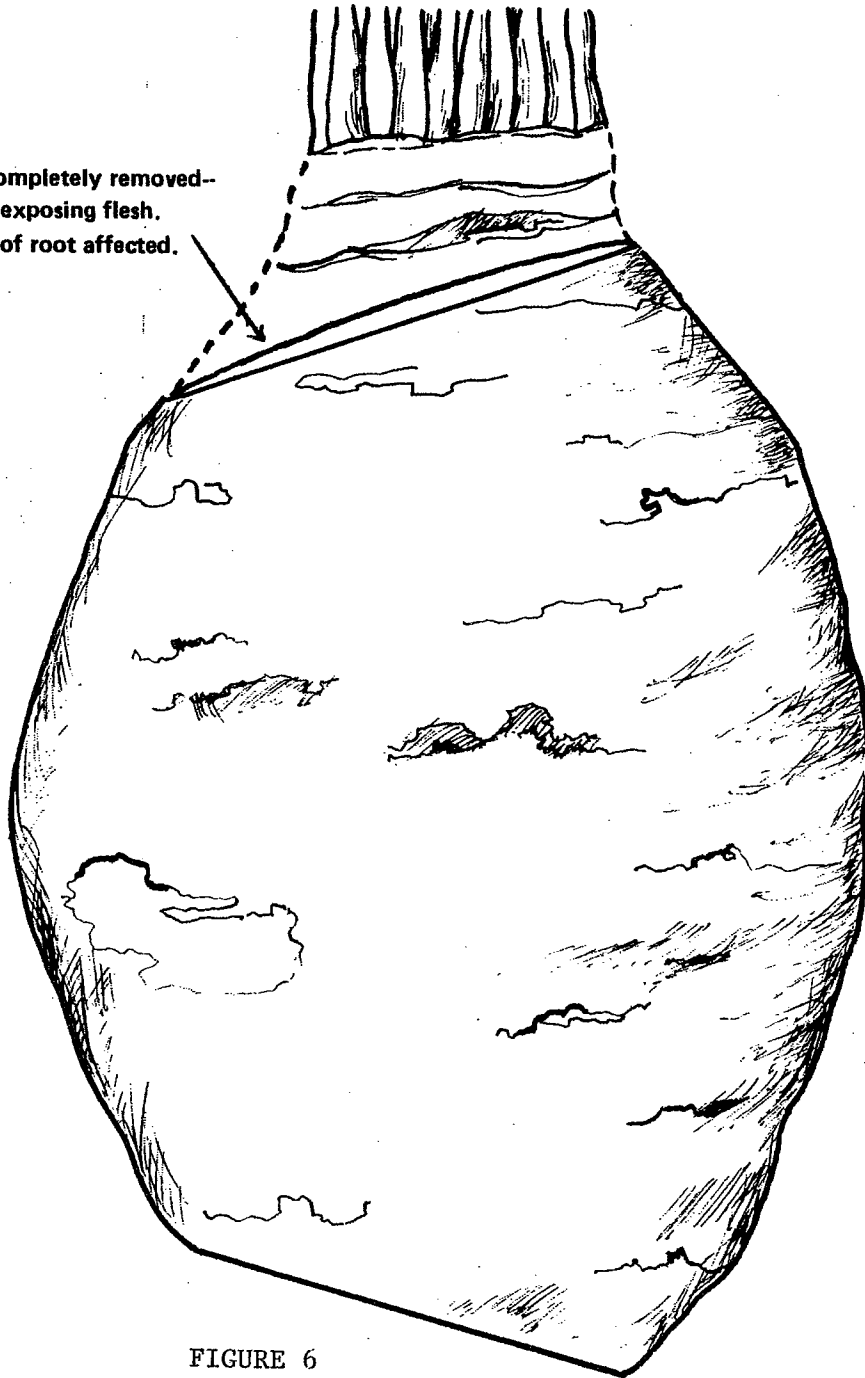


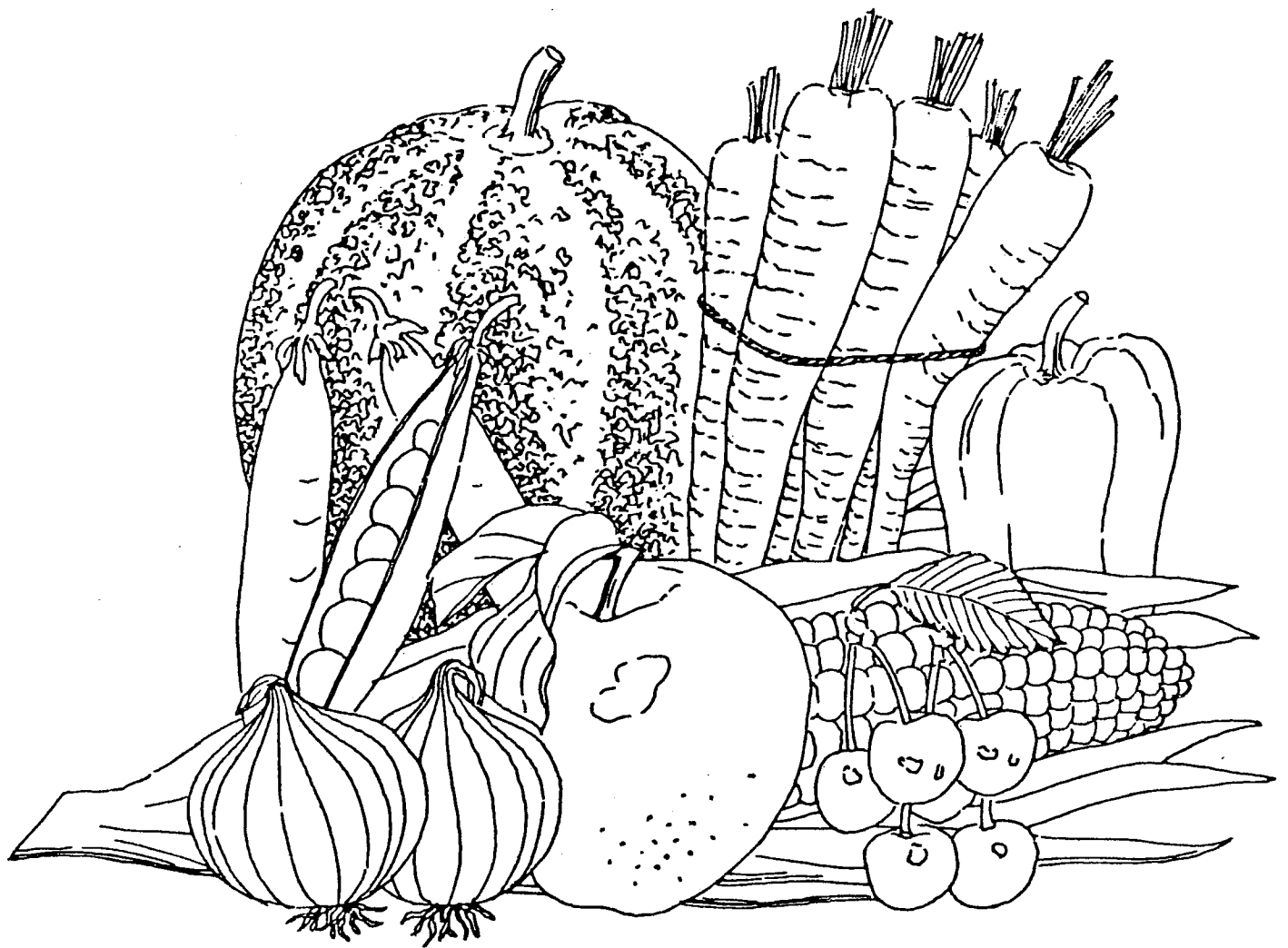
FIGURE 6

DEFECTIVE ROOT

(Score as deep cuts materially affecting crowns and exposing an excessive amount of flesh).

Appendix I

United States Standards



UNITED STATES STANDARDS FOR GRADES OF BEETS ¹

SOURCE: 20 FR 4617, June 30, 1955, unless otherwise noted. Redesignated at 42 FR 32514, June 27, 1977 and at 46 FR 63203, Dec. 31, 1981.

Effective August 1, 1955

STYLES	
Sec.	
51.375	Bunched beets.
51.376	Beets with short-trimmed tops.
51.377	Topped beets.
GRADES	
51.378	U. S. No. 1.
51.379	U. S. No. 2.
UNCLASSIFIED	
51.380	Unclassified.
TOLERANCES	
51.381	Tolerances.
APPLICATION OF TOLERANCES	
51.382	Application of tolerances.
STANDARD BUNCHING	
51.383	Standard bunching.
DEFINITIONS	
51.384	Well trimmed.
51.385	Firm.
51.386	Fairly smooth.
51.387	Fairly well shaped.
51.388	Fairly clean.
51.389	Damage.
51.390	Fresh.
51.391	Diameter.
51.392	Excessively rough.
51.393	Seriously misshapen.
51.394	Serious damage.

AUTHORITY: §§ 51.375 to 51.394 issued under sec. 205, 60 Stat. 1090, 7 U. S. C. 1624.

STYLES

§ 51.375 *Bunched beets.* "Bunched beets" means beets which are tied in bunches. The tops shall be full length or removed to not less than 6 inches.

§ 51.376 *Beets with short-trimmed tops.* "Beets with short-trimmed tops" means, unless otherwise specified, beets showing leafstems ranging to not more than 4 inches in length.

§ 51.377 *Topped beets.* "Topped beets" means beets with tops removed to not more than one-half inch in length.

¹ Packing of the product in conformity with the requirements of these standards shall not excuse failure to comply with the provisions of the Federal Food, Drug, and Cosmetic Act.

GRADES

§ 51.378 *U. S. No. 1.* "U. S. No. 1" consists of beets of similar varietal characteristics the roots of which are well trimmed, firm, fairly smooth, fairly well shaped, fairly clean and free from soft rot and free from damage caused by cuts, freezing, growth cracks, disease, rodents or insects, or mechanical or other means. Bunched beets or beets with short-trimmed tops shall have tops which are fresh and free from decay and free from damage caused by discoloration, freezing, disease, insects, or mechanical or other means.

(a) Unless otherwise specified, the diameter of each beet shall be not less than 1½ inches. (See § 51.381.)

§ 51.379 *U. S. No. 2.* "U. S. No. 2" consists of beets of similar varietal characteristics the roots of which are well trimmed, firm, not excessively rough, not seriously misshapen and which are free from soft rot and free from serious damage caused by cuts, dirt, freezing, growth cracks, disease, rodents or insects, or mechanical or other means. Bunched beets or beets with short-trimmed tops shall have tops which are fresh and free from decay and free from damage caused by discoloration, freezing, disease, insects, or mechanical or other means.

(a) Unless otherwise specified, the diameter of each beet shall be not less than 1½ inches. (See § 51.381.)

UNCLASSIFIED

§ 51.380 *Unclassified.* "Unclassified" consists of beets which have not been classified in accordance with either of the foregoing grades. The term "unclassified" is not a grade within the meaning of these standards, but is provided as a designation to show that no grade has been applied to the lot.

TOLERANCES

§ 51.381 *Tolerances.* In order to allow for variations incident to proper grading and handling, the following tolerances shall be permitted:

(a) *For bunched beets*—(1) *For defects of roots.* 10 percent, by count, for roots in any lot which fail to meet the requirements of the grade: *Provided*, That not more than one-half of this amount, or 5 percent, shall be allowed for defects causing serious damage, including therein not more than 1 percent for soft rot;

(2) *For defects of tops.* 10 percent, by count, for bunches with tops in any lot which fail to meet the requirements of the grade, including therein not more than 5 percent for decay;

(3) *For off-size roots.* 5 percent, by count, for roots in any lot which are smaller than the specified minimum diameter, and 10 percent, by count, for roots which are larger than any specified maximum diameter; and

(4) *For off-length tops.* 5 percent, by count, for bunches with tops in any lot which fail to meet the requirements of the style.

(b) *For beets with short-trimmed tops or topped beets*—(1) *For defects of roots.* 10 percent, by weight, for roots in any lot which fail to meet the requirements of the grade: *Provided*, That not more than one-half of this amount, or 5 percent, shall be allowed for defects causing serious damage, including therein not more than 1 percent for soft rot;

(2) *For defects of tops.* 10 percent, by weight for roots with tops in any lot which fail to meet the requirements of the grade, including therein not more than 5 percent for decay;

(3) *For off-size roots.* 5 percent, by weight, for roots in any lot which are smaller than the specified minimum diameter, and 10 percent, by weight, for roots which are larger than any specified maximum diameter; and,

(4) *For off-length tops.* 10 percent, by weight, for beets with tops in any lot which fail to meet the requirements of the style specified.

APPLICATION OF TOLERANCES

§ 51.382 *Application of tolerances.*

(a) The contents of individual packages in the lot, based on sample inspection, are subject to the following limitations: *Provided*, That the averages for the entire lot are within the tolerances specified for the grade:

(1) For packages which contain more than 5 pounds and a tolerance of 10 percent or more is provided, individual packages in any lot shall have not more

than one and one-half times the tolerance specified. For packages which contain more than 5 pounds and a tolerance of less than 10 percent is provided, individual packages in any lot shall have not more than double the tolerance specified except that at least one defective and one off-size specimen shall be permitted in any package; and,

(2) For packages which contain 5 pounds or less, individual packages in any lot are not restricted as to the percentage of defects and off-size: *Provided*, That not more than one beet which is frozen or affected by soft rot may be permitted in any package.

STANDARD BUNCHING

§ 51.383 *Standard bunching.* (a) Standard bunches of beets shall be fairly uniform in size and each bunch of beets shall weigh not less than 1 pound and contain at least 3 beets.

(b) Not more than 10 percent of the bunches in any lot may fail to meet the requirements for "Standard Bunching".

DEFINITIONS

§ 51.384 *Well trimmed.* "Well trimmed" means that unattractive secondary rootlets have been removed and that any objectionably long or coarse tail-like part of the root has been cut off.

§ 51.385 *Firm.* "Firm" means that the beet root is not soft, flabby or shriveled.

§ 51.386 *Fairly smooth.* "Fairly smooth" means that the root is not rough or ridged to the extent that the appearance is materially affected. Very slight roughness over the crown or very slight pitting caused by the shedding of dead leaves shall not be considered as materially affecting the appearance.

§ 51.387 *Fairly well shaped.* "Fairly well shaped" means that the root is not misshapen to the extent that the appearance is materially affected.

§ 51.388 *Fairly clean.* "Fairly clean" means that the individual root is reasonably free from dirt, stain or other foreign matter, and that the general appearance of the roots in the container is not more than slightly affected.

§ 51.389 *Damage.* "Damage" means any defect which materially affects the appearance, or the edible or shipping quality of the individual beet root, or the general appearance of the beet roots

in the container, or causes a loss of more than 5 percent, by weight, in the ordinary preparation for use, or which materially affects the appearance or shipping quality of the tops. Any one of the following defects, or any combination of defects, the seriousness of which exceeds the maximum allowed for any one defect, shall be considered as damage:

(a) Growth cracks when not shallow and not smooth or when the appearance is materially affected; and,

(b) Discoloration when yellowing or other discoloration of the tops materially affect the appearance of the bunch. The appearance of bunches with tops having slight discoloration such as yellowing, browning, or other abnormal color affecting a few leaves shall not be considered materially affected.

§ 51.390 *Fresh*. "Fresh" means that the tops are not badly wilted.

§ 51.391 *Diameter*. "Diameter" means the greatest dimension of the root measured at right angles to a line running from the crown to the base of the root.

§ 51.392 *Excessively rough*. "Excessively rough" means that the root is rough or ridged to the extent that the appearance is seriously affected.

§ 51.393 *Seriously misshapen*. "Seriously misshapen" means that the root is misshapen to the extent that the appearance is seriously affected.

§ 51.394 *Serious damage*. "Serious damage" means any defect which seriously affects the appearance, or the edible or shipping quality of the individual beet, or the general appearance of the beets in the container, or causes a loss of more than 20 percent, by weight, in the ordinary preparation for use.

The United States Standards for Beets contained in this subpart shall become effective 30 days after publication hereof in the FEDERAL REGISTER, and will there-

upon supersede the United States Standards for Bunched Beets which have been in effect since November 4, 1950 (18 F. R. 7082), the United States Standards for Topped Beets which have been in effect since May 1, 1934, and the United States Standards for Beets with Short-trimmed Tops which have been in effect since May 13, 1942.

Dated: June 27, 1955.

[SEAL] ROY W. LENNARTSON,
Deputy Administrator,
Marketing Services.

[F. R. Doc. 55-5255; Filed, June 29, 1955;
8:54 a. m.]

UNITED STATES STANDARDS FOR GRADES OF TURNIPS OR RUTABAGAS ¹

SOURCE: 20 FR 4619, June 30, 1955, unless otherwise noted. Redesignated at 42 FR 32514, June 27, 1977 and at 46 FR 63203, Dec. 31, 1981.

Effective August 1, 1955

STYLES

- Sec.
51.2610 Bunched turnips.
51.2611 Turnips with short-trimmed tops.
51.2612 Topped turnips or rutabagas.

GRADES

- 51.2613 U. S. No. 1.
51.2614 U. S. No. 2.

UNCLASSIFIED

- 51.2615 Unclassified.

TOLERANCES

- 51.2616 Tolerances.

APPLICATION OF TOLERANCES

- 51.2617 Application of tolerances.

STANDARD BUNCHING

- 51.2618 Standard bunching.

DEFINITIONS

- 51.2619 Similar varietal characteristics.
51.2620 Well trimmed.
51.2621 Firm.
51.2622 Fairly smooth.
51.2623 Fairly well shaped.
51.2624 Fairly clean.
51.2625 Damage.
51.2626 Fresh.
51.2627 Diameter.
51.2628 Excessively rough.
51.2629 Seriously misshapen.
51.2630 Serious damage.

AUTHORITY: §§ 51.2610 to 51.2630 Issued under sec. 205, 60 Stat. 1090, 7 U. S. C. 1624.

STYLES

§ 51.2610 *Bunched turnips.* "Bunched turnips" means turnips which are tied in bunches. The tops shall be full length or removed to not less than 6 inches.

§ 51.2611 *Turnips with short-trimmed tops.* "Turnips with short-trimmed tops" means, unless otherwise specified, turnips showing leafstems ranging to not more than 4 inches in length.

¹ Compliance with the provisions of these standards shall not excuse failure to comply with the provisions of the Federal Food, Drug and Cosmetic Act, or with applicable State laws and regulations.

§ 51.2612 *Topped turnips or rutabagas.* "Topped turnips or rutabagas" means turnips or rutabagas with tops removed to not more than three-fourths inch in length.

GRADES

§ 51.2613 *U. S. No. 1.* "U. S. No. 1" consists of turnips or rutabagas of similar varietal characteristics the roots of which are well trimmed, firm, fairly smooth, fairly well shaped, fairly clean, and free from soft rot and free from damage caused by cuts, discoloration, freezing, growth cracks, pithiness, woodiness, watercore, dry rot, other disease, insects or rodents, or mechanical or other means. Bunched turnips, or turnips with short-trimmed tops shall have tops which are fresh and free from decay and free from damage caused by discoloration, freezing, disease, insects, or mechanical or other means.

(a) Unless otherwise specified, the diameter of each turnip or rutabaga shall be not less than 1¾ inches. (See § 51.2616.)

§ 51.2614 *U. S. No. 2.* "U. S. No. 2" consists of turnips or rutabagas of similar varietal characteristics the roots of which are well trimmed, firm, not excessively rough, not seriously misshapen and which are free from soft rot and free from serious damage caused by cuts, dirt, discoloration, freezing, growth cracks, pithiness, woodiness, watercore, dry rot, disease, insects or rodents, or mechanical or other means. Bunched turnips or turnips with short-trimmed tops shall have tops which are fresh and free from decay and free from damage caused by discoloration, freezing, disease, insects, or mechanical or other means.

(a) Unless otherwise specified, the diameter of each turnip or rutabaga shall be not less than 1¾ inches. (See § 51.2616.)

UNCLASSIFIED

§ 51.2615 *Unclassified.* "Unclassified" consists of turnips or rutabagas which have not been classified in accordance with either of the foregoing grades. The term "unclassified" is not a grade within the meaning of these standards, but is provided as a designation to show that no grade has been applied to the lot.

TOLERANCES

§ 51.2616 *Tolerances.* In order to allow for variations incident to proper grading and handling, the following tolerances shall be permitted:

(a) *For bunched turnips—*(1) *For defects of roots.* 10 percent, by count, for roots in any lot which fail to meet the requirements of the grade: *Provided*, That not more than one-half of this amount, or 5 percent, shall be allowed for defects causing serious damage, including therein not more than 1 percent for soft rot;

(2) *For defects of tops.* 10 percent, by count, for bunches with tops in any lot which fail to meet the requirements of the grade, including therein not more than 5 percent for decay;

(3) *For off-size roots.* 5 percent, by count, for roots in any lot which are smaller than the specified minimum diameter, and 10 percent, by count, for roots which are larger than any specified maximum diameter; and,

(4) *For off-length tops.* 5 percent, by count, for bunches with tops in any lot which fail to meet the requirements of the style.

(b) *For turnips with short-trimmed tops or topped turnips or rutabagas—*

(1) *For defects of roots.* 10 percent, by weight, for roots in any lot which fail to meet the requirements of the grade: *Provided*, That not more than one-half of this amount, or 5 percent, shall be allowed for defects causing serious damage, including therein not more than 1 percent for soft rot;

(2) *For defects of tops.* 10 percent, by weight, for roots with tops in any lot which fail to meet the requirements of the grade, including therein not more than 5 percent for decay;

(3) *For off-size roots.* 5 percent, by weight, for roots in any lot which are smaller than the specified minimum diameter, and 10 percent, by weight, for roots which are larger than any specified maximum diameter; and,

(4) *For off-length tops.* 10 percent, by weight, for turnips or rutabagas with tops in any lot which fail to meet the requirements of the style.

APPLICATION OF TOLERANCES

§ 51.2617 *Application of tolerances.* (a) The contents of individual packages in the lot, based on sample inspection, are subject to the following limitations: *Provided*, That the averages for the entire lot are within the tolerances specified for the grade:

(1) For packages which contain more than 5 pounds and a tolerance of 10 percent or more is provided, individual packages in any lot shall have not more than one and one-half times the tolerance specified. For packages which contain more than 5 pounds and a tolerance of less than 10 percent is provided, individual packages in any lot shall have not more than double the tolerance specified except that at least one defective and one off-size specimen shall be permitted in any package; and,

(2) For packages which contain 5 pounds or less, individual packages in any lot are not restricted as to the percentage of defects and off-size: *Provided*, That not more than one turnip or rutabaga which is frozen or affected by soft rot may be permitted in any package.

STANDARD BUNCHING

§ 51.2618 *Standard bunching.* (a) Standard bunches of turnips shall be fairly uniform in size and each bunch of turnips shall weigh not less than 1 pound and contain at least 3 turnips.

(b) Not more than 10 percent of the bunches in any lot may fail to meet the requirements for "Standard Bunching".

DEFINITIONS

§ 51.2619 *Similar varietal characteristics.* "Similar varietal characteristics" means that the turnips or rutabagas in any package shall be of similar color and shape. For example, yellow fleshed varieties shall not be mixed with white fleshed varieties, and flat, globe, or long varieties shall not be mixed in the same package.

§ 51.2620 *Well trimmed.* "Well trimmed" means that unattractive secondary rootlets have been removed, and that any objectionably long or coarse tail-like part of the root has been cut off.

§ 51.2621 *Firm*. "Firm" means that the root is not soft, flabby or shriveled.

§ 51.2622 *Fairly smooth*. "Fairly smooth" means that the root is not rough or ridged to the extent that the appearance is materially affected.

§ 51.2623 *Fairly well shaped*. "Fairly well shaped" means that the root is not misshapen to the extent that the appearance is materially affected.

§ 51.2624 *Fairly clean*. "Fairly clean" means that the individual root is reasonably free from dirt or other foreign matter, and that the general appearance of the roots in the container is not more than slightly affected.

§ 51.2625 *Damage*. "Damage" means any defect which materially affects the appearance, or the edible or shipping quality of the individual turnip or rutabaga root or the general appearance of the turnips or rutabagas in the container, or causes a loss of more than 5 percent, by weight, in the ordinary preparation for use, or which materially affects the appearance or shipping quality of the tops. Any one of the following defects, or any combination of defects, the seriousness of which exceeds the maximum allowed for any one defect, shall be considered as damage:

(a) Cuts when discolored, rough or deep, or when materially affecting the appearance of the turnip or rutabaga;

(b) Growth cracks or air cracks when discolored or deep, or when the appearance is materially affected;

(c) Pithiness when the edible quality is materially affected by pith;

(d) Insects or rodents when the injury to the root materially affects the appearance of the turnip or rutabaga or causes a loss of more than 5 percent, by weight, or the edible quality of the root is materially affected; or when the tops are injured to the extent that the appearance of the bunch is materially affected; and

(e) Discoloration when yellowing or other discoloration of the tops materially affect the appearance of the bunch. The appearance of bunches of tops having slight discoloration such as yellowing, browning, or other abnormal color affecting a few leaves shall not be considered materially affected.

§ 51.2626 *Fresh*. "Fresh" means that the tops are of normal green color and are not badly wilted.

§ 51.2627 *Diameter*. "Diameter" means the greatest dimension of the root

measured at right angles to a line running from the crown to the base of the root.

§ 51.2628 *Excessively rough*. "Excessively rough" means that the root is rough or ridged to the extent that the appearance is seriously affected.

§ 51.2629 *Seriously misshapen*. "Seriously misshapen" means that the root is forked or misshapen to the extent that the appearance is seriously affected.

§ 51.2630 *Serious damage*. "Serious damage" means any defect which seriously affects the appearance, or the edible or shipping quality of the individual turnip or rutabaga or the general appearance of the turnips or rutabagas in the container, or causes a loss of more than 20 percent, by weight, in the ordinary preparation for use.

The United States Standards for Turnips or Rutabagas contained in this subpart shall become effective 30 days after publication hereof in the FEDERAL REGISTER, and will thereupon supersede the United States Standards for Bunched Turnips issued August 9, 1927, and reissued January 18, 1943, and United States Standards for Topped Turnips or Rutabagas, issued March 21, 1935, and reissued September 27, 1949.

Dated: June 27, 1955.

[SEAL] ROY W. LENNARTSON,
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