



United States
Department of
Agriculture

Lettuce

Agricultural
Marketing
Service

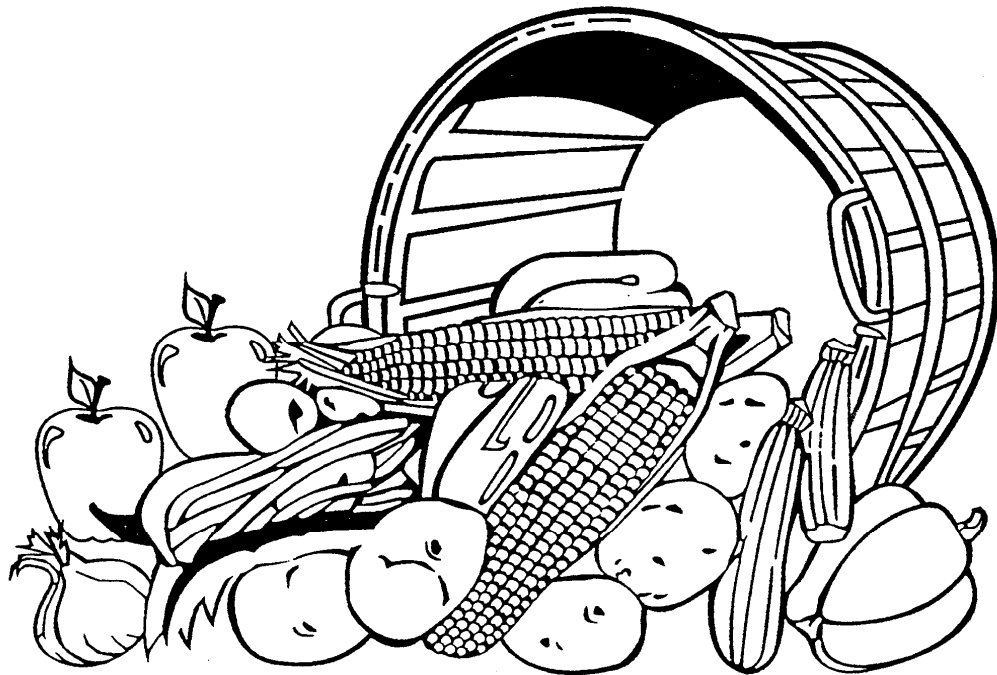
Shipping Point and Market Inspection Instructions

Fruit and
Vegetable
Programs

Fresh Products
Branch

May 2004

Previously
July 1994



Shipping Point and Market Inspection Instructions for Lettuce

These inspection instructions are specifically developed by the Fresh Products Branch to assist officially licensed inspectors in the interpretation and application of the U.S. Standards for Grades of Lettuce, Section 51.2510; U.S. Standards for Grades of Romaine, Section 51.3295; U.S. Standards for Grades of Endive, Escarole, or Chicory, Section 51.3535; U.S. Standards for Grades of Greenhouse Leaf Lettuce, Section 51.3455; and U.S. Standards for Grades of Field Grown Leaf Lettuce, Section 51.3760.

These instructions do not establish any substantial rule not legally authorized by the official grade standards. This publication supersedes any previously issued inspection instructions.

Refer to the General Inspection Instructions for additional information pertaining to date, inspection point, carrier, condition of carrier, lading, etc. that is not covered in this handbook. Reference to "General Inspection Instructions" in all Fresh Products Branch publications refers to any one or all of the following - General Shipping Point Inspection Instructions, General Market Inspection Instructions, or Fresh Fruit and Vegetable Certificate Writing Handbooks.

Any portion of these instructions beginning with the section number §51.--- and followed by **bold** print are sections or portions of sections copied directly from U.S. Standards. The U.S. Standards for Grades of Lettuce, U.S. Standards for Grades of Romaine, U.S. Standards for Grades of Endive, Escarole, or Chicory, U.S. Standards for Grades of Greenhouse Leaf Lettuce and U.S. Standards for Grades of Field Grown Leaf Lettuce are printed in the appendix of this handbook. All U.S. Standards are available on the Internet under the USDA homepage.

May 2004

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This replaces Market Inspection Instructions for Lettuce and Shipping Point Inspection Instructions for Lettuce dated July 1994.

Factors noted with (Q) are considered quality only. Factors noted with (C) are considered condition at market. Factors noted with (Q or C) may be quality or condition depending on the circumstances. Factors not designated do not pertain to either category.

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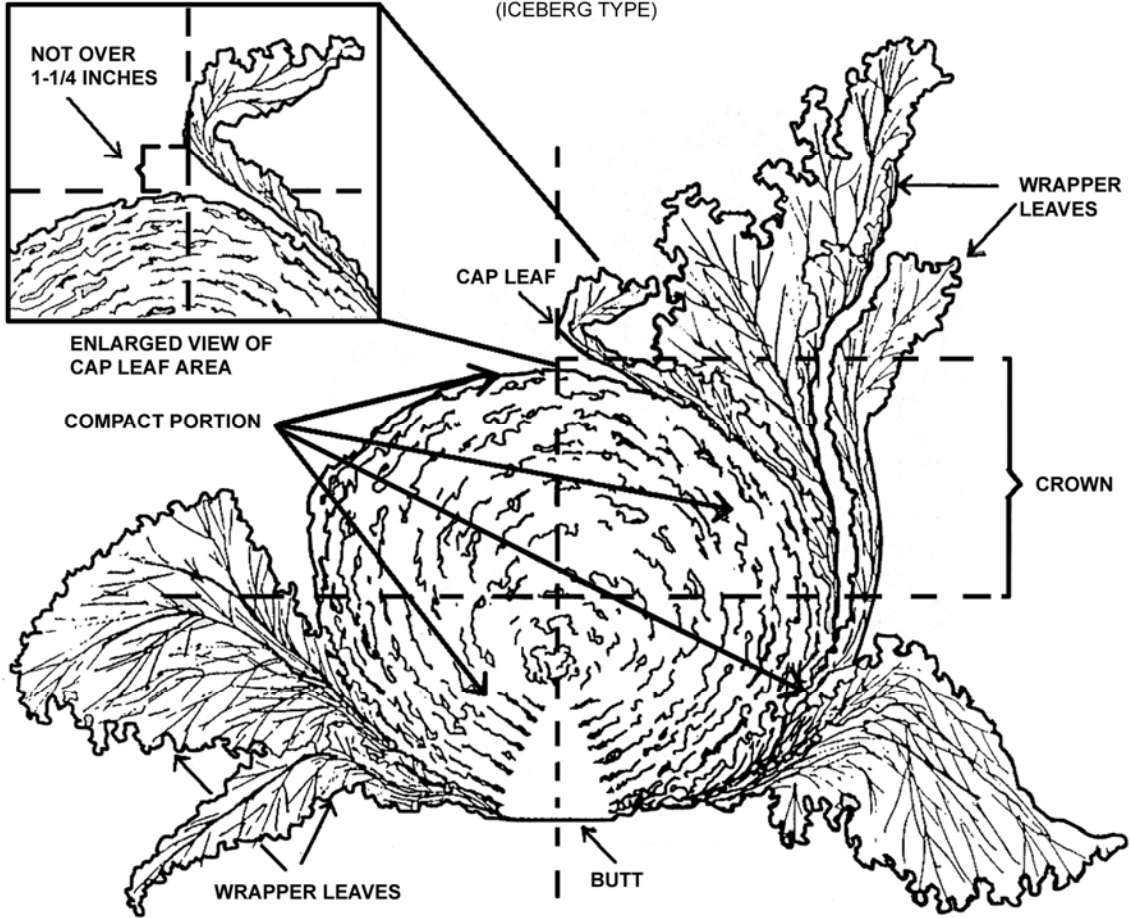
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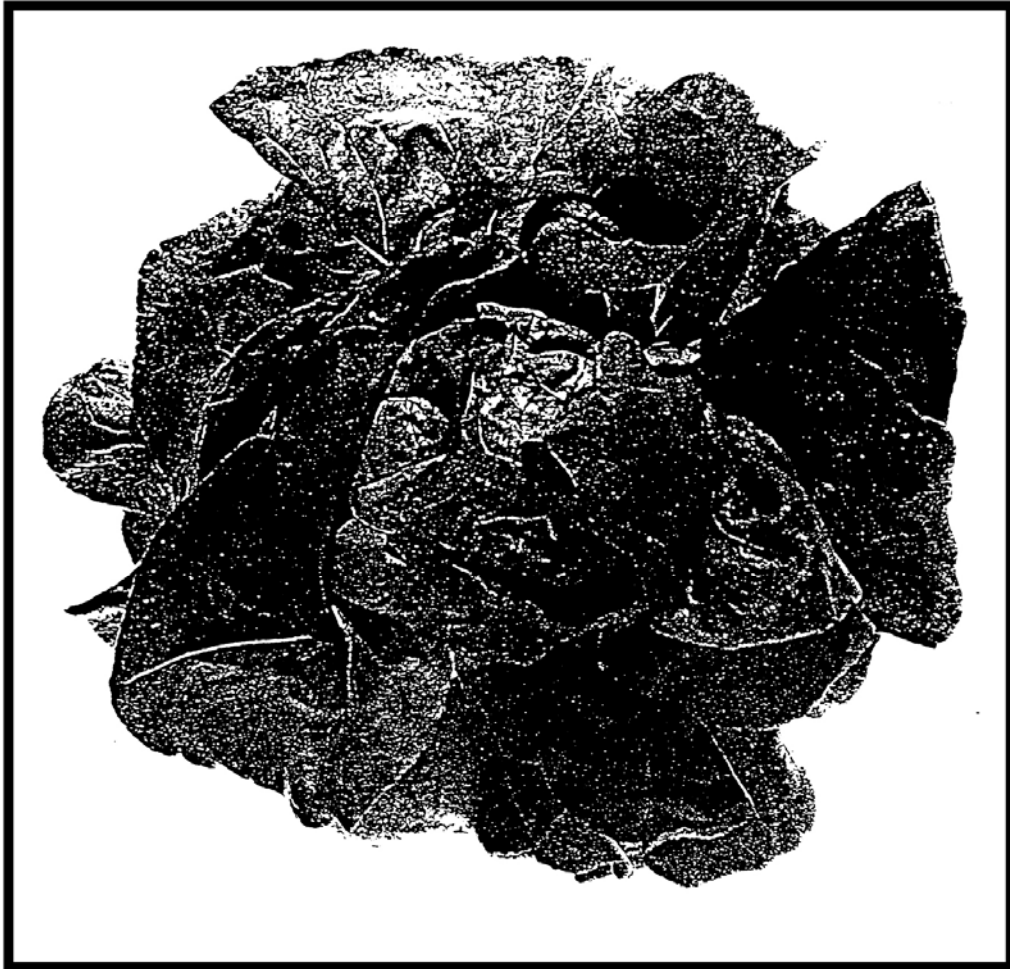
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LETTUCE

(ICEBERG TYPE)





Boston Type Lettuce

Part I

Iceberg Type Head Lettuce & Boston Type Lettuce

GENERAL

Iceberg type lettuce is distinguished by very firm heads of crisp texture. Boston or Butter type lettuce is distinguished by soft, pliable leaves and an oily feel to the touch of the inner leaves. The head is less firm and somewhat smaller than that of the Iceberg type. Since its head formation is somewhat looser than that of the Iceberg type it is difficult to distinguish head leaves from wrapper leaves. Therefore, all leaves on Boston lettuce will be considered head leaves, even those occasional heads which have "outer" leaves that do not closely surround the compact portion of the head.

The U.S. Standards for Grades of Lettuce apply for Iceberg and Boston type lettuce. In the standards the U.S. Fancy and U.S. No. 1 grades require the heads to be "green." In the usual marketing channels all types of lettuces are generally traded based on the U.S. No. 1 grade. Therefore, Iceberg and Boston type lettuce with red leaves **shall not** be certified to a U.S. grade. The definitions of injury, damage, or serious damage do not apply. If an inspection is requested a U.S. grade shall not be assigned. Under the "Grade" heading state: "No established U.S. grade."

Iceberg lettuce that has had the butts/cores removed shall not be certified to a U.S. grade. However, the standard may be used as a guideline and inspected as an "NOG" (No established U.S. grade). Keep in mind that the definitions of injury, damage, or serious damage do not apply.

Fresh-Cut Products

The Fresh Products Branch is the certifying Agency for such products as "shredded" and "Salad Mix" type products. For instructions on inspecting fresh-cut products refer to "Fresh-Cut Produce Shipping Point and Market Inspection Instructions."

REPRESENTATIVE SAMPLING

The importance of obtaining representative samples cannot be over emphasized. Accurate certification is possible only if the samples examined are truly representative of the entire lot or accessible portion. All portions of a lot or load should receive the same attention in sampling regardless of the difficulty involved in reaching all layers or parts of a lot or load. Anytime the entire lot requested is not accessible for sampling, the inspection and certificate must be restricted to the accessible portion.

Size of Sample

The tolerances in the U.S. Standards for Grades of Lettuce are determined on the basis of count.

The total number of heads in the container shall be the sample size, except for bulk containers or loads. Sample size for bulk containers or loads shall consist of 24 heads, and the application of tolerances for 24 heads shall apply.

The unit of sample for “restaurant packs” (lettuce packed in film bags which typically contain 6 or more heads of lettuce) shall be the entire master container. Restaurant packs are not considered consumer packages.

During inspection of bagged or wrapped lettuce, all of the bag or wrapping material must be completely removed from the sample heads in order to determine the presence or absence of defects. If decay affecting head leaves is in advanced stages and is readily apparent, it may be permissible to leave the film wrapping intact.

Number of Samples

As a general rule a minimum of 1% of the lot must be examined. For lots of less than 300 packages a minimum of 3 samples must be examined. It is the inspector’s responsibility to examine additional representative samples when the quality, condition, or size in samples is decidedly different to ensure an accurate description of the lot.

As a guide, the following minimum number of samples shall be inspected for bulk shipments. Additional samples should be taken as needed to ensure an accurate description of the lot.

Bulk Shipments

<u>Approx. Weight of Bulk Load/Lot</u>	<u>Minimum Number of Samples</u>
Up to 4,000 lbs.	3
4,001 to 10,000 lbs.	4
10,001 to 18,000 lbs.	5
18,001 to 26,000 lbs.	6
26,001 to 34,000 lbs.	7
Over 34,001 lbs.	8

Assume 1 bulk bin equals approximately 1,000 pounds.

Sampling To Determine Internal Defects

When examining heads for defects, superficial examinations are not enough. Defects such as internal tipburn, seedstems and other defects cannot be detected

without opening the head. The recommended method is to strike the butt sharply so that the midribs separate from the stem. The leaves can then be readily spread out for examination. Fairly firm or firm heads frequently can be torn apart with the fingers although the resulting tearing of the leaves may obscure some defects. If the heads are cut, they must also be broken open and the leaves spread out to expose the interior leaves for examination.

When inspecting for internal defects, the inspector shall break open a **minimum of 5 non-adjacent heads** in each sample of each lot. If such breaking discloses no internal defects further breaking is unnecessary in that sample. (The inspector shall report this information for each sample in a column on the notesheet.) However, if internal defects are found in the random breaking, all remaining heads in the sample shall be broken open and the results will be reported in the appropriate defect column. Repeat the process in the subsequent samples.

The percentage of internal defects is determined based upon the entire container or number of heads in a sample and not on the number of heads broken. When individual heads have a combination of external and internal defects score the more serious of the two defects, but do not score the head twice.

TOLERANCES AND APPLICATION OF TOLERANCES

§51.2513 Tolerances.

In order to allow for variations incident to proper grading and handling the following tolerances, by count, shall be permitted in any lot:

(b) U.S. No. 1 -- (1) For defects at shipping point. 8 percent for heads of lettuce which fail to meet the requirements of this grade: *Provided*, That included in this amount not more than 5 percent shall be allowed for soft heads: *And provided further*, That not more than 4 percent shall be allowed for defects causing serious damage, included in this latter amount not more than 1 percent for heads which are affected by decay on any portion of the head exclusive of the wrapper leaves.

(2) En route or at destination. 12 percent for heads of lettuce which fail to meet the requirements of this grade: *Provided*, That included in this amount not more than the following percentages shall be allowed for defects listed:

(i) 8 percent for heads having permanent defects including therein not more than 5 percent for soft heads; or,

(ii) 6 percent for heads which are seriously damaged; including therein not more than 4 percent for heads seriously damaged by

permanent defects and not more than 3 percent for heads which are affected by decay on any portion of the head exclusive of the wrapper leaves. (See §51.2514.)

(c) U.S. No. 2 -- (1) For defects at shipping point. 8 percent for heads of lettuce which fail to meet the requirements of this grade: *Provided*, That included in this amount not more than 3 percent shall be allowed for heads which are affected by decay on any portion of the head exclusive of the wrapper leaves.

(2) En route or at destination. 12 percent for heads of lettuce which fail to meet the requirements of this grade: *Provided*, That included in this amount not more than the following percentages shall be allowed for defects listed:

(i) 8 percent for heads having permanent defects; or,

(ii) 5 percent for heads which are affected by decay on any portion of the head exclusive of the wrapper leaves. (See §51.2514.)

The shipping point and destination tolerances for grade defects (U.S. No. 1 and U.S. No. 2) are as follows:

Shipping Point

	U.S. No. 1	U.S. No. 2
Total defects, including	8%	8%
Soft heads	5%	-
Serious damage, including	4%	-
Decay affecting head leaves only	1%	3%

Decay affecting wrapper leaves should be scored under the 4% serious damage tolerance for U.S. No. 1 grade, and the 8% total tolerance for U.S. No. 2 grade.

En Route or Destination

	U.S. No. 1	U.S. No. 2
Total defects, including	12%	12%
Permanent defects, including	8%	8%
Soft heads	5%	-
Serious damage, including	6%	-
Serious damage by permanent defects, including	4%	-
Decay affecting head leaves only	3%	5%

Decay affecting wrapper leaves should be scored under the 6% serious damage tolerance for U.S. No. 1 grade and the 12% total tolerance for U.S. No. 2 grade.

Remember that shipping point tolerances apply to certification at U.S. ports of entry, port of loading for ship stores, shipments to Canada, and Department of Defense purchases.

Application of Tolerances

Table I

Maximum Number of Defective Heads Permitted in any Package				
Lot Tolerance Percent	Total number of heads in package			
	24	18 or 20	30	Over 30
1	1	1	2	2
3	3	2	3	4
4	3	3	4	4
5	3	3	4	5
6	4	3	5	6
8	5	4	6	7
12	6	5	7	9

The container tolerances in the U.S. Standards for Grades of Lettuce packed 18 heads or more are based on Table I which specifies the maximum number of defective heads permitted for each percentage tolerance for 18, 20, 24, 30 and over 30 heads per package. When lettuce is packed less than 18 heads no package may contain more than three times any specified tolerance except that at least one defective specimen may be permitted in any package.

If the defects in a lot are within the average tolerances of a grade, and the defects in any individual container do not exceed the number of heads specified in Table I for each tolerance and count, the lot will be certified as meeting grade.

NOTESHEET AND CERTIFICATE

Entries on the notesheet and certificate must be kept in a legible and accurate manner. It is mandatory that all information which appears on the certificate be supported by information on the notesheet. It is the responsibility of the inspector to ensure that all information is properly recorded. Notations shall be recorded so that anyone familiar with inspection procedures can interpret them and write a certificate. Also remember that notesheets and certificates are prima facie evidence and must be able to withstand legal scrutiny.

Detailed instructions pertaining to date, inspection point, place of inspection, type of carrier, lading, etc., which are not covered by these instructions may be found in the General Inspection Instructions. Additional information and instructions may be given by your supervisor.

Product

The common name, "Iceberg Lettuce," "Boston Lettuce," or "Butter Lettuce," shall be used to describe this commodity in the product heading. Type may be reported in conjunction with Lettuce or may be reported in the "Product/Variety" section on the shipping point inspection certificates or in the "Lot ID" section on market notesheet and certificate.

Number/Type of Containers

The number of containers shall always be reported. In the market and at shipping point locations for stationary lot certification, the inspector shall always verify the container count provided by the applicant for each lot and report it as the "inspector's count." If the number of containers available for inspection does not match the application it is the inspector's responsibility to confirm that the amount presented for inspection constitutes the lot. If an accurate count cannot be determine the inspector may report the count at someone else's authority. However, the reason for doing so must be reported on the notesheet (e.g., numerous pallets with mixed product.)

At shipping point locations for "days-run" certification the applicant generally provides a manifest for count and it is acceptable to use this for the number of containers.

Lettuce is generally packed in cardboard cartons or bulk bins. Iceberg lettuce in cartons may be “naked,” “wrapped,” or packed in “film bags.” Cartons of naked lettuce may also be film lined.

Naked	Heads are not individually wrapped and generally have wrapper leaves attached.
Wrapped	Wrapper leaves have generally been removed and heads are wrapped with a film covering.
Film bags	Wrapper leaves have generally been removed and the heads are placed in film bags. Bags may have 3 to 5 heads per bag, placed in cartons.

Brands/Markings

The brand, variety, size, count, grade, weight, point of origin and other important information appearing on the container should be reported on the notesheet in the "Brands/Markings" section. Only the brand name and other key markings necessary to properly identify the lot for certification should appear in this section on the certificate.

Origin

The inspector should not make a positive statement on their own authority, but when container markings list the state or country of origin, it should be quoted in the appropriate space on the notesheet and the certificate. If origin is not marked, it is the inspector’s responsibility to make an effort to obtain this information from the applicant. This policy is necessary because some firms may use one mark on the same product packed in several states. The inspector can certify only to the marks and has no means of verifying what state or country the lettuce is grown.

CONDITION OF PACK

The bulge of a carton is not an indication of tightness of pack. The amount of bulge will vary with number of wrapper leaves and the shape of the heads. Tightness of pack is to be judged by the tightness of heads in layers when the container is resting on its bottom. The following terms should be used in describing the tightness of pack:

Excessively Tight. Means that the heads are so tightly packed that they are damaged by pressure causing distortion or crushing of the heads or breaking of the midribs. The term should be used only when there is damage to the head.

Tight. Means that the layers are completely and tightly filled without injury to the heads. This represents the most desirable pack.

Fairly Tight. Means that the layers are filled, but the pack is somewhat loosely arranged, and in cartons usually additional heads, but not a complete row, can be inserted in the container.

Bulk Bins

Bulk bins shall be reported in terms of “fill.”

Excessively Filled. Means that portions of many to most of the heads on the top layer extend above the top of the sides of the bin. The placing of a rigid cover on the bin would damage a major portion of these heads.

Well Filled. Means that the bin is filled to its top edge with only few to some heads extending above the edge.

Fairly Well Filled. Means the bin is filled, but there are many top layer heads which are more than 2 inches below the top edge of the bin.

Standard Pack

“Standard Pack” is not a requirement of the grade but may be specified in connection with the grade at the request of the applicant.

§51.2516 Standard Pack...(a) Heads of lettuce shall be fairly uniform in size, and fairly tight to tightly packed but not excessively tightly packed in uniform layers in the container according to the approved and recognized methods; except that in standard fiberboard containers a “bridge” of 6 heads may be placed between the layers in a 2-1/2 dozen pack.

(1) Fairly uniform in size means that not more than 10 percent, by count, of heads in any container may vary appreciably in size from the standard size head for the count pack.

(i) The standard size head for a 2 dozen pack is that size head, having 4 wrapper leaves, which will pack tightly but not excessively tightly, 3 rows with 4 heads of uniform size in each row in a layer in a standard fiberboard container. Heads having lesser or greater numbers of wrapper leaves which can be packed as specified herein are considered equivalent in size to a standard size head with 4 wrapper leaves.

(2) Excessively tightly packed means that heads are packed so tightly as to cause distortion, or crushing of the heads or breaking of the midribs.

(b) When heads of lettuce are wrapped no head may have more than 1 wrapper leaf.

(c) In order to allow for variations incident to proper packing not more than a total of 10 percent of the containers in any lot may fail to meet the requirements of standard pack.

Important points to remember when determining standard pack.

- Application of tolerances do not apply to standard pack. Not more than 10% of the containers in a lot may fail to meet the requirements of standard pack.
- A lot of lettuce can fail to meet standard pack and still meet grade. The grade statement would be as follows: "U.S. No. 1. Fails to meet the requirements of standard pack."
- It is to be noted in "Remarks" section of certificates and notesheets "Standard pack determined at applicant's request."

Standard Weight

"Standard Weight" is not a requirement of the grade but may be specified in connection with the grade at the request of the applicant.

§51.2517 Standard weight...(a) The following weight requirements may be used in connection with grade.

(1) Lettuce packed in standard lettuce containers shall have a net weight of not less than 42 pounds (19 kg) and not more than 50 pounds (23 kg).

(b) In order to allow for variations incident to proper packing, not more than a total of 5 percent of the containers in any lot may fail to meet the requirements of standard weight.

Important points to remember when determining standard weight.

- Application of tolerances do not apply to standard weight. Not more than 5% of the containers in a lot may fail to meet the requirements of standard weight.
- A lot of lettuce can fail to meet standard weight and still meet grade. The grade statement would be as follows: "U.S. No. 1. Fails to meet the requirements of standard weight."
- It is to be noted in "Remarks" section of certificates and notesheets "Standard weight determined at applicant's request."

TEMPERATURE OF PRODUCT

Inspectors would not normally determine or report temperatures at shipping point. However, due to the importance of the pulp temperature of fresh fruits and vegetables when in transit or at destination, it is essential that the inspector accurately determine and report the temperature or range in temperatures on each lot. Pulp temperature should be reported regardless of the location of the product, whether in the carrier, warehouse, or stacked on the platform. Remember to pre-cool the thermometer in order to obtain true readings. Report all temperatures to the nearest whole degree.

A minimum of three temperatures for each lot must be taken and recorded on the notesheet. More temperatures must be taken if the lot is abnormally cold, heated, or there is a specific request for temperature, and these must be reported in greater detail specifying location in lot or load.

PRECOOLING REQUIREMENTS

Precooling is not a requirement of the grade, but may be specified in connection with the grade at the request of the applicant. When requested to certify compliance or non-compliance of "precooling requirements" a statement should be made under "remarks" stating that it was made at applicant's request.

§51.2515 Precooling requirements.

The following precooling requirements may be used in certifying lettuce in the producing area:

(a) Lettuce certified as meeting "Precooling Requirements" in the producing area shall have a core temperature of not more than 36° F (2.2 ° C) when placed in a refrigerated conveyance or storage.

(1) The temperature shall be taken near the center of the head with a thermometer which has previously been cooled to the approximate temperature of the lettuce.

It is permissible to certify loads as meeting "Precooling Requirements" without having to certify as to grade. **No load may be certified as meeting "Precooling Requirements" if any temperature at time of loading is over 36 degrees F.**

When certifying lettuce as meeting "Precooling Requirements" a minimum of 8 temperature readings on loads of 1,000 cartons or less shall be taken. For loads containing more than 1,000 cartons increase your temperature readings by one, for each additional 200 cartons.

All readings must be taken at the time the lettuce is loaded in the trailer, car, or storage. Be sure that you space your readings throughout the load.

It is essential in obtaining an accurate temperature of lettuce to precool the thermometer before taking the official reading. To precool the thermometer insert it near the center of the head for approximately 30 seconds before moving it to a contiguous location for the official reading.

SIZE

The size of Iceberg type lettuce, when packed in cartons or crates, is indicated by numerical or dozen count.

Heads of lettuce may be described as fairly uniform or irregular in size. The term “uniform” should not be used.

Fairly Uniform. Fairly uniform in size means that not more than 10% of the heads in a container may vary appreciably from the standard size head for the count pack. (The standard size head for a 2 dozen pack is that size head, having 4 wrapper leaves, which will pack tightly but not excessively tightly, 3 rows with 4 heads of uniform size in each row in a layer in a standard fiberboard container. Heads having lesser or greater numbers of wrapper leaves which can be packed as specified herein are considered equivalent in size to a standard size head with 4 wrapper leaves.)

Irregularly Sized. Irregularly sized heads are those that vary more in size in a container than permitted by the definition of fairly uniform in size.

DEFECTS (QUALITY AND CONDITION)

Statements pertaining to freshness, maturity, shape, color, the amount and type of defects, and the amount of decay are shown under the appropriate headings.

Factors noted with **(Q)** are considered as **QUALITY** only (**Quality**, sometimes referred to as "**permanent**" **defects**) means defects which do not change during storage or shipment (shape, scars, etc.).

Factors noted with **(C)** shall be reported as **CONDITION** on market certificates. (**Condition defects** are defects which are subject to change during shipment or storage, including but not limited to bruising, discoloration, shriveling and decay.)

Those factors noted with **(Q or C)** may be considered as **QUALITY or CONDITION**, depending on the circumstances.

Broken Midribs (Q)

§51.2534 Classification of defects...“Broken midribs:” Damage when more than 2 head leaves have midribs broken in 2 due to abnormal growth. Serious damage when more than 4 head leaves have midribs broken in 2 due to abnormal growth.

The definition of damage by broken midribs is not restricted to broken midribs on the outer head leaves. However, it is not intended that the inspector should open the heads to search for broken midribs. If two broken midribs are found in the outer head leaves, and upon casual examination there is no indication of other broken midribs, the head should be passed on this factor. On the other hand, if there are no broken midribs in the outer head leaves but during examination there are indications of broken ribs deeper in the head, the head should be opened sufficiently to determine whether more than 2 midribs are broken. To be considered, midribs must be broken due to abnormal growth. Such breaks will usually show a separation resulting from the pressure of the expanding head. Do not confuse these breaks with broken ribs resulting from excessively tight packs and mechanical causes. These often will show crushing, refer to Broken/Mechanical and Bruising sections.

Brown Stain (C)

This condition occurs as superficial oval irregular necrotic areas 1/4 to 1/2 inch in diameter but sometimes larger after they have coalesced. Affected areas are generally on the outer surface of the head leaves, on or near the midrib, and usually extending towards the basal half of the leaf. These areas are generally slightly sunken, color ranges from pale straw to brown, and margins are sometimes dark and mottled.

Brown Stain shall be scored as damage or serious damage respectively when materially or seriously detracting from the appearance, or the edible or shipping quality of the head, exclusive of the wrapper leaves.

There are official visual aids illustrating damage and serious damage by Brown Stain. (See LT-CP-3.)

Bruising (C)

Heads should be scored as damaged when more than two head leaves are materially bruised. Heads that have been so badly forced out of shape in the packing and closing process that the structure of the head has been broken down should be scored as serious damage.

When scoring bruising which is also discolored, refer to the Discoloration Section for "Discoloration following bruising."

Burst (Q)

Heads that have broken open where head leaves are torn or spread from growth are considered burst. Burst heads are defects of all grades. All burst heads are to be scored against the restricted tolerance for serious damage by permanent defects contained in the U.S. Fancy and U.S. No. 1 grades.

§51.2522 Burst. "Burst" means that the head is split or broken open.

Color (Greenness) (Q)

In judging the proportion of the surface of the head having the required color consider that the first head leaf, exclusive of the wrapper leaves is the “cap leaf.” The cap leaf, the exposed portions of the leaves which lie under it, and the butt from the exterior surface of the head are considered in determining the percentage of the surface that is green. When inspecting wrapped lettuce the entire head, exclusive of the wrapper leaves, will be considered in determining the percentage of the surface that is green. Those heads that do not meet color requirements shall be reported as “poorly colored.” Poorly colored heads are scored as damage against the U.S. No. 1 grade. This defect does not constitute serious damage and is not scored against the U.S. No. 2 grade.

§51.2521 Green. “Green” means that one-half or more of the exterior surface of the head, exclusive of the wrapper leaves, has at least a light green color.

There are some varieties of lettuce which have red leaves. As stated above, the U.S. Standards for Grades of Lettuce require that the heads be green for the U.S. Fancy and U.S. No. 1 grades. Therefore, if Iceberg or Boston type lettuces have red leaves no grade shall be applied.

Refer to the official “Light Green” Color Card which illustrates the minimum shade of green color.

Dirt (Q)

§51.2534 Classification of defects... “Dirt:” Damage when the compact portion of the head is smeared with mud, or wrapper leaves are badly smeared with mud, or when the basal portion is caked with mud or dry dirt.

Dirt is usually found following a rain, heavy fog or heavy irrigation. If reasonable care is used in harvesting, this condition may be avoided. The head shall be scored as damage if there is sufficient dirt present to materially affect the appearance or the edible quality of the head.

Discoloration (C)

There are several types of discoloration listed in the U.S. standards for lettuce. These discolorations generally result from diseases, plant disorders, adverse growing and handling conditions. Any one type or any combination of two or more types should be considered when deciding whether or not a head should be scored as a defect.

§51.2534 Classification of defects...“Discoloration” (other than caused by freezing):

Damage when any 1 of the following types or a combination of 2 or more types the seriousness of which exceeds the maximum allowed for any 1 type:

- (1) Yellow or brown, affecting any portion of the leaf, or when seriously detracting from the appearance of the wrapper leaves.**
- (2) Yellow or brown, materially detracting from the appearance of the head exclusive of the wrapper leaves.**
- (3) Discoloration following bruising materially detracting from the appearance of more than 2 outer head leaves.**

Serious damage when any 1 of the following types, or a combination of 2 or more types the seriousness of which exceeds the maximum allowed for any 1 type:

- (1) Yellow or brown, affecting any portion of the leaf, or very seriously detracting from the appearance of the wrapper leaves.**
- (2) Yellow or brown, seriously detracting from the appearance of the head leaves exclusive of the wrapper leaves.**
- (3) Discoloration following bruising seriously detracting from the appearance of more than 2 outer head leaves.**

Discoloration of Wrapper Leaves

When yellow or brown discoloration from any cause **seriously detracts** from the appearance of a head’s wrapper leaves, it is scored as damage.

As a guide, score as **damage** when the yellow or brown discoloration affects 50% or more of the wrapper leaves and extends over more than 3/4 of the surface of each affected leaf.

Discoloration of Wrapper Leaves From Any Cause Other Than Field Freezing

When yellow or brown discoloration from any cause other than field freezing, **very seriously detracts** from the appearance of a head’s wrapper leaves it is scored as serious damage.

As a guide, score as **serious damage** when the yellow or brown discoloration affects 90% or more of the wrapper leaves and extends over more than 3/4 of the surface of each affected leaf.

Slight Discoloration of Wrapper Leaves Not Affecting Grade

The presence of slight brown margins, slight discoloration and slightly ragged appearance not severe enough to affect the U.S. No. 1 grade should not be scored as a defect. However, it may be reported at applicants request and reported on the certificate in general terms as a description of the quality of the lot, thus: “outer leaves show light green color but many show slight brown margins not affecting grade, reported at applicants request.”

Discoloration of Head Leaves

Yellow, brown, or reddish brown discoloration affecting head leaves is scored as damage when materially detracting from the appearance of the head, exclusive of the wrapper leaves. These same types of discoloration are scored as serious damage when they seriously detract from the appearance of the head exclusive of the wrapper leaves.

As a guide when yellow or brown discoloration (other than caused by field freezing) extends over more than one-half of the crown of the head or when the midribs on more than two head leaves are discolored, the appearance of the head is materially affected. This should be reported as “yellow or brown discoloration affecting head leaves.” Yellow or brown discoloration of head leaves that seriously detracts from the appearance of the head should be scored as serious damage and against the U.S. No. 2 grade.

Heads which have been bruised to the extent that they are damaged will often show a reddish brown discoloration or a watersoaked appearance in the bruised area. In describing bruising which shows reddish brown discoloration, it should be reported on the certificate as “**discoloration following bruising**” since in most cases the discoloration will be responsible for the head being damaged. For official visual aid illustrating Discoloration Following Bruising see (LT-CP-2).

Discolored Butts

Oxidation frequently causes a red discoloration on the cut end of the butt. This does **not** damage the appearance of the head and it should not be scored as a defect.

Occasionally lettuce shows a watersoaked, discolored condition of the central portion or core of the butt. The discoloration usually ranges from grayish to dark brown but may show a pink cast. Affected butts should be cut crosswise at a point 1/4 inch below the lowest point of attachment of the outermost leaf. **If the watersoaked condition is present above this cut score the head as damaged by watersoaked and discolored core.** If after a second cut, 1/4 inch above the first, the condition is still present score the head as seriously damaged.

Doubles (Q)

§51.2523 Doubles. “Doubles” means two heads on the same stem.

Doubles is a free-from defect in the U.S. No. 1 grade. Score as **damage only** against the 8 percent tolerance for permanent defects.

Downy Mildew (C)

Shipping Point:

§51.2534 Classification of defects...“Downy mildew:” Damage when readily apparent on any head leaf; when mildew not accompanied by discoloration is readily apparent on more than 2 wrapper leaves, or discoloration associated with mildew is readily apparent on any wrapper leaf.

Serious damage when materially detracting from the appearance or shipping quality of any head leaf; mildew not accompanied by discoloration is readily apparent on more than 3 wrapper leaves, or discoloration associated with mildew is readily apparent on more than 2 wrapper leaves.

En route or Destination:

§51.2534 Classification of defects...“Downy mildew:” Damage when materially detracting from the appearance of any head leaf or seriously detracting from the appearance of more than 2 wrapper leaves.

Serious damage when materially detracting from the appearance of more than 2 head leaves or seriously detracting from the appearance of the wrapper leaves.

Downy Mildew can be recognized by sharply defined angular spots, yellowish to brown in color on the upper side of the leaf while the lower surfaces often show a whitish mold growth. The outer head leaves, as well as the wrapper leaves, may be affected; however, the injury usually occurs first on the outer wrapper leaves. The injury will sometimes break down into decay in transit.

Refer to official visual aid for identification of downy mildew. (See LET-IDENT-2.)

Freezing (C)

The important items relating to damage from transit freezing are the location and distribution in the load, the quantity of stock injured, the degree of injury, condition of affected stock, and where the injury occurred.

Freezing injury occurring in transit will usually appear as darker glassy watersoaked areas. Fungi and bacteria will often invade affected areas. When freezing is less severe, it may have a blistered parchment like appearance of the epidermis, and slight wilting.

Report transit freezing using general terms in a narrative statement on the face of the certificate. Do not report in percentages.

Field Freezing/Peeling or Feathering

§51.2534 Classification of defects...“Field Freezing:” Damage when peeling or feathering extends over more than 3/4 the area of the crown on more than 2 head leaves or yellow or brown discoloration resulting from field freezing extends over more than 1/2 of the crown, or the wrapper leaves are seriously damaged by discoloration resulting from freezing.

Since peeling or feathering may be caused by factors other than field freezing, it shall be reported on the certificate as “peeling or feathering.” The affected areas on the head **should not be brushed** to determine damage. Heads affected by field freezing/peeling or feathering are not scored against the U.S. No. 2 grade.

Peeling or feathering affecting head leaves shall have at least three outer head leaves with peeling or feathering extending over more than 3/4 of the area of the crown of the head.

Discoloration resulting from field freezing should be scored as damage when it extends over more than 1/2 of the crown.

Wrapper leaves shall be reported as damage when they are seriously damaged by discoloration from freezing when the yellow or brown discoloration affects 90% or more of the wrapper leaves and extends over more than 3/4 of the surface of each affected leaf.

Fresh (C)

§51.2520 Fresh. “Fresh” means that the head as a whole has normal succulence and the wrapper leaves and the outermost head leaves are not more than slightly wilted.

If the head is not crisp, or if the wrapper leaves are more than slightly wilted, it should be scored as a defect against the U.S. No. 1 grade. The U.S. No. 2 grade does not require lettuce to be fresh but specifies that it must be free from serious damage by wilting. Yellowing does not detract from freshness.

Leaf Spotting (C)

The term leaf spotting is used to describe all types of spotting, except rib discoloration, pink rib, tipburn, russet spotting, marginal browning or other defects that are specifically described in these inspection instructions.

Leaf spotting should be scored as damage when the aggregate area of spotting on the surface of any head leaf exceeds a circle 1 inch in diameter. Score as serious damage when seriously detracting from the appearance or edible quality of more than 2 head leaves.

Mechanical Damage (Q)

Sometimes heads are found which have portions of the head leaves torn out by harvesters in order to remove discoloration or some other defect which they consider detracts from the appearance of the head. Frequently the resulting damage detracts from the quality of the head more than the original defect.

The whorl or rosettes of leaves at the top of heads of pointed and elongated lettuce often are torn off in the packing process or the head leaves in the rosettes are badly torn. Heads showing this type of injury should be reported as “mechanical damage” and scored as **Damaged**: When more than 2 outer head leaves are materially torn or have pieces plucked out, or the injury materially detracts from the appearance of the head. Score as **Seriously damaged**: When more than 3 outer head leaves are badly torn or the injury seriously detracts from the appearance of the head.

Opening (Q)

§51.2534 Classification of defects...“Opening:” Damage in a hard or firm head when 1/4 or more of the head is separated from the remainder, or any degree of opening in a fairly firm head.

Do not score as serious damage.

Pink Rib (C)

§51.2534 Classification of defects...“Pink rib:” Damage when ribs of more than 2 head leaves show areas of deep pink color more than 2 inches (50.8 mm) in length or when causing more than 2 head leaves to be excessively papery and tough.

Serious damage when the areas of deep pink color seriously detracts from the appearance or the edible quality of more than 2 head leaves.

Heads shall be scored as damage by Pink Rib when three or more head leaves show areas of a deep pink color, more than two inches in length, as viewed from the outer surface of the leaf.

In order to score serious damage by Pink Rib the deep pink color must seriously detract from the appearance. Seriously detracting from the appearance means those areas of deep pink color, more than three inches in length, as viewed from the outer surface of the leaf. Therefore, heads will be scored as serious damage by Pink Rib when three or more head leaves show areas of a deep pink color, more than three inches in length, as viewed from the outer surface of the leaf.

SEE COLOR COMPARATOR LT-PL-1.

Rib Discoloration (C)

§51.2534 Classification of defects...“Rib discoloration:” Damage when an aggregate length of brown or black spots on outer surface of any head leaf exceeds 1 inch (25.4 mm).

Serious damage when seriously detracting from the appearance or the edible quality of more than 2 head leaves.

In initial stages, rib discoloration appears as a creamy-yellow or light brown area on the inner surface of the midrib or lateral ribs of the leaf. At this stage the discolored area is usually less than one inch in length and about a quarter inch wide. The affected tissues are firm and not sunken, pitted or slimy. Frequently at this stage a slight discoloration is found on one or a few of the outer head leaves but may also occur on the inner head leaves. It is usually found on the area of greatest curvature of the leaves but may also occur closer to the butt of the head or farther out on the leaf on the lateral ribs or large veins.

In more advanced stages rib discoloration becomes reddish-green or blackish-brown in color. At this stage the discolored area may range from one to three inches in length and up to one-half inch in width. It is clearly visible on both surfaces of the leaf, and the affected tissues are sunken and occasionally cracked. Bacterial Soft Rot often follows advanced stages of rib discoloration.

It is not the intent of these instructions to consider only rib discoloration that is actually on the surface, but also all discoloration which is in the interior tissue of the rib and is visible on the outer surface.

Although the definition of damage does not limit the number of leaves which may aggregate one inch or less of rib discoloration, if a head had more than two leaves so affected, the appearance of the head would be damaged. Lesser amounts of rib discoloration, or lighter shades of color, are permitted on more than two head leaves as

long as the appearance of the head is not affected to a greater extent than by one inch of brown or black rib discoloration on each of two head leaves.

Seriously detracting from the appearance means when an aggregate length of brown or black spots on the outer surface of any head leaf exceeds 2 inches.

A head scored as serious damage by rib discoloration must have 3 or more head leaves showing areas of brown or black spots aggregating more than 2 inches in length.

Russet Spotting (C)

Russet spotting may consist of a few to numerous specks measuring less than 1/16 inch up to spots 1/4 inch in diameter. The spots are usually irregular in shape. In the early stages these are light yellow in color, later they turn darker becoming pink, brown, olive-brown or blackish brown. Russet best describes the color of most of the spots. The spots may appear any place on the leaf but have a tendency to be on the ribs, on the sides of the ribs, or veins, or on the leaf tissue between the veins. Russet spotting usually first appears on the inner surface of the leaves, later both surfaces are affected. The affected tissues serve as areas for infection by secondary organisms, and often decay, mainly Bacterial Soft Rot, follows Russet spotting.

Shipping Point:

**§51.2534 Classification of defects Table II..."Russet spotting:"
Damage when present in any degree. Serious damage when present
in any degree.**

Russet spotting should be scored against all grades at shipping point when present in any degree. This is because it seriously lowers the shipping quality.

En route or Destination:

**§51.2534 Classification of defects Table III..."Russet spotting:"
Damage when present in any degree on more than 2 outer head
leaves, or when the number, size, and color of the spots materially
detracts from the appearance of any head leaf. Serious damage
when the number, size, and color of the spots seriously detracts
from the appearance of 2 or more head leaves.**

Russet spotting en route or at destination is scored against the U.S. No. 1 grade when present in any degree on more than 2 outer head leaves, or when the number, size and color of the spots materially detracts from the appearance of any head leaf. Materially detracts means when more than 5 spots are present on an individual leaf, or an equally objectionable amount on two leaves.

Wrapper leaves seem to escape this disorder, therefore, it is very unlikely that russet spotting would be scored against the wrapper leaves. However, in extremely rare cases, russet spotting may be found on the wrapper leaves at destination. Russet spotting affecting wrapper leaves must **seriously** affect the

appearance of the wrapper leaves to be scored as **damage**, and **very seriously** detract from the appearance to be scored as **serious damage**. Russet spotting affecting wrapper leaves is to be reported separately on the notesheet and certificate from russet spotting affecting head leaves.

Refer to official visual aid for identification of russet spotting.
(See LET-IDENT-1.)

Rusty Brown Discoloration (C)

This type of discoloration normally occurs in lettuce generally marketed January through April. It is apparently a physiological disorder that originates in the field and factors causing the condition to develop are not known. There are three official visual aids illustrating various degrees of Rusty Brown Discoloration and one illustrating the amount that is allowed before the head is scored. (See LT-CP-1.)

Rusty Brown Discoloration is always reported as serious damage when scored.

Seedstems (Q)

§51.2534 Classification of defects...“Seedstems:” Damage when excessively long, excessively curved, tough or fibrous. (See figures 2 and 3 in the standard.) Serious damage when causing the head to split or when protruding through the outer head leaves.

Often external characteristics, such as the shape of the head and spreading at the base between points of attachment of the leaf stems to the main stem, may indicate that seedstems are developing, but this indication is not reliable in all instances. When a spot check and random cutting has indicated the presence of seedstems in a lot, it will be necessary for the inspector to follow the instructions for determining the percentage of internal defects in a lot.

Seedstems should be scored as serious damage when they split the heads or when they protrude through the outer head leaves. When certifying on the basis of the U.S. No. 2 grade it is unnecessary to open heads, because they would not be scored against U.S. No. 2, regardless of how much the seedstem will curl inside the head.

Similar Varietal Characteristics (Q)

§51.2519 Similar Varietal Characteristics...“Similar varietal characteristics” means that the heads in any container have the same characteristic leaf growth. For example, lettuce of the Iceberg and Big Boston types shall not be mixed.

Occasionally crops of lettuce are encountered in which some to all heads have a pointed or elongated shape. In extreme instances such heads are elongated to the extent of becoming torpedo or banana shaped. Apparently this is a varietal or strain characteristic that becomes accentuated under some growing conditions.

On pointed and elongated heads the wrapper leaves and several outer head leaves grow to a point and form a whorl or rosette at the top of the head. There is no normal cap leaf on such heads. The inner leaves in the whorl that closely enfold the head for most of their length must be classed as "head leaves." Any tearing or discoloration affecting them must be scored on the basis of damage to head leaves.

Cap Leaf

§51.2527 Cap leaf... "Cap leaf" is the first head leaf. This is the outermost leaf which fairly closely enfolds the compact portion of the head, some portion of which extends to the top of the crown. The tip of the leaf may be separated from the head, *Provided*, That the separation does not extend more than 1-1/4 inches (31.8 mm) in height from the compact portion of the head. (See figure 1 in standard.)

(a) All leaves outside of the cap leaf are wrapper leaves.

(b) On elongated or pointed heads the inner leaves that closely enfold the head three-fourths of their length are head leaves.

Crown

§51.2528 Crown... "Crown" means the upper half of the head.

Solidity (Q)

§51.2518 Solidity classification. "Solidity" of lettuce may be specified in connection with the grade in accordance with any of the following classifications:

(1) **Hard.** "Hard" means that the head is compact and solid. This term represents the highest degree of solidity.

(2) **Firm.** "Firm" means that the head is compact, but may yield slightly to moderate pressure.

(3) **Fairly firm.** "Fairly firm" means that although the head is not firm, it is not soft and spongy, and has good head formation.

(4) **Soft.** "Soft" means that the head is easily compressed or spongy.

Basic requirements for U.S. Fancy and U.S. No. 1 require heads to be “Not Soft.” There are no requirements for hard, firm, or fairly firm. Therefore, when the grade is certified, the percentage or description in general terms of hard, firm, or fairly firm heads in the lot should be determined and reported only at applicants request.

Soft heads shall be scored as damage only. There is no solidity requirement in the U.S. No. 2 grade. Therefore, soft heads are not scored as serious damage against the U.S. No. 1 grade and are not scored against the U.S. No. 2 grade.

Keep in mind, the U.S. Fancy and U.S. No. 1 grades have a 5% tolerance for soft heads.

Determining Solidity

The firmness of a head of lettuce is properly determined by holding the head with its base or butt in one hand and the top of the head in the palm of the other hand with fingers extending down the sides of the compact portion of the head under the wrapper leaves. Squeeze the head once to determine the solidity. Repeated squeezing may break down the rib structure of firm and fairly firm heads so that no accurate determination may be made. After firmness has been determined, the wrapper leaves should be forced gently back from the head taking care not to break them unnecessarily. The outer head leaves may then be examined for defects such as tipburn, dirt, broken midribs, etc.

When determining solidity, heads that are scored as grade defects, and decayed heads, must also be scored for solidity. To illustrate: A firm head of lettuce showing tipburn should be recorded in one column on the inspector’s notesheet as a firm head and in another as a defect. In other words, solidity is determined on all heads regardless of whether or not they are defects.

The exact percentages or general terms of hard, firm, and fairly firm heads may be reported. However, soft heads must be reported as a percentage. If determining exact percentages the four solidity classifications must total exactly 100%.

Suckers

On some strains of lettuce, suckers (new growth) two to three inches long are occasionally encountered growing between the wrapper leaves on the compact portion of the head at its base. There may be several smaller ones inside the head between the leaves. They do not affect the edible quality or the appearance of the head and should **not** be scored as defects of U.S. No. 1 grade.

Tipburn (C)

Tipburn is a physiological disease caused by growing conditions. It starts as small spots or narrow lesions along the edge of a leaf that are bleached light yellow to off-white. Later on the affected areas usually enlarge and turn yellowish brown to brown. Areas of tipburn have irregular veined margins as compared with the clean cut

margins found in connection with the marginal browning that is caused by winds or mechanical injury. When tipburn is severe or is of a moist type it may readily break down into decay. At times tipburn will develop and spread rapidly through a lot in a number of hours or in a day or two; in other instances it appears to develop and spread quite slowly, if at all. There is no reliable explanation for this difference in its state of development.

Shipping Point:

§51.2534 Classification of defects... "Tipburn:" Damage when an aggregate area of tipburn occurring anywhere in the compact portion of the head exceeds a rectangle 1 inch (25.4 mm) in length and 1/2 inch (12.7 mm) in width.

Serious damage when an aggregate area of tipburn occurring anywhere in the compact portion of the head exceeds that of a rectangle 3 inches (76.2 mm) in length and 1 inch (25.4 mm) in width.

En Route or Destination:

§51.2534 Classification of defects. "Tipburn:" Damage when an aggregate area of tipburn of a light buff or darker color occurring anywhere in the compact portion of the head exceeds a rectangle 1 inch (25.4 mm) in length and 1/2 inch (12.7 mm) in width.

Serious damage when an aggregate area of tipburn of a light buff or darker color occurring anywhere in the compact portion of the head exceeds that of a rectangle 3 inches (78.2 mm) in length and 1 inch (25.4 mm) in width.

Sometimes lots of lettuce are found showing tipburn affecting only the inner leaves of the head with no indication of tipburn on the outer head leaves. In such lots, representative samples must be selected and opened to determine the percentage of damage by internal tipburn. Follow the procedure provided for determining the percentage of internal defects in a lot.

If areas in excess of 1 x 1/2 inch are found on an outer head leaf, it will be considered damage. If lesser areas are found, more head leaves should be examined until the inspector finds enough additional areas to aggregate in excess of 1 x 1/2 inch or they are confident that insufficient tipburn is present in the head to justify scoring it as damage. (The same procedures apply for serious damage, except allow an area of 3 x 1 inch.)

For en route or destination inspections, refer to official "Light Buff" Color Card when scoring tipburn.

Tipburn on the wrapper leaves should be scored on the basis of wrapper leaf discoloration. Tipburn must seriously detract from the appearance of the wrapper

leaves in order to score it as “damage” and very seriously detract from the appearance of the wrapper leaves in order to score it as “serious damage.”

Rectangle Area Comparators

1 inch x 1/2 inch



U.S. No 1.

3 inches x 1 inch



U.S. No. 2

Trimming (Q)

The U.S. No. 1 grade requires each head to be at least fairly well trimmed unless the lot is specified as closely trimmed. A head that meets the definition of closely trimmed would also meet fairly well trimmed. (The definition of fairly well trimmed includes closely trimmed lettuce.) The following terms shall be used to describe trimming.

§51.2525 Closely Trimmed. “Closely Trimmed” means that the butt is trimmed off closely below the point of attachment of the outer leaves, and that on a head of Iceberg type lettuce, wrapper leaves do not exceed 3 in number.

§51.2524 Fairly well trimmed. “Fairly well trimmed” means that the butt is trimmed off closely below the point of attachment of the outer leaves, and that on a head of Iceberg type lettuce, wrapper leaves do not exceed 7 in number.

§51.2526 Reasonably trimmed. “Reasonably trimmed” means that the butt is trimmed off closely below the point of attachment of the

outer leaves, and that on a head of Iceberg type lettuce, wrapper leaves do not exceed 12 in number.

Poorly Trimmed Wrapper Leaves. Poorly trimmed wrapper leaves means that the number of wrapper leaves on a head of lettuce exceed the requirements for the grade applied. Poorly trimmed wrapper leaves are permanent defects and reported against the 8 percent tolerance for heads having permanent defects. When poorly trimmed wrapper leaves are reported on the certificate, the range in number of wrapper leaves must be shown following the words “poorly trimmed wrapper leaves.” For example, on a U.S. No. 1 lot of lettuce: “poorly trimmed wrapper leaves (8 to 14 wrapper leaves).”

Poorly Trimmed Butts. Poorly trimmed butts means that the butt measures more than 1 inch from the average point of attachment of the outer leaves, to the longest point of the butt. A head which has a poorly trimmed butt is considered a permanent defect and reported against the 8 percent tolerance for heads having permanent defects.

Water Soaked Areas (C)

Watersoaked areas often occur on the leaves of lettuce with no discernable pattern and should not be confused with freezing injury. Although the cooling process may influence the presence of watersoaked areas, the cause is unclear at this time. Therefore, watersoaked areas with no discernable pattern of freezing injury shall be reported on the basis of the individual head as “watersoaked areas.”

Boston or butter lettuce is more likely to be affected than iceberg type lettuce. Water soaked areas appear translucent and irregular in shape, with no discernable pattern of freezing injury.

Water soaked areas shall be scored as damage when more than 2 head leaves materially detract from the appearance of the head, and serious damage when more than 4 head leaves seriously detract from the appearance of the head, exclusive of the wrapper leaves. Water soaked areas affecting the wrapper leaves shall be scored on the same basis as discoloration.

Keep in mind all leaves on Boston lettuce will be considered head leaves.

Worms and Insects (Q or C)

§51.2534 Classification of defects. “Insects and worms:” Damage when the compact portion of the head is infested, or the wrapper leaves are badly infested with insects or worms, or there is feeding injury on the compact portion of the head. Serious damage when the compact portion of the head is infested, or the wrapper leaves are badly infested with insects or worms, or there is feeding injury on more than 2 head leaves.

Worms, Aphids and Similar Type Insects

Heads of lettuce that are scoreable account of live or dead insects or worms are always scored against the restricted tolerance for serious damage.

Heads that have the compact portion infested or the wrapper leaves are badly infested with worms or insects would be scored against all grades.

The compact portion is infested when more than 5 live or dead aphids or similar type insects are present. Wrapper leaves are badly infested when more than 15 live or dead aphids or similar type insects are present.

When head lettuce contains one live or dead worm on or in the compact portion of the head it is considered infested. If the wrapper leaves contain more than one live or dead worm they are considered badly infested.

In transit or at destination, if damage is fresh, or if live insect(s) are present or a combination of live and dead, report as a condition factor. Report as a quality factor when the damage is old or if the insect(s) are dead.

Worm and Insect Feeding Injury

Several types of insects or worms attack Head lettuce. In reporting this condition on the certificate it should be reported as "insect damage" or "worm damage." Heads damaged by the feeding of worms or insects are practically useless unless the feeding is very slight.

If the outer head leaves have been penetrated, or if excreta has been deposited in noticeable amounts on head or wrapper leaves, or if more than very small portions of the head leaves have been eaten, the condition is regarded as damaged. When affecting more than two head leaves, score as serious damage.

Sometimes worm or insect damage will occur inside the head with no visible external indications. When this occurs it will be necessary for the inspector to break open representative heads following the procedure for determining the percentage of internal defects.

Decay (C)

All grades require that lettuce be "free from decay." Therefore, any amount of decay would be scored. Decay affecting any portion of the head, exclusive of the wrapper leaves shall be scored against the tolerance for decay. This would include decay affecting the butts as well as any compact portion of the head. However, decay affecting the wrapper leaves shall be scored against the total tolerance for serious damage.

At Shipping Point the U.S. No. 1 grade provides a tolerance of 1% for decay affecting any portion of the head exclusive of the wrapper leaves, and 3% for the U.S. No. 2 grade. Decay affecting wrapper leaves shall only be scored against the 4%

serious damage tolerance for the U.S. No. 1 grade, and against the 8% total tolerance for the U.S. No. 2 grade.

Shipping Point:

	<u>U.S. No. 1</u>	<u>U.S. No. 2</u>
Decay affecting any portion of the head, exclusive of the wrapper leaves	1%	3%
Decay affecting wrapper leaves only	4%	8%

En Route or at Destination the U.S. No. 1 grade provides a tolerance of 3 percent for decay affecting any portion of the head exclusive of the wrapper leaves. The U.S. No. 2 grade provides a tolerance of 5 percent for decay affecting any portion of the head exclusive of the wrapper leaves. Decay affecting the wrapper leaves shall only be scored against the 6% tolerance for serious damage for the U.S. No. 1 grade, and against the 12% total tolerance for the U.S. No. 2 grade.

En Route or Destination:

	<u>U.S. No. 1</u>	<u>U.S. No. 2</u>
Decay affecting any portion of the head, exclusive of the wrapper leaves	3%	5%
Decay affecting wrapper leaves only	6%	12%

When decay is in excess of the tolerance, report the degree of advancement as; early, moderate, or advanced as well as the location of decay (affecting head leaves or wrapper leaves). This should be reported in the "Description of Products" section of the shipping point certificates and in the "Other" section on the market certificates in general terms.



Romaine

Part II

Romaine

GENERAL

Romaine is easily distinguished from all other types of lettuce by its upright habit of growth, long loaf-shaped heads with leaves having a broad rounded apex and a narrow base. The U.S. Standards for Grades of Romaine apply to both green or red leaf types.

Romaine Hearts are the tender inner portion of the head of romaine lettuce, and may also be certified under the U.S. Standards for Grades of Romaine.

Romaine that has been “sheared-off” at the top of the plants (a clean cut or chop) should not be confused with Romaine Hearts, and the U.S. grade standards do **not** apply. However, the standard may be used as a guideline and inspected as an “NOG” (No established U.S. grade). Report as “Clipped Romaine” in the Product heading. Keep in mind that the definitions of injury, damage, or serious damage do not apply.

Romaine leaves (leaves which are intentionally detached from the plant/butt) shall be graded as an NOG, with a 50 count sample. Do not apply the fresh cut handbook.

REPRESENTATIVE SAMPLING

The importance of obtaining representative samples cannot be over emphasized. Accurate certification is possible only if the samples examined are truly representative of the entire lot or accessible portion. All portions of a lot or load should receive the same attention in sampling regardless of the difficulty involved in reaching all layers or parts of a lot or load. Anytime the entire lot requested is not accessible for sampling, the inspection and certificate must be restricted to the accessible portion.

Size of Sample

The tolerances in the U.S. Standards for Grades of Romaine are determined on the basis of count.

The total number of plants in the container shall be the sample size. However, if the plants are in consumer type packages, with 2 or more plants in a package within master containers, the consumer package will be the unit of sample. Bag or wrapping material must be completely removed from the sample plants in order to determine the presence or absence of defects.

Number of Samples

As a general rule a minimum of 1% of the lot must be examined. For lots of less than 300 packages a minimum of 3 samples must be examined. It is the inspector's responsibility to examine additional representative samples when the quality, condition, or size in samples is decidedly different to ensure an accurate description of the lot.

Examination for Defects

When examining plants for defects, superficial examinations are not enough. Defects such as internal tipburn, seedstems and other defects cannot be detected without peeling back the leaves. The recommended method is to carefully peel back the leaves, so as not to tear the leaves, but to be able to see the center leaves of the plant. Romaine hearts and plants must be removed from film bags or sleeves to determine the presence or absence of defects.

TOLERANCES AND APPLICATION OF TOLERANCES

§51.3297 Tolerances. In order to allow for variations incident to proper grading and handling the following tolerances, by count, are provided:

(a) 10 percent of the plants in any lot may 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 serious damage, including therein not more than 2 percent for decay.

Total defects, including	10%
Serious damage, including	5%
Decay	2%

Application of Tolerances

§51.3298 Application of Tolerances. The contents of individual packages are subject to the following limitations: *Provided*, That the averages for the entire lot are within the tolerances specified for the grade:

(a) A package shall have not more than one and one-half times a specified tolerance of 10 percent and not more than double a specified tolerance of less than 10 percent, except that at least one defective plant may be permitted in any package.

	<u>Per lot</u>	<u>Per package</u>
Total defects, including	10%	15%
Serious damage, including	5%	10%
Decay	2%	4%

NOTESHEET AND CERTIFICATE

Entries on the notesheet and certificate must be kept in a legible and accurate manner. It is mandatory that all information which appears on the certificate be supported by information on the notesheet. It is the responsibility of the inspector to ensure that all information is properly recorded. Notations shall be recorded so that anyone familiar with inspection procedures can interpret them and write a certificate. Also remember that notesheets and certificates are prima facie evidence and must be able to withstand legal scrutiny.

Detailed instructions pertaining to date, inspection point, place of inspection, type of carrier, lading, etc., which are not covered by these instructions may be found in the General Inspection Instructions. Additional information and instructions may be given by your supervisor.

Product

The common name, "Romaine" shall be used to describe this commodity in the product heading. Type may be reported in conjunction with Romaine or may be reported in the "Product/Variety" section on the shipping point inspection certificates or in the "Lot ID" section on market notesheet and certificate.

Number/Type of Containers

The number of containers shall always be reported. In the market and at shipping point locations for stationary lot certification, the inspector shall always verify the container count provided by the applicant for each lot and report it as the "inspector's count." If the number of containers available for inspection does not match the application it is the inspector's responsibility to confirm that the amount presented for inspection constitutes the lot. If an accurate count cannot be determine the

inspector may report the count at someone else's authority. However, the reason for doing so must be reported on the notesheet (e.g., numerous pallets with mixed product.)

At shipping point locations for "days-run" certification the applicant generally provides a manifest for count and it is acceptable to use this for the number of containers.

Romaine is usually packed and shipped in 24-count waxed cartons.

Romaine Hearts are usually packed in 2, 3, or 6 count film bags in master cartons, and 48 count cartons.

Brands/Markings

The brand, variety, size, count, grade, weight, point of origin and other important information appearing on the container should be reported on the notesheet in the "Brands/Markings" section. Only the brand name and other key markings necessary to properly identify the lot for certification should appear in this section on the certificate.

Origin

The inspector should not make a positive statement on their own authority, but when container markings list the state or country of origin, it should be quoted in the appropriate space on the notesheet and the certificate. If origin is not marked, it is the inspector's responsibility to make an effort to obtain this information from the applicant. This policy is necessary because some firms may use one mark on the same product packed in several states. The inspector can certify only to the marks and has no means of verifying what state or country the romaine is grown.

CONDITION OF PACK

The following terms should be used in describing the tightness of pack:

Excessively Tight. Means that the plants are so tightly packed that they are damaged by pressure causing distortion or crushing of the plants or breaking of the midribs. The term should be used only when such is the case.

Tight. Means that the layers are completely and tightly filled without injury to the plants. This represents the most desirable pack.

Fairly Tight. Means that the layers are filled, but the pack is somewhat loosely arranged, and in cartons usually additional plants, but not a complete row, can be inserted.

TEMPERATURE OF PRODUCT

Inspectors would not normally determine or report temperatures at shipping point. However, due to the importance of the pulp temperature of fresh fruits and vegetables when in transit or at destination, it is essential that the inspector accurately determine and report the temperature or range in temperatures on each lot. Pulp temperature should be reported regardless of the location of the product, whether in the carrier, warehouse, or stacked on the platform. Remember to pre-cool the thermometer in order to obtain true readings. Report all temperatures to the nearest whole degree.

A minimum of three temperatures for each lot must be taken and recorded on the notesheet. More temperatures must be taken if the lot is abnormally cold, heated, or there is a specific request for temperature, and these must be reported in greater detail specifying location in lot or load.

SIZE

The size of romaine when packed in cartons or crates is indicated by numerical count or dozen count.

Size may be reported in minimum and/or maximum length of plants to the nearest whole inch; or the terms "small," "medium," or "large." The following are the definitions of these terms:

Small - means plants less than 8 inches in length.

Medium - means plants 8 to 12 inches in length.

Large - means plants more than 12 inches in length.

DEFECTS (QUALITY AND CONDITION)

Statements pertaining to freshness, maturity, shape, color, the amount and type of defects, and the amount of decay are shown under the appropriate headings.

Factors noted with **(Q)** are considered as **QUALITY** only (**Quality**, sometimes referred to as "**permanent**" **defects**) means defects which do not change during storage or shipment (shape, scars, etc.).

Factors noted with **(C)** shall be reported as **CONDITION** on market certificates. (**Condition defects** are defects which are subject to change during shipment or storage, including but not limited to bruising, discoloration, shriveling and decay).

Those factors noted with **(Q or C)** may be considered as **QUALITY or CONDITION**, depending on the circumstances.

Broken/Mechanical (Q)

Score as damage when more than 2 leaves are broken, materially torn, plucked out or the injury materially detracts from the plant. Score as serious damage when more than 4 leaves are badly torn or the injury seriously detracts from the appearance of the plant.

Romaine plants which have been excessively trimmed at the butt/base to cause outer leaves to fall off when the plant is handled shall be reported as mechanical damage. Score as damage when more than 2 leaves fall off the plant, and as serious damage when more than 4 leaves fall off the plant when handled.

Bruising (C)

Score as damage when more than 2 leaves are materially bruised. Score as serious damage when more than 4 leaves are badly bruised or the plant is so badly forced out of shape that the structure of the plant has broken down.

Plants which have been bruised to the extent that they are damaged will often show a reddish brown discoloration or a watersoaked appearance in the bruised area. In describing bruising which shows reddish brown discoloration, it should be reported on the certificate as “discoloration following bruising” since in most cases the discoloration will be responsible for the plant being damaged.

Development (Q)

§51.3301 Well Developed. “Well developed” means that the plant shows normal growth and shape.

Plants that do not show normal growth and shape shall be scored as “Not well developed.”

When romaine plants are “twisted” or “corkscrew shaped” to an extent that the appearance is materially detracting, the plant shall be scored as **damage** and reported as “Not Well Developed.”

As a guide, plants that are twisted (about a half twist) would be considered materially detracting.

Dirt (Q)

Dirt or sand is sometimes found in sufficient quantities in the outer leaves to score the plant against the grade. If there is sufficient dirt present to **materially** affect the appearance, or the edible or shipping quality, the plant is **damaged**. If there is sufficient dirt present to **seriously** affect the appearance, or the edible or shipping quality, the plant is **seriously damaged**.

Discoloration (C)

There are several types of discoloration which may affect romaine. Generally, these discolorations are a result of disease, plant disorders, adverse growing and handling conditions. It is best to describe the discoloration (such as marginal discoloration) and score as follows:

Discolored Leaves

Yellow, brown, or reddish brown discoloration is scored as damage when more than 2 leaves are materially discolored; and scored as serious damage when more than 4 leaves are seriously discolored.

Discolored Butts

Oxidation frequently causes a red discoloration of the cut end of the butt. This does not damage the appearance of the plant and it should not be scored as a defect.

Occasionally romaine shows a watersoaked, discolored condition of the central portion or core of the butt. The discoloration usually ranges from grayish to dark brown but may show a pink cast. Affected butts should be cut crosswise at a point 1/4 inch below the lowest point of attachment of the outermost leaf. If the watersoaked condition is present above this cut, score the plant as damaged by watersoaked and discolored core. If after a second cut, 1/4 inch above the first, the condition is still present score the plant as seriously damaged.

Downy Mildew (C)

Downy Mildew can be recognized by sharply defined angular spots, yellowish to brown in color on the upper side of the leaf while the lower surfaces often show a whitish mold growth. The outer leaves are generally affected first. The injury will sometimes break down into decay in transit.

Score as **damage** by Downy Mildew when materially detracting from the appearance on any leaf. Score as **serious damage** when materially detracting from the appearance on more than 2 leaves.

Foreign Material (Q)

The U.S. No. 1 grade requires each plant to be free from damage caused by foreign material. Foreign material being weeds, rocks, etc. Therefore, if there is sufficient foreign material present to materially detract from the appearance, or the edible or shipping quality, the plant is damaged, if there is sufficient foreign material present to seriously detract from the appearance, or the edible or shipping quality, the plant is seriously damaged.

Fresh (C)

§51.3300 Fresh. “Fresh” means that the plant has normal succulence but the outermost leaves may be slightly wilted.

If the leaves are wilted, it should be scored as a defect against the total tolerance for the grade. However, if the leaves are seriously damaged by wilting they should be scored against the more restricted tolerance of 5% for serious damage. Yellowing does not detract from freshness.

Peeling or Feathering (C)

Peeling or feathering of leaves may be caused by either field freezing or sunburn. It generally occurs on the outside of the leaves. The affected area should not be brushed to determine the damage that has been caused.

Score as damage when more than 2 leaves are materially affected and score as serious damage when more than 4 leaves are materially affected.

Sometimes the plants will get a yellow or brown discoloration associated with peeling and feathering. Report as “**discoloration following feathering and peeling**” and use the same guidelines as above for damage and serious damage.

Russet Spotting (C)

Russet spotting may consist of few to numerous specks less than 1/16 inch up to spots 1/4 inch in diameter. They are usually irregular shaped. In early stages these spots are light yellow, later turning darker becoming pink, brown, olive-brown or blackish brown. The spots tend to be on the ribs, sides of the ribs, veins, or leaf tissue between the veins. They are usually on the inner surface of the leaves, later both surfaces are affected. The affected tissues serve as areas for infection by secondary organisms, and often decay, mainly Bacterial Soft Rot will occur.

Shipping Point: Russet spotting should be scored against all grades at shipping point when present in any degree because it seriously lowers the shipping quality.

En route or Destination: Russet spotting en route or at destination is scored as **damage** when present in any degree on more than 2 leaves, or when the number, size, and color of the spots materially detracts from the appearance of any leaf. Materially detracts means when more than 5 spots are present on an individual leaf, or an equally objectionable amount on two leaves. Score as **serious damage** when present on more than 4 leaves or when the number, size, and color of spots seriously detracts from the appearance of any leaf.

Seedstems (Q)

§51.3303 Damage. ... (a) Seedstems when the length of the attached seedstem is more than one-fourth the overall plant length or when any portion of the seedstem has been removed.

Seedstems should be scored as damage when the length of the attached seedstem is more than one-fourth the overall plant length or when any portion of the seedstem has been removed. Score as serious damage when the length of the attached seedstem is more than one-half the overall length of the plant.

Similar Varietal Characteristics (Q)

§51.3299 Similar Varietal Characteristics. “Similar varietal characteristics” means that the plants in any container are of the same general type.

If self-closing and loose-closing type romaine is packed in the same container or romaine with green leaves and romaine with red leaves are in the same container, the one which is dissimilar from the rest would be scored as dissimilar varietal characteristics. Dissimilar varietal characteristics shall be scored as a quality defect against the total tolerance for the grade.

Romaine is occasionally marketed as a mixed red and green type pack. If the packages are marked as such, or the applicant or manifest indicates it was purchased as a mixed pack, it may be certified to grade as separate lots. In this instance, treat each type as a separate lot with the contents of each lot in the container being the sample size.

Tipburn (C)

Care should be taken as not to confuse marginal discoloration with tipburn as they often have a similar appearance (Marginal discoloration should be scored as discoloration.). Tipburn is a physiological disease caused by growing conditions. It starts as small spots or narrow lesions along the edge of a leaf that is bleached light yellow to off-white. Later on, the affected areas usually enlarge and turn yellowish brown to brown. Areas of tipburn have irregular veined margins as compared with the clean cut margins found in connection with the marginal browning that is caused by winds or mechanical injury. When tipburn is severe or is of a moist type it may readily break down into decay.

Tipburn shall be scored as damage when the aggregate area exceeds that of a rectangle 1 inch in length by 1/2 inch in width; and as serious damage when the aggregate area exceeds that of a rectangle 3 inches in length by 1 inch in width.

Transit Freezing (C)

The important items relating to damage from transit freezing are the location and distribution in the load, the quantity of stock injured, the degree of injury, condition of affected stock, and where the injury occurred. Report transit freezing using general terms in a narrative statement on the face of the certificate.

If freezing is severe enough to kill the tissue, it may be dry and tough after thawing, but will usually become water soaked and often invaded by fungi and bacteria. The very presence of ice in romaine is not a reliable sign of freezing injury.

Water Soaked Areas (C)

Water soaked areas often occur on the leaves of romaine with no discernable pattern and should not be confused with freezing injury. Although the cooling process may influence the presence of water soaked areas, the cause is unclear at this time. Therefore, water soaked areas with no discernable pattern of freezing injury shall be reported on the basis of the individual plant as "water soaked areas."

Score as damage when more than 2 leaves materially detract from the appearance of the plant, and as serious damage when more than 4 leaves seriously detract from the appearance of the plant.

Well Trimmed (Q)

§51.3302 Well Trimmed. "Well trimmed" means that the stem is trimmed off close to the point of attachment of the outer leaves.

The U.S. No. 1 grade requires each plant to be well trimmed. If the stem is more than 1 inch below the point of attachment of the outer leaves it should be scored as poorly trimmed, a defect against the total tolerance for the grade.

Romaine plants that have been trimmed to remove defective leaves may result in thin appearing plants. Keep in mind that "Well Trimmed" refers to the point of attachment of the outer leaves, not the fullness or length of plant. As long as these plants are well trimmed, "not more than one inch below the point of attachment of the outer leaves," they should **not** be scored against the grade.

Romaine plants which have been so closely trimmed at the butt/base to cause the plants outer leaves to fall off shall be reported as mechanical damage. Refer to Broken/Mechanical section for scoring guidelines.

Worms and Insects (Q or C)

Plants of romaine that are scoreable account of live or dead insects or worms are always scored against the restricted tolerance for serious damage.

When more than 5 live or dead aphids or similar type insects are present score as serious damage; when one live or dead worm is present score as serious damage.

Worm Insect and Feeding Injury

If the leaves have been penetrated, or if excreta has been deposited in noticeable amounts, or if more than a very small portion of the leaves have been eaten, the condition is regarded as damaged. When the condition affects more than two leaves, score as serious damage.

In transit or at destination, if damage is fresh, or if live insect(s) are present or a combination of live and dead, report as a condition factor. Report as a quality factor when the damage is old or if the insect(s) are dead.

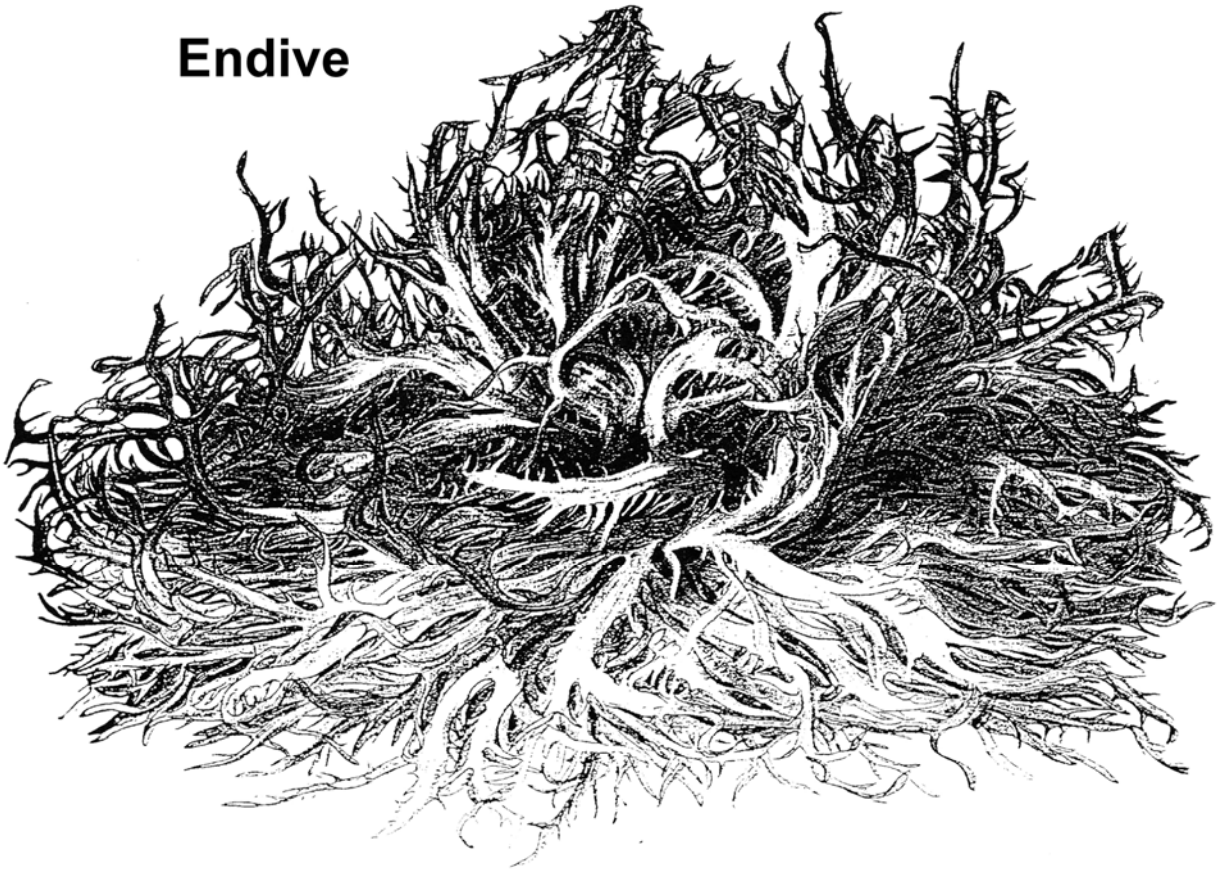
Decay (C)

The U.S. No. 1 grade for romaine requires plants to be "free from decay." Therefore, any amount of decay shall be scored as serious damage against the restrictive tolerance of 2% for decay. This would include decay affecting both leaves and butts.

When decay is in excess of the tolerance, report the degree of advancement as early, moderate, or advanced stages. The decay should be reported in general terms in the "Description of Products" section of the shipping point certificates and in the "Other" section on the market certificates.



Escarole



Endive

Chicory



Witloof (Belgian Endive)

Part III

Endive, Escarole, and Chicory

GENERAL

Chicory and Endive are different species of the same genus. Escarole is a variety of Endive. The U.S. Standards for Grades of Endive, Escarole, or Chicory apply to these products.

There are two types of Chicory grown for leaf salads. One type described as “Large-rooted Chicory” has broad-leafed tops of upright, spreading growth. The leaves may or may not be blanched.

The other type of Chicory, known as “Witloof,” also known as “French” or “Belgian Endive” is always blanched and resembles closely trimmed Chinese cabbage. Considerable quantities of this type are imported from Europe where it is a popular winter vegetable in the larger European cities. However, the U.S. Standards for Grades of Endive, Escarole, or Chicory do not apply to French Endive or Chicory marketed for its roots, which are dried and used as a supplement for coffee.

Endive is of two types. The first type, commonly called Chicory, has a deep-fringed curly leaf. The second type, commonly called Escarole, has a broad, flat leaf which is not fringed. Both types may or may not be blanched. Ordinarily the commodity should be reported as Endive, unless specifically requested that Chicory appear on the certificate, in which case, the statement should read: “Endive (Chicory).”

REPRESENTATIVE SAMPLING

The importance of obtaining representative samples cannot be over emphasized. Accurate certification is possible only if the samples examined are truly representative of the entire lot or accessible portion. All portions of a lot or load should receive the same attention in sampling regardless of the difficulty involved in reaching all layers or parts of a lot or load. Anytime the entire lot requested is not accessible for sampling, the inspection and certificate must be restricted to the accessible portion.

Size of Sample

The tolerances in the U.S. Standards for Grades of Endive, Escarole and Chicory are determined on the basis of count.

The total number of plants in the container shall be the sample size. However, if plants are in consumer type packages, with 2 or more plants in a package within master containers, the consumer package will be the unit of sample. All bag or wrapping

material must be completely removed from the sample plants in order to determine the presence or absence of defects.

Number of Samples

As a general rule a minimum of 1% of the lot must be examined. For lots of less than 300 packages a minimum of 3 samples must be examined. It is the inspector's responsibility to examine additional representative samples when the quality, condition, or size in samples is decidedly different to ensure an accurate description of the lot.

TOLERANCES AND APPLICATION OF TOLERANCES

§51.3538 Tolerances. In order to allow for variations incident to proper grading and handling, the following tolerances, by count, shall be permitted in any lot:

- (a) 10 percent for plants of endive, escarole, or chicory which fail to meet the requirements of the grade: *Provided*, That included in this amount not more than 5 percent shall be allowed for defects causing serious damage, including in this latter amount not more than 2 percent for plants affected by decay.

Total defects, including	10%
Serious damage, including	5%
Decay	2%

Application of Tolerances

§51.3539 Application of Tolerances. 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:

- (a) For a tolerance of 10 percent individual packages may contain not more than one and one-half times the specified tolerance, and for a tolerance of less than 10 percent individual packages may contain not more than double the specified tolerance, except that at least one defective plant may be permitted in any package.

	<u>Per lot</u>	<u>Per package</u>
Total Defects, including	10%	15%
Serious damage, including	5%	10%
Decay	2%	4%

NOTESHEET AND CERTIFICATE

Entries on the notesheet and certificate must be kept in a legible and accurate manner. It is mandatory that all information which appears on the certificate be supported by information on the notesheet. It is the responsibility of the inspector to ensure that all information is properly recorded. Notations shall be recorded so that anyone familiar with inspection procedures can interpret them and write a certificate. Also remember that notesheets and certificates are prima facie evidence and must be able to withstand legal scrutiny.

Detailed instructions pertaining to date, inspection point, place of inspection, type of carrier, lading, etc., which are not covered by these instructions may be found in the General Inspection Instructions. Additional information and instructions may be given by your supervisor.

Product

The common name, "Endive," "Escarole," or "Chicory" shall be used to describe this commodity in the product heading. Type may be reported in conjunction with the product or may be reported in the "Product/Variety" section on the shipping point inspection certificates or in the "Lot ID" section on market notesheet and certificate.

Number/Type of Containers

The number of containers shall always be reported. In the market and at shipping point locations for stationary lot certification, the inspector shall always verify the container count provided by the applicant for each lot and report it as the "inspector's count." If the number of containers available for inspection does not match the application it is the inspector's responsibility to confirm that the amount presented for inspection constitutes the lot. If an accurate count cannot be determine the inspector may report the count at someone else's authority. However, the reason for doing so must be reported on the notesheet (e.g., numerous pallets with mixed product).

At shipping point locations for "days-run" certification the applicant generally provides a manifest for count and it is acceptable to use this for the number of containers.

Endive, Escarole, and Chicory are usually packed and shipped in waxed cartons.

Brands/Markings

The brand, variety, size, count, grade, weight, point of origin and other important information appearing on the container should be reported on the notesheet in the "Brands/Markings" section. Only the brand name and other key markings necessary to properly identify the lot for certification should appear in this section on the certificate.

Origin

The inspector should not make a positive statement on their own authority, but when container markings list the state or country of origin, it should be quoted in the appropriate space on the notesheet and the certificate. If origin is not marked, it is the inspector's responsibility to make an effort to obtain this information from the applicant. This policy is necessary because some firms may use one mark on the same product packed in several states. The inspector can certify only to the marks and has no means of verifying what state or country the product is grown.

CONDITION OF PACK

The following terms should be used in describing the tightness of pack:

Excessively Tight. Means that the plants are so tightly packed that they are damaged by pressure causing distortion or crushing of the plants or breaking of the midribs.

Tight. Means that the layers are completely and tightly filled without injury to the plants. This represents the most desirable pack.

Fairly Tight. Means that the layers are filled, but the pack is somewhat loosely arranged, and in cartons usually additional plants, but not a complete row, can be inserted.

TEMPERATURE OF PRODUCT

Inspectors would not normally determine or report temperatures at shipping point. However, due to the importance of the pulp temperature of fresh fruits and vegetables when in transit or at destination, it is essential that the inspector accurately determine and report the temperature or range in temperatures on each lot. Pulp temperature should be reported regardless of the location of the product, whether in the carrier, warehouse, or stacked on the platform. Remember to pre-cool the thermometer in order to obtain true readings. Report all temperatures to the nearest whole degree.

A minimum of three temperatures for each lot must be taken and recorded on the notesheet. More temperatures must be taken if the lot is abnormally cold, heated, or

there is a specific request for temperature, and these must be reported in greater detail specifying location in lot or load.

SIZE

The size of Endive, Escarole, or Chicory when packed in cartons or crates is indicated by numerical count or dozen count.

Size may be reported in minimum and/or maximum length of plants to the nearest whole inch.

DEFECTS (QUALITY AND CONDITION)

Statements pertaining to freshness, maturity, shape, color, the amount and type of defects, and the amount of decay are shown under the appropriate headings.

Factors noted with **(Q)** are considered as **QUALITY** only (**Quality**, sometimes referred to as "**permanent defects**) means defects which do not change during storage or shipment (shape, scars, etc.).

Factors noted with **(C)** shall be reported as **CONDITION** on market certificates. (**Condition defects** are defects which are subject to change during shipment or storage, including but not limited to bruising, discoloration, shriveling and decay).

Those factors noted with **(Q or C)** may be considered as **QUALITY or CONDITION**, depending on the circumstances.

Broken/Mechanical (Q)

Score as damage when more than 2 leaves are broken, materially torn, plucked out or the injury materially detracts from the plant. Score as serious damage when more than 4 leaves are badly torn or the injury seriously detracts from the appearance of the plant.

Bruising (C)

Score as damage when more than 2 leaves are materially bruised. Score as serious damage when more than 4 leaves are badly bruised or the plant is so badly forced out of shape that the structure of the plant has broken down.

Plants which have been bruised to the extent that they are damaged will often show a reddish brown discoloration or a water soaked appearance in the bruised area. In describing bruising which shows reddish brown discoloration, it should be reported on the certificate as "**discoloration following bruising**" since in most cases the discoloration will be responsible for the plant being damaged.

Dirt (Q)

If there is sufficient dirt present to **materially** affect the appearance, or the edible or shipping quality, the plant is **damaged**. If there is sufficient dirt present to **seriously** affect the appearance, or the edible or shipping quality, the plant is **seriously damaged**.

Discoloration (C)

There are several types of discoloration which may affect Endive, Chicory, or Escarole. Generally, these discolorations are a result of disease, plant disorders, adverse growing and handling conditions. Therefore, it is best to describe the discoloration (such as marginal discoloration or spotted discoloration) and score as follows:

Yellow, brown, or reddish brown discoloration is scored as damage when more than 2 leaves are materially discolored; and scored as serious damage when more than 4 leaves are seriously discolored.

Discolored Butts

Oxidation frequently causes a red discoloration of the cut end of the butt. This does not damage the appearance of the plant and it should not be scored as a defect.

Occasionally endive, escarole, or chicory shows a watersoaked, discolored condition of the central portion or core of the butt. The discoloration usually ranges from grayish to dark brown but many show a pink cast. Affected butts should be cut crosswise at a point 1/4 inch below the lowest point of attachment of the outermost leaf. If the watersoaked condition is present above this cut, score the plant as damaged by watersoaked and discolored core. If after a second cut, 1/4 inch above the first, the condition is still present, score the plant as seriously damaged.

Fairly Well Blanched (Q)

§51.3543 Fairly Well Blanched. “Fairly well blanched” means that the plant has a yellowish-white to white heart formation with a spread averaging not less than four inches in diameter when the head is opened as far as possible without breaking the leaves or leaf stem.

The U.S. No. 1 grade requires each plant to be fairly well blanched. If the plant has a light-green to green heart formation or a spread averaging less than four inches in diameter when the head is opened as far as possible without breaking the leaves or leaf stem, it should be scored as not fairly well blanched, a defect against the total tolerance for the grade.

Fresh (C)

§51.3541 Fresh... “Fresh” means that the plant as a whole has normal succulence and the outermost leaves are not more than slightly wilted.

If the leaves are wilted, it should be scored as a defect against the total tolerance for the grade. However, if the leaves are seriously damaged by wilting, they should be scored against the more restricted tolerance of 5% for serious damage. Yellowing does not detract from freshness.

Russet Spotting (C)

Russet spotting may consist of few to numerous specks less than 1/16 inch up to spots 1/4 inch in diameter. They are usually irregular shaped. In early stages these spots are light yellow, later turning darker becoming pink, brown, olive-brown or blackish brown. The spots tend to be on the ribs, sides of the ribs, veins, or leaf tissue between the veins. They are usually on the inner surface of the leaves, later both surfaces are affected. The affected tissues serve as areas for infection by secondary organisms, and often decay, mainly Bacterial Soft Rot will occur.

Shipping Point: Russet spotting should be scored against all grades at shipping point when present in any degree because it seriously lowers the shipping quality. **En route or Destination:** Russet spotting en route or at destination is scored against the U.S. No. 1 grade when present in any degree on more than 2 leaves, or when the number, size, and color of the spots materially detracts from the appearance of any leaf. Materially detracts means when more than 5 spots are present on an individual leaf, or an equally objectionable amount on two leaves.

Seedstems (Q)

In normal plants of Endive, Chicory, or Escarole in which seedstems have not developed, the leaves all originate at the base of the plant. When seedstems develop, leaves have a tendency to grow out of the center of the plant. This condition is apparent only when seedstems are well advanced.

As a guide, score as **damage** when the length of the attached seedstem is more than one-fourth the overall plant length or when any portion of the seedstem has been removed. Score as serious damage when the length of the attached seedstem is more than one-half the overall plant length.

Similar Varietal Characteristics (Q)

§51.3540 Similar Varietal Characteristics. “Similar varietal characteristics” means that the plants in any package are of the same type such as curly-leaved endive or broad-leaved escarole.

If both curly-leaved endive and broad-leaved escarole were in the same carton, the one which is dissimilar from the rest would be scored as dissimilar varietal characteristics. Score as a quality defect, dissimilar varietal characteristics, against the total tolerance for the grade.

Transit Freezing (C)

The important items relating to damage from transit freezing are the location and distribution in the load, the quantity of stock injured, the degree of injury, condition of affected stock, and where the injury occurred. Report transit freezing using general terms in a narrative statement on the face of the certificate.

A blistered, parchment-like appearance of the epidermis or skin of endive, escarole, or chicory is a reliable sign of freezing injury. It does not occur unless ice was found in the tissues. Frequently it and slight wilting are the only signs of injury in endive, escarole, or chicory which was frozen. Endive, escarole, or chicory so affected is likely to be tough and tasteless.

If freezing is severe enough to kill the tissue, it may be dry and tough after thawing, but will usually become water soaked and often invaded by fungi and bacteria. The very presence of ice in endive, escarole, or chicory is not a reliable sign of freezing injury.

Water Soaked Areas (C)

Water soaked areas often occur on the leaves with no discernable pattern and should not be confused with freezing injury. Although the cooling process may influence the presence of water soaked areas, the cause is unclear at this time. Therefore, water soaked areas with no discernable pattern of freezing injury shall be reported on the basis of the individual plant as “water soaked areas.”

Score as damage when more than 2 leaves materially detract from the appearance of the plant, and as serious damage when more than 4 leaves seriously detract from the appearance of the plant.

Well Trimmed (Q)

§51.3542 Well Trimmed... “Well trimmed” means that the roots are neatly cut near the point of attachment of the outer leaf stems.

The U.S. No. 1 grade requires each plant to be well trimmed. If the roots are more than 1 inch below the point of attachment of the outer leaf stems it should be scored as poorly trimmed, a defect against the total tolerance for the grade.

Worms and Insects (Q or C)

Plants of Endive, Chicory, or Escarole that are scoreable account of live or dead insects or worms are always scored against the restricted tolerance for serious damage.

When more than 5 live or dead aphids or similar type insects are present score as serious damage; when one live or dead worm is present score as serious damage.

Insect and Worm Feeding Injury

If the leaves have been penetrated, or if excreta has been deposited in noticeable amounts, or if more than a very small portion of the leaves have been eaten, the condition is regarded as damaged. When the condition affects more than two leaves, score as serious damage.

In transit or at destination, if damage is fresh, or if live insect(s) are present or a combination of live and dead, report as a condition factor. Report as a quality factor when the damage is old or if the insect(s) are dead.

Decay (C)

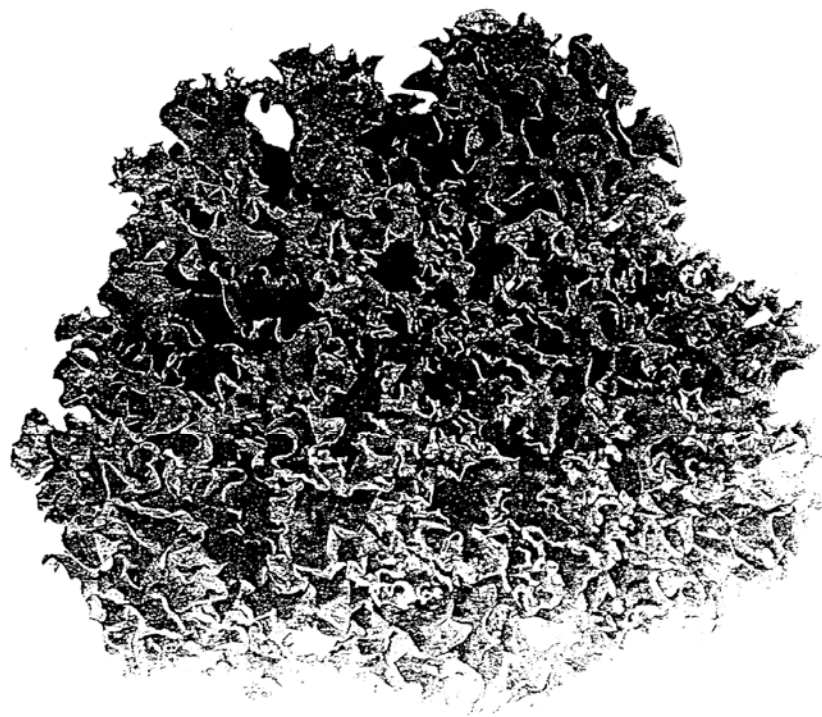
All grades are “free from decay.” Care should be taken so as not to confuse dead or water soaked tissues with decay, since they are often very similar in appearance. Decayed tissue will disintegrate when rubbed between the fingers, while bruised or water soaked tissue will retain a certain amount of texture.

Any amount of decay would be scored against the separate tolerance of 2 percent for decay. This would include decay affecting the butts as well as decay affecting the leaves.

When decay is in excess of the tolerance, report the degree of advancement as early, moderate, or advanced. This should be reported in the “Description of Products” section of the shipping point certificates and in the “Other” section on the market certificates in general terms.



Leaf Lettuce



Part IV

Greenhouse Leaf Lettuce

GENERAL

Green leaf or red leaf (non-heading) lettuces are characterized by the fact that they do not form heads. The leaves are clustered together, but only the young leaves at the center of the plant overlap to any extent. The older leaves are loosely arranged around the stem.

Loose-leaf lettuces are grown in greenhouses, hotbeds, and in open fields. Presently, there are two standards for leaf lettuce - U.S. Standard for Grades of Greenhouse Leaf Lettuce and U.S. Standard for Grades of Field Grown Leaf Lettuce. Only if the container is marked "greenhouse" or specifically requested by the applicant can the Greenhouse Leaf Lettuce standard be used. For all other types of leaf lettuce, apply the standard for Field Grown Leaf Lettuce.

REPRESENTATIVE SAMPLING

The importance of obtaining representative samples cannot be over emphasized. Accurate certification is possible only if the samples examined are truly representative of the entire lot or accessible portion. All portions of a lot or load should receive the same attention in sampling regardless of the difficulty involved in reaching all layers or parts of a lot or load. Anytime the entire lot requested is not accessible for sampling, the inspection and certificate must be restricted to the accessible portion.

Size of Sample

The tolerances in the U.S. Standards for Grades of Greenhouse Leaf Lettuce are determined on the basis of count.

The total number of plants in the container shall be the sample size. However, if the plants are in consumer type packages, with 2 or more plants in a package within a master container, the consumer package will be the unit of sample. Bag or wrapping material must be completely removed from the sample plants in order to determine the presence or absence of defects.

Number of Samples

As a general rule a minimum of 1% of the lot must be examined. For lots of less than 300 packages a minimum of 3 samples must be examined. It is the inspector's responsibility to examine additional representative samples when the quality, condition, or size in samples is decidedly different to ensure an accurate description of the lot.

TOLERANCES AND APPLICATION OF TOLERANCES

§51.3458 Tolerances. In order to allow for variations incident to proper grading and handling, the following tolerances by count, shall be permitted in any lot:

(a) U.S. Fancy and U.S. No. 1 grades. 10 percent for plants of leaf lettuce which fail to meet the requirements of the grade: *Provided*, That included in this amount not more than 5 percent shall be allowed for defects causing serious damage, including in this latter amount not more than 1 percent for plants affected by decay.

Total defects, including	10%
Serious damage, including	5%
Decay	1%

Application of Tolerances

§51.3459 Application of tolerances. 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:

(a) For packages which contain more than 15 plants, 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.

(b) For packages which contain more than 15 plants and a tolerance of less than 10 percent is provided, and for packages which contain 15 plants or less, individual packages in any lot shall have not more than double the tolerance specified, except that at least 1 defective plant may be permitted in any package.

More than 15 plants per package		15 plants or less per package
15%	Total Defects, including	20%
10%	Serious damage, including	10%
2%	Decay	2%

NOTESHEET AND CERTIFICATE

Entries on the notesheet and certificate must be kept in a legible and accurate manner. It is mandatory that all information which appears on the certificate be supported by information on the notesheet. It is the responsibility of the inspector to ensure that all information is properly recorded. Notations shall be recorded so that anyone familiar with inspection procedures can interpret them and write a certificate. Also remember that notesheets and certificates are prima facie evidence and must be able to withstand legal scrutiny.

Detailed instructions pertaining to date, inspection point, place of inspection, type of carrier, lading, etc., which are not covered by these instructions may be found in the General Inspection Instructions. Additional information and instructions may be given by your supervisor.

Product

The common name, "Greenhouse Leaf Lettuce" shall be used when applying the Greenhouse standard. Type may be reported in the "Product/Variety" section on the shipping point inspection certificates or in the "Lot ID" section on market notesheet and certificate.

Number/Type of Containers

The number of containers shall always be reported. In the market and at shipping point locations for stationary lot certification, the inspector shall always verify the container count provided by the applicant for each lot and report it as the "inspector's count." If the number of containers available for inspection does not match the application it is the inspector's responsibility to confirm that the amount presented for inspection constitutes the lot. If an accurate count cannot be determine the inspector may report the count at someone else's authority. However, the reason for doing so must be reported on the notesheet (e.g., numerous pallets with mixed product).

At shipping point locations for "days-run" certification the applicant generally provides a manifest for count and it is acceptable to use this for the number of containers.

Greenhouse Leaf Lettuce is usually packed and shipped in waxed cartons.

Brands/Markings

The brand, variety, size, count, grade, weight, point of origin and other important information appearing on the container should be reported on the notesheet in the "Brands/Markings" section. Only the brand name and other key markings necessary to properly identify the lot for certification should appear in this section on the certificate.

Origin

The inspector should not make a positive statement on their own authority, but when container markings list the state or country of origin, it should be quoted in the appropriate space on the notesheet and the certificate. If origin is not marked, it is the inspector's responsibility to make an effort to obtain this information from the applicant. This policy is necessary because some firms may use one mark on the same product packed in several states. The inspector can certify only to the marks and has no means of verifying what state or country the lettuce is grown.

CONDITION OF PACK

The following terms should be used in describing the tightness of pack:

Excessively Tight. Means that the plants are so tightly packed that they are damaged by pressure causing distortion or crushing of the plants or breaking of the midribs. The term should be used only when such is the case.

Tight. Means that the layers are completely and tightly filled without injury to the plants. This represents the most desirable pack.

Fairly Tight. Means that the layers are filled, but the pack is somewhat loosely arranged, in cartons and usually additional plants, but not a complete row, can be inserted.

TEMPERATURE OF PRODUCT

Inspectors would not normally determine or report temperatures at shipping point. However, due to the importance of the pulp temperature of fresh fruits and vegetables when in transit or at destination, it is essential that the inspector accurately determine and report the temperature or range in temperatures on each lot. Pulp temperature should be reported regardless of the location of the product, whether in the carrier, warehouse, or stacked on the platform. Remember to pre-cool the thermometer in order to obtain true readings. Report all temperatures to the nearest whole degree.

A minimum of three temperatures for each lot must be taken and recorded on the notesheet. More temperatures must be taken if the lot is abnormally cold, heated, or there is a specific request for temperature, and these must be reported in greater detail specifying location in lot or load.

SIZE

The size of leaf lettuce when packed in cartons or crates is usually indicated by numerical count or dozen count.

Size may be reported in minimum and/or maximum length of plants to the nearest whole inch.

DEFECTS (QUALITY AND CONDITION)

Statements pertaining to freshness, maturity, shape, color, the amount and type of defects, and the amount of decay are shown under the appropriate headings.

Factors noted with **(Q)** are considered as **QUALITY** only. **Quality**, sometimes referred to as "**permanent**" defects, means defects which do not change during storage or shipment, such as shape, scars, etc.

Factors noted with **(C)** shall be reported as **CONDITION** on market certificates. **Condition defects** are defects which are subject to change during shipment or storage, including but not limited to bruising, discoloration, shriveling and decay.

Those factors noted with **(Q or C)** may be considered as **QUALITY or CONDITION**, depending on the circumstances.

Bruising (C)

Score as **damage** when more than 2 leaves are materially bruised.

Score as **serious damage** when more than 4 leaves are badly bruised or the plant is so badly forced out of shape that the structure of the plant has broken down.

Plants which have been bruised to the extent that they are damaged will often show a reddish brown discoloration or a watersoaked appearance in the bruised area. In describing bruising which shows reddish brown discoloration, it should be reported on the certificate as "**discoloration following bruising**" since in most cases the discoloration will be responsible for the plant being damaged.

Dirt (Q)

When there is sufficient dirt present to **materially** affect the appearance, or the edible or shipping quality, the plant is **damaged**.

When there is sufficient dirt present to **seriously** affect the appearance, or the edible or shipping quality, the plant is **seriously damaged**.

Discoloration or Bleached Leaves (C)

There are several types of discoloration which may affect leaf lettuce. Generally, these discolorations are a result of disease, plant disorders, adverse growing and handling conditions. It is best to describe the discoloration (such as marginal discoloration or bleached or discolored leaves) and score as follows:

Yellow, Brown, or Reddish Brown Discoloration shall be scored as **damage** when more than 2 leaves are materially discolored.

Score as **serious damage** when more than 4 leaves are seriously discolored.

Discolored Butts

Oxidation frequently causes a red discoloration of the cut end of the butt. This does not damage the appearance of the plant and it should not be scored as a defect.

Occasionally leaf lettuce shows a watersoaked, discolored condition of the central portion or core of the butt. The discoloration usually ranges from grayish to dark brown but may show a pink cast. Affected butts should be cut crosswise at a point 1/4 inch below the lowest point of attachment of the outermost leaf.

Score the plant as **damaged** by watersoaked and discolored core when the watersoaked condition is present above this cut.

If after a second cut, 1/4 inch above the first, the condition is still present, score the plant as **seriously damaged**.

Foreign Material (Q)

Foreign material being weeds, rocks, etc. When there is sufficient foreign material present to materially detract from the appearance, or the edible or shipping quality, the plant is **damaged**.

Score the plant as **serious damage** when the presence of foreign material seriously detracts from the appearance or the edible or shipping quality.

Mechanical (Q)

Score as **damage** when more than 2 leaves are materially torn, plucked out or the injury materially detracts from the plant.

Score as **serious damage** when more than 4 leaves are badly torn or the injury seriously detracts from the appearance of the plant.

Russet Spotting (C)

Russet spotting may consist of few to numerous specks less than 1/16 inch up to spots 1/4 inch in diameter. They are usually irregular shaped. In early stages these spots are light yellow, later turning darker and becoming pink, brown, olive-brown or blackish brown. The spots tend to be on the ribs, sides of the ribs, veins, or leaf tissue between the veins. They are usually on the inner surface of the leaves, later both surfaces are affected. The affected tissues serve as areas for infection by secondary organisms, and often decay, mainly Bacterial Soft Rot will occur.

Shipping Point:

Russet spotting seriously lowers the shipping quality and should be scored against all grades at shipping point when present in any degree.

En route or Destination:

Russet spotting en route or at destination is scored against the U.S. No. 1 grade when present in any degree on more than 2 leaves, or when the number, size, and color of the spots materially detracts from the appearance of any leaf. Materially detracts means when more than 5 spots are present on an individual leaf, or an equally objectionable amount on two leaves.

Similar Varietal Characteristics (Q)

§51.3460 Similar Varietal Characteristics...“Similar varietal characteristics” means that the plants in any container are of the same general type.

If both green leaf and red leaf lettuce were in the same carton, the one that is dissimilar from the rest would be scored as dissimilar varietal characteristics. Report as dissimilar varietal characteristics, a quality defect, against the total tolerance for the grade.

Stems (Q)

Coarse Stems

Leaf lettuce which has been growing for a long time may develop coarse stems. Coarse stems are tough and fibrous. A test for determining coarse stems is to cut the stem at right angles to the stem with a sharp knife. If the stem is coarse to the extent that the knife will require appreciably more force to cut it than is required to cut the surrounding layer of stem it is usually woody enough to score. If any tissues are coarse enough to score as damage they usually will be sufficiently coarse to score as serious damage.

Excessively Long Stems

§51.3464 Injury...“Stems” when more than 2-1/2 inches in length, measured from the end of the butt to the point of attachment of the last whorl of leaves.

§51.3465 Damage...“Stems” when more than 3-1/2 inches in length, measured from the end of the butt to the point of attachment of the last whorl of leaves.

Transit Freezing (C)

The important items relating to transit freezing damage are the location and distribution in the load, the quantity of stock injured, the degree of injury, condition of affected stock, and where the injury occurred. Report transit freezing using general terms in a narrative statement on the face of the certificate.

A blistered, parchment-like appearance of the epidermis or skin of lettuce, especially along the vein, is a reliable sign of freezing injury. It does not occur unless ice was found in the tissues. Frequently, it and slight wilting are the only signs of injury in lettuce which is frozen. Lettuce so affected is likely to be tough and tasteless.

If freezing is severe enough to kill the tissue, it may be dry and tough after thawing, but will usually become watersoaked and often invaded by fungi and bacteria.

Trimming (Q)

§51.3462 Well trimmed... “Well trimmed” means that the stem is trimmed off to within three-fourths inch of the point of attachment of the first whorl of leaves and that leaves which are more than slightly bleached or discolored have been removed.

§51.3463 Fairly well trimmed. “Fairly well trimmed” means that the stem is trimmed off to within three-fourths inch of the point of attachment of the first whorl of leaves and that leaves which are materially bleached or discolored have been removed.

Poorly Trimmed Butts. Poorly trimmed butts means that the stem extends more than three-fourths inch from the point of attachment of the first whorl of leaves to the end of the butt. This does not meet the requirements of the U.S. Fancy grade or the U.S. No. 1 grade. Score this defect against the total tolerance for either grade.

Poorly Trimmed Leaves. Poorly trimmed leaves means that the leaves (2 or more) which are materially bleached or discolored have not been removed. This defect is scored against the total tolerance for the grade.

Badly Trimmed Leaves. Badly trimmed leaves means that the leaves (2 or more) which are seriously bleached or discolored have not been removed. This defect is scored against the serious damage tolerance for the grade.

The U.S. Fancy grade requires each plant to be well trimmed. Therefore, if the plant has leaves which are more than slightly bleached or discolored which have not been removed, it will be considered as injured and scored as **fairly well trimmed**. If the plant has leaves which are more than materially bleached or discolored which have not been removed, it will be considered as damaged and scored as **poorly trimmed leaves**. If the plant has leaves which are more than seriously bleached or discolored which have not been removed, it will be considered as seriously damaged and scored against the serious damage tolerance as **badly trimmed leaves**.

Watersoaked Areas (C)

Watersoaked areas often occur on the leaves with no discernable pattern and should not be confused with freezing injury. Although the cooling process may influence the presence of watersoaked areas, the cause is unclear at this time. Therefore, watersoaked areas with no discernable pattern of freezing injury shall be reported on the basis of the individual plant as “watersoaked areas.”

Score as **damage** when more than 2 leaves materially detract from the appearance of the plant.

Score as **serious damage** when more than 4 leaves seriously detract from the appearance of the plant.

Well Grown (Q)

§51.3461 Well grown. “Well grown” means that the plant is not stunted or poorly developed.

If the plant is twisted, shows signs of abnormal growth, or head formation, it should be scored as “not well grown.” This defect should be scored against the total tolerance for the grade.

Wilting (C)

Score as **damage** when more than 2 leaves are wilted or the injury materially detracts from the plant.

Score as **serious damage** when more than 4 leaves are wilted or the injury seriously detracts from the appearance of the plant.

Worms and Insects (Q or C)

Plants of leaf lettuce that are scoreable account of live or dead insects or worms are always scored against the restricted tolerance for serious damage.

When more than 5 live or dead aphids or similar type insects are present score as **serious damage**; when one live or dead worm is present score as **serious damage**.

Insect and Worm Feeding Injury

If the leaves have been penetrated, or if excreta has been deposited in noticeable amounts, or if more than a very small portion of the leaves have been eaten, the condition is regarded as **damaged**. When the condition affects more than two leaves, score as **serious damage**.

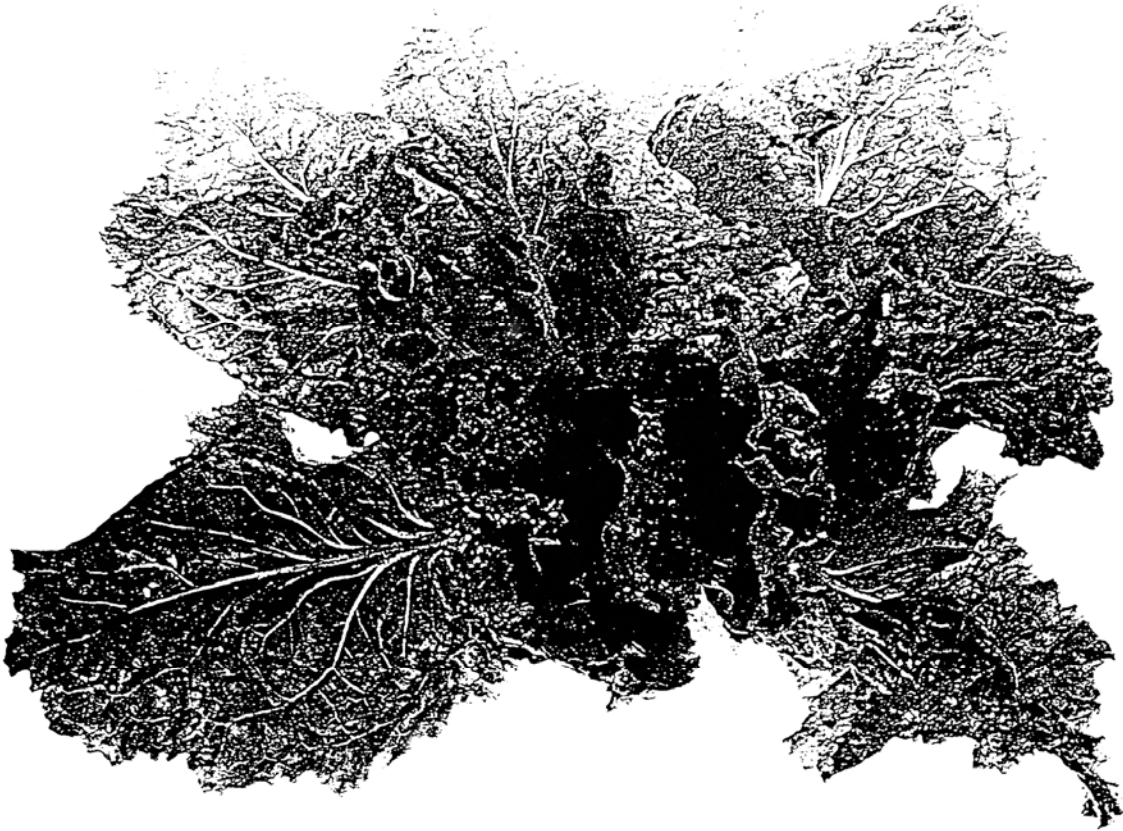
In transit or at destination, if damage is fresh, or if live insect(s) are present or a combination of live and dead, report as a condition factor. Report as a quality factor when the damage is old or if the insect(s) are dead.

Decay (C)

All grades are “free from decay.” Care should be taken so as not to confuse dead or watersoaked tissues with decay, since they are often very similar in appearance. Decayed tissue will disintegrate when rubbed between the fingers, while bruised or watersoaked tissue will retain a certain amount of texture.

Any amount of decay would be scored against the separate tolerance of 1 percent for decay. This would include decay affecting the butts as well as affecting the leaves.

When decay is in excess of the tolerance, report the degree of advancement as early, moderate, or advanced. This should be reported in general terms in the “Description of Products” section on shipping point certificates and in the “Other” section on market certificates.



Leaf Lettuce



Part V

Field Grown Leaf Lettuce

GENERAL

Green leaf or red leaf (non-heading) lettuces are characterized by the fact that they do not form heads. The leaves are clustered together, but only the young leaves at the center of the plant overlap to any extent. The older leaves are loosely arranged around the stem.

Loose-leaf lettuces are grown in greenhouses, hotbeds, and in open fields. Presently, there are two standards for leaf lettuce - U.S. Standard for Grades of Greenhouse Leaf Lettuce and U.S. Standard for Grades of Field Grown Leaf Lettuce. Only if the container is marked "greenhouse" or specifically requested by the applicant can the Greenhouse Leaf Lettuce standard be used. For all other types of leaf lettuce, apply the standard for Field Grown Leaf Lettuce.

REPRESENTATIVE SAMPLING

The importance of obtaining representative samples cannot be over emphasized. Accurate certification is possible only if the samples examined are truly representative of the entire lot or accessible portion. All portions of a lot or load should receive the same attention in sampling regardless of the difficulty involved in reaching all layers or parts of a lot or load. Anytime the entire lot requested is not accessible for sampling, the inspection and certificate must be restricted to the accessible portion.

Size of Sample

The tolerances in the U.S. Standards for Grades of Field Grown Leaf Lettuce are determined on the basis of count.

The total number of plants in the container shall be the sample size. However, if the plants are in consumer type packages, with 2 or more plants in a package within a master container, the consumer package will be the unit of sample. Bag or wrapping material must be completely removed from the sample plants in order to determine the presence or absence of defects.

Number of Samples

As a general rule a minimum of 1% of the lot must be examined. For lots of less than 300 packages a minimum of 3 samples must be examined. It is the inspector's responsibility to examine additional representative samples when the quality, condition, or size in samples is decidedly different to ensure an accurate description of the lot.

TOLERANCES AND APPLICATION OF TOLERANCES

§51.3764 Tolerances. In order to allow for variations incident to proper grading and handling, the following tolerances by count, shall be permitted in any lot:

(a) U.S. Fancy and U.S. No. 1 – (1) For defects. 12 percent for plants that fail to meet the requirements of the grade: *Provided*, That included in this amount not more than 6 percent shall be allowed for plants affected by damage (U.S. Fancy) and serious damage (U.S. No. 1), including not more than 3 percent for plants affected by decay. (2) For off-size. 10 percent for plants that fail to meet the size requirements.

(b) U.S. No. 2 – (1) For defects. 12 percent for plants that fail to meet the requirements of the grade: *Provided*, That included in this amount not more than 3 percent for plants affected by decay. (2) For off-size. 10 percent for plants that fail to meet the size requirements.

	U.S. Fancy and U.S. No. 1	U.S. No. 2
Total defects, including	12%	12%
Serious damage, including	6%	–
Decay	3%	3%
Off-size	10%	10%

Application of Tolerances

§51.3765 Application of Tolerances. 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:

(a) For packages which contain more than 15 plants, and a tolerance of 12 percent 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 15 plants, and a tolerance of less than 12 percent is provided, individual packages in any lot shall have not more than double the tolerance specified, except that at least 1 defective plant may be permitted in any package.

(b) For packages which contain 15 plants or less, individual packages in any lot shall have not more than double the tolerance specified, except that at least 1 defective plant may be permitted in any package.

More than 15 plants per package		15 plants or less per package
18%	Total Defects, including	24%
12%	Serious damage, including	12%
6%	Decay	6%
20%	Off-size	20%

NOTESHEET AND CERTIFICATE

Entries on the notesheet and certificate must be kept in a legible and accurate manner. It is mandatory that all information which appears on the certificate be supported by information on the notesheet. It is the responsibility of the inspector to ensure that all information is properly recorded. Notations shall be recorded so that anyone familiar with inspection procedures can interpret them and write a certificate. Also remember that notesheets and certificates are prima facie evidence and must be able to withstand legal scrutiny.

Detailed instructions pertaining to date, inspection point, place of inspection, type of carrier, lading, etc., which are not covered by these instructions may be found in the General Inspection Instructions. Additional information and instructions may be given by your supervisor.

Product

The common name, "Leaf Lettuce" shall be used to describe this commodity in the product heading when applying the Field Grown standard. Type may be reported in the "Product/Variety" section on the shipping point inspection certificates or in the "Lot ID" section on market notesheet and certificate.

Number/Type of Containers

The number of containers shall always be reported. In the market and at shipping point locations for stationary lot certification, the inspector shall always verify the container count provided by the applicant for each lot and report it as the "inspector's count." If the number of containers available for inspection does not match the application it is the inspector's responsibility to confirm that the amount presented for inspection constitutes the lot. If an accurate count cannot be determined the inspector may report the count at someone else's authority. However, the reason for doing so must be reported on the notesheet (e.g., numerous pallets with mixed product).

At shipping point locations for "days-run" certification the applicant generally provides a manifest for count and it is acceptable to use this for the number of containers.

Field Grown Leaf Lettuce is usually packed and shipped in waxed cartons.

Brands/Markings

The brand, variety, size, count, grade, weight, point of origin and other important information appearing on the container should be reported on the notesheet in the "Brands/Markings" section. Only the brand name and other key markings necessary to properly identify the lot for certification should appear in this section on the certificate.

Origin

The inspector should not make a positive statement on their own authority, but when container markings list the state or country of origin, it should be quoted in the appropriate space on the notesheet and the certificate. If origin is not marked, it is the inspector's responsibility to make an effort to obtain this information from the applicant. This policy is necessary because some firms may use one mark on the same product packed in several states. The inspector can certify only to the marks and has no means of verifying what state or country the lettuce is grown.

CONDITION OF PACK

The following terms should be used in describing the tightness of pack:

Excessively Tight. Means that the plants are so tightly packed that they are damaged by pressure causing distortion or crushing of the plants or breaking of the midribs. The term should be used only when such is the case.

Tight. Means that the layers are completely and tightly filled without injury to the plants. This represents the most desirable pack.

Fairly Tight. Means that the layers are filled, but the pack is somewhat loosely arranged, in cartons and usually additional plants, but not a complete row, can be inserted.

TEMPERATURE OF PRODUCT

Inspectors would not normally determine or report temperatures at shipping point. However, due to the importance of the pulp temperature of fresh fruits and vegetables when in transit or at destination, it is essential that the inspector accurately determine and report the temperature or range in temperatures on each lot. Pulp temperature should be reported regardless of the location of the product, whether in the carrier, warehouse, or stacked on the platform. Remember to pre-cool the thermometer in order to obtain true readings. Report all temperatures to the nearest whole degree.

A minimum of three temperatures for each lot must be taken and recorded on the notesheet. More temperatures must be taken if the lot is abnormally cold, heated, or there is a specific request for temperature, and these must be reported in greater detail specifying location in lot or load.

SIZE

§51.3763 Size. Size may be specified by count or weight. Weight is determined by average weight of the plants, and no plant shall vary more than 50 percent larger or smaller in weight than the average.

DEFECTS (QUALITY AND CONDITION)

Statements pertaining to freshness, maturity, shape, color, the amount and type of defects, and the amount of decay are shown under the appropriate headings.

Factors noted with **(Q)** are considered as **QUALITY** only. **Quality**, sometimes referred to as "**permanent**" **defects**, means defects which do not change during storage or shipment, such as shape, scars, etc.

Factors noted with **(C)** shall be reported as **CONDITION** on market certificates. **Condition defects** are defects which are subject to change during shipment or storage, including but not limited to bruising, discoloration, shriveling and decay.

Those factors noted with **(Q or C)** may be considered as **QUALITY or CONDITION**, depending on the circumstances.

Broken Midribs (Q)

Broken midribs are a result of abnormal growth. Such breaks will usually show a separation resulting from the pressure of the expanding head. Do not confuse these breaks with broken ribs resulting from excessively tight packs and mechanical causes. These often will show crushing, refer to Bruising and Mechanical sections.

Score as **injury** when 1 or more leaves are affected.

Score as **damage** when 3 or more leaves are affected.

Score as **serious damage** when 5 or more leaves are affected.

Bruising (C)

Score as **injury** when 2 or more leaves are slightly affected or slightly discolored by bruising.

Score as **damage** when 2 or more leaves are materially affected or materially discolored by bruising.

Score as **serious damage** when 2 or more leaves are seriously affected or seriously discolored by bruising.

Plants which have been bruised to the extent that they are damaged will often show a reddish brown discoloration or a watersoaked appearance in the bruised area. In describing bruising which shows reddish brown discoloration, it should be reported on the certificate as **discoloration following bruising** since in most cases the discoloration will be responsible for the plant being damaged.

Dirt/Foreign Material (Q)

Dirt is usually found following a rain, heavy fog or heavy irrigation. If reasonable care is used during harvesting, this condition may be avoided. Foreign material such as weeds and rocks may inadvertently be picked up during harvesting.

Score as **injury** when dirt or foreign material slightly affects the appearance, or edible, or shipping quality of 1 or more leaves.

Score as **damage** when dirt or foreign material materially affects the appearance, or edible, or shipping quality of 2 or more leaves.

Score as **serious damage** when dirt or foreign material seriously affects the appearance, or edible, or shipping quality of 4 or more leaves.

Discoloration (C)

There are several types of discoloration which may affect leaf lettuce. Generally, these discolorations are a result of disease, plant disorders, adverse growing and

handling conditions. It is best to describe the discoloration (such as marginal discoloration or discolored leaves) and score as follows:

Score as **injury** when brown to black discoloration exceeds an aggregate area of 1/2 inch by 1 inch.

Score as **damage** when brown to black discoloration exceeds an aggregate area of 1 square inch.

Score as **serious damage** when brown to black discoloration exceeds an aggregate area of 2 square inches.

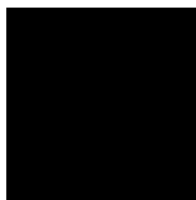
Rectangle Area Comparators

1/2 inch x 1 inch



U.S. Fancy

1 square inch



U.S. No. 1

2 square inches



U.S. No. 2

Discolored Butts

Oxidation frequently causes a red discoloration of the cut end of the butt. This does not damage the appearance of the plant and it should not be scored as a defect.

Occasionally leaf lettuce shows a watersoaked, discolored condition of the central portion or core of the butt. The discoloration usually ranges from grayish to dark brown but may show a pink cast. Affected butts should be cut crosswise at a point 1/4 inch below the lowest point of attachment of the outermost leaf.

Score as **injury** and **damage** by watersoaked and discolored core when the watersoaked condition is present above this cut.

If after a second cut, 1/4 inch above the first, the condition is still present, score as **serious damage**.

Downy Mildew (C)

Downy Mildew can be recognized by sharply defined angular spots, yellowish to brown in color on the upper side of the leaf while the lower surfaces often show a whitish mold growth. The outer leaves are generally affected first. The injury will sometimes break down into decay in transit.

Score as **injury** when downy mildew exceeds an aggregate area of 1/2 inch by 1 inch.

Score as **damage** when downy mildew exceeds an aggregate area of 1 square inch.

Score as **serious damage** when downy mildew exceeds an aggregate area of 2 square inches.

Mechanical (Q)

Sometimes plants are found which have portions of the leaves torn out by harvesters in order to remove discoloration or some other defect which they consider detracts from the appearance of the plant. Frequently the resulting damage detracts from the quality of the plant more than the original defect.

Score as **injury** when cut or torn more than an aggregate of 1-1/2 inches.

Score as **damage** when cut or torn more than an aggregate of 3 inches.

Score as **serious damage** when cut or torn more than an aggregate of 6 inches.

Peeling and Feathering (C)

Peeling and feathering of leaves may be caused by either field freezing or sunburn. It generally occurs on the outside of the leaves. The affected area should not be brushed to determine the damage that has been caused.

Score as **injury** when 2 or more leaves are slightly affected.

Score as **damage** when 2 or more leaves are materially affected.

Score as **serious damage** when 4 or more leaves are materially affected.

Sometimes plants will get a yellow or brown discoloration associated with peeling and feathering. Report as **discoloration following peeling or feathering** and use the same guidelines as above for injury, damage, and serious damage.

Russet Spotting (C)

Russet spotting may consist of few to numerous specks less than 1/16 inch up to spots 1/4 inch in diameter. They are usually irregular shaped. In early stages these

spots are light yellow, later turning darker and becoming pink, brown, olive-brown or blackish brown. The spots tend to be on the ribs, sides of the ribs, veins, or leaf tissue between the veins. They are usually on the inner surface of the leaves, later both surfaces are affected. The affected tissues serve as areas for infection by secondary organisms, and often decay, mainly Bacterial Soft Rot will occur.

Shipping Point:

Russet spotting seriously lowers the shipping quality and should be scored against all grades at shipping point when present in any degree.

En route or Destination:

Score as **injury** when present in any amount.

Score as **damage** when exceeds 3 spots on any one leaf, or any amount on 2 or more leaves.

Score as **serious damage** when affecting 4 or more leaves.

Seedstems (Q)

Often external characteristics, such as the shape of the head and spreading at the base between points of attachment of the leaf stems to the main stem, may indicate that seedstems are developing, but this indication is not always reliable.

Score as **injury** when more than 1 inch in length, measured from the point of attachment to the tip of the seedstem.

Score as **damage** when more than 2 inches in length, measured from the point of attachment to the tip of the seedstem.

Score as **serious damage** when more than 3 inches in length, measured from the point of attachment to the tip of the seedstem.

Similar Varietal Characteristics (Q)

§51.3766 Similar varietal characteristics. “Similar varietal characteristics” means that the plants in the lot are of the same general type, texture, and color.

If both green leaf and red leaf lettuce were in the same carton, the one that is dissimilar from the rest would be scored as dissimilar varietal characteristics. Report as dissimilar varietal characteristics, a quality defect, against the total tolerance for the grade.

Tipburn (C)

Care should be taken as not to confuse marginal discoloration with tipburn as they often have a similar appearance (marginal discoloration should be scored as discoloration). Tipburn is a physiological disease caused by growing conditions. It starts as small spots or narrow lesions along the edge of a leaf that is bleached light yellow to off-white. Later on, the affected areas usually enlarge and turn yellowish brown to brown. Areas of tipburn have irregular veined margins as compared with the clean cut margins found in connection with the marginal browning that is caused by wind or mechanical injury. When tipburn is severe or is of a moist type it may readily break down into decay.

Score as **injury** when light buff or darker color exceeds an aggregate area of 1/2 inch by 1 inch.

Score as **damage** when light buff and exceeds an aggregate area of 1 square inch.

Score as **serious damage** when light buff and exceeds an aggregate area of 2 square inches.

Transit Freezing (C)

The important items relating to transit freezing damage are the location and distribution in the load, the quantity of stock injured, the degree of injury, condition of affected stock, and where the injury occurred. Report transit freezing using general terms in a narrative statement on the face of the certificate.

A blistered, parchment-like appearance of the epidermis or skin of lettuce, especially along the vein, is a reliable sign of freezing injury. It does not occur unless ice was found in the tissues. Frequently, it and slight wilting are the only signs of injury in lettuce which is frozen. Lettuce so affected is likely to be tough and tasteless.

If freezing is severe enough to kill the tissue, it may be dry and tough after thawing, but will usually become watersoaked and often invaded by fungi and bacteria.

Trimming (Q)

§51.3768 Well trimmed. “Well trimmed” means that the butt is trimmed off to within one-half inch of the point of attachment of the first whorl of leaves.

§51.3769 Fairly well trimmed. “Fairly well trimmed” means that the butt is trimmed off to within three-fourths inch of the point of attachment of the first whorl of leaves.

§51.3770 Reasonably well trimmed. “Reasonably well trimmed” means that the butt is trimmed off to within one inch of the point of attachment of the first whorl of leaves.

The U.S. Fancy grade requires each plant to be well trimmed. **Not well trimmed** means that the stem extends more than one-half inch from the point of attachment of the first whorl of leaves to the end of the butt. This does not meet the requirements of the U.S. Fancy grade and should be scored against the total tolerance for the grade.

The U.S. No. 1 grade requires each plant to be fairly well trimmed. **Not fairly well trimmed** means that the stem extends more than three-fourths inch from the point of attachment of the first whorl of leaves to the end of the butt. This does not meet the requirements of the U.S. No. 1 grade and should be scored against the total tolerance for the grade.

The U.S. No. 2 grade requires each plant to be reasonably well trimmed. **Not reasonably well trimmed** means that the stem extends more than one inch from the point of attachment of the first whorl of leaves to the end of the butt. This does not meet the requirements of the U.S. No. 2 grade and should be scored against the total tolerance for the grade.

Watersoaked Areas (C)

Watersoaked areas often occur on the leaves with no discernable pattern and should not be confused with freezing injury. Although the cooling process may influence the presence of watersoaked areas, the cause is unclear at this time. Therefore, watersoaked areas with no discernable pattern of freezing injury shall be reported on the basis of the individual plant as "watersoaked areas."

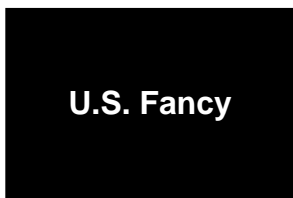
Score as **injury** when watersoaked area exceeds an aggregate of 1 inch by 1-1/2 inches.

Score as **damage** when watersoaked area exceeds an aggregate of 3 square inches.

Score as **serious damage** when watersoaked area exceeds an aggregate of 6 square inches.

Rectangle Area Comparators

1 inch x 1-1/2 inches



3 square inches



6 square inches



Well Developed (Q)

§51.3767 Well developed. "Well developed" means that the plant shows normal growth and shape, and is not stunted or overgrown.

If the plant is twisted, shows signs of abnormal growth, or head formation, it should be scored as **Not well developed**. This defect should be scored against the total tolerance for the grade.

Wilting (C)

Score as **damage** when more than 2 leaves are wilted or the injury materially detracts from the plant.

Score as **serious damage** when more than 4 leaves are wilted or the injury seriously detracts from the appearance of the plant.

Worms and Insects (Q or C)

In transit or at destination, if damage is fresh, or if live insect(s) are present or a combination of live and dead, report as a condition factor. Report as a quality factor when the damage is old or if the insect(s) are dead.

Score as **injury** when any live or dead insects or worms are present.

Score as **damage** when 4 or more live or dead insects or 1 live or dead worm is present.

Score as **serious damage** when 8 or more live or dead insects or 2 or more worms are present.

Insect and Worm Feeding Injury

Score as **injury** when excreta is present or when 2 or more holes are present.

Score as **damage** when excreta exceeds an area 1/4 inch by 1 inch or 4 or more holes are present.

Score as **serious damage** when excreta exceeds an aggregate area of 1/2 inch by 1 inch or 8 or more holes are present.

Yellowing (C)

Yellowing can be the result of several factors, including aging and exposure to heat.

Score as **injury** when yellowing exceeds an aggregate area of 1 inch by 1-1/2 inches.

Score as **damage** when yellowing exceeds an aggregate area of 3 square inches.

Score as **serious damage** when yellowing exceeds an aggregate area of 6 square inches.

Decay (C)

All grades are "free from decay." Care should be taken so as not to confuse dead or watersoaked tissues with decay, since they are often very similar in appearance. Decayed tissue will disintegrate when rubbed between the fingers, while bruised or watersoaked tissue will retain a certain amount of texture.

Any amount of decay would be scored against the separate tolerance of 3 percent for decay. This would include decay affecting the butts as well as affecting the leaves.

The degree of advancement (early, moderate or advanced) should be reported in general terms in the "Description of Products" section on shipping point certificates and in the "Other" section on market certificates.

Appendix I - U.S. Grade Standards

United States Standards for Grades of Lettuce¹

Effective December 1, 1975

Grades

51.2510 U.S. Fancy.

51.2511 U.S. No. 1.

51.2512 U.S. No. 2.

Tolerances

51.2513 Tolerances.

Application of Tolerances

51.2514 Application of tolerances.

Precooling Requirements

51.2515 Precooling requirements.

Standard Pack

51.2516 Standard pack.

Standard Weight

51.2517 Standard weight.

Solidity Classification

51.2518 Solidity classification.

Definitions

51.2519 Similar varietal characteristics.

51.2520 Fresh.

51.2521 Green.

51.2522 Burst.

51.2523 Doubles.

51.2524 Fairly well trimmed.

51.2525 Closely trimmed.

51.2526 Reasonably trimmed.

51.2527 Cap leaf.

51.2528 Crown.

51.2529 Injury.

51.2530 Damage.

51.2531 Serious damage.

51.2532 Permanent defects.

51.2533 Condition defects.

51.2534 Classification of defects.

Grades

§51.2510 U.S. Fancy.

"U.S. Fancy" consists of heads of lettuce which meet the following requirements:

(a) Basic requirements:

(1) Similar varietal characteristics;

(2) Fresh;

(3) Green;

(4) Not soft;

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 or with applicable State laws and regulations.

- (5) Not burst;
- (b) Free from:
 - (1) Decay;
 - (2) Russet spotting;
 - (3) Doubles;
- (c) Free from injury by:
 - (1) Tipburn;
 - (2) Downy mildew;
 - (3) Field freezing;
 - (4) Discoloration;
- (d) Not damaged by any other cause.
- (e) Each head shall be fairly well trimmed unless specified as closely trimmed.
- (f) For tolerances see §51.2513.

§51.2511 U.S. No. 1.

"U.S. No. 1" consists of heads of lettuce which meet the following requirements:

- (a) Basic requirements:
 - (1) Similar varietal characteristics;
 - (2) Fresh;
 - (3) Green;
 - (4) Not soft;
 - (5) Not burst;
- (b) Free from:
 - (1) Decay;
 - (2) Doubles.
- (c) Not damaged by any other cause.
- (d) Each head shall be fairly well trimmed unless specified as closely trimmed.
- (e) For tolerances see §51.2513.

§51.2512 U.S. No. 2.

"U.S. No. 2" consists of heads of lettuce which meet the following requirements:

- (a) Basic requirements:
 - (1) Similar varietal characteristics;
 - (2) Not burst;
- (b) Free from decay;
- (c) Not seriously damaged by any other cause;
- (d) Unless otherwise specified each head shall be reasonably trimmed.
- (e) For tolerances see §51.2513.

Tolerances

§51.2513 Tolerances.

In order to allow for variations incident to proper grading and handling the following tolerances, by count, shall be permitted in any lot:

- (a) **U.S. Fancy -- (1) For defects at shipping point.**² 8 percent for heads of lettuce which fail to meet the requirements of this grade: **Provided**, That included in this amount not more than 5 percent shall be allowed for soft heads: **And provided further**, That not more than 4 percent shall be allowed for defects causing serious damage; included in this latter amount not more than 1 percent for heads which are affected by decay on any portion of the head exclusive of the wrapper leaves.
- (2) **En route or at destination.** 12 percent for heads of lettuce which fail to meet the requirements of this grade: **Provided**, That included in this amount not more than the following percentages shall be allowed for defects listed:
 - (i) 8 percent for heads having permanent defects including therein not more than 5 percent for soft heads;
 or,

² Shipping point, as used in these standards, means the point of origin of the shipment in producing area or at port of loading for ship stores or overseas shipment, or, in the case of shipments from outside the continental United States, the port of entry into the United States.

(ii) 6 percent for heads which are seriously damaged; including therein not more than 4 percent for heads seriously damaged by permanent defects and not more than 3 percent for heads which are affected by decay on any portion of the head exclusive of the wrapper leaves. (See §51.2514.)

(b) **U.S. No. 1 -- (1) For defects at shipping point.**² 8 percent for heads of lettuce which fail to meet the requirements of this grade: **Provided**, That included in this amount not more than 5 percent shall be allowed for soft heads: **And provided further**, That not more than 4 percent shall be allowed for defects causing serious damage, included in this latter amount not more than 1 percent for heads which are affected by decay on any portion of the head exclusive of the wrapper leaves.

(2) **En route or at destination.** 12 percent for heads of lettuce which fail to meet the requirements of this grade: **Provided**, That included in this amount not more than the following percentages shall be allowed for defects listed:

(i) 8 percent for heads having permanent defects including therein not more than 5 percent for soft heads; or,

(ii) 6 percent for heads which are seriously damaged; including therein not more than 4 percent for heads seriously damaged by permanent defects and not more than 3 percent for heads which are affected by decay on any portion of the head exclusive of the wrapper leaves. (See §51.2514.)

(c) **U.S. No. 2 -- (1) For defects at shipping point.**² 8 percent for heads of lettuce which fail to meet the requirements of this grade: **Provided**, That included in this amount not more than 3 percent shall be allowed for heads which are affected by decay on any portion of the head exclusive of the wrapper leaves.

(2) **En route or at destination.** 12 percent for heads of lettuce which fail to meet the requirements of this grade: **Provided**, That included in this amount not more than the following percentages shall be allowed for defects listed:

(i) 8 percent for heads having permanent defects; or,

(ii) 5 percent for heads which are affected by decay on any portion of the head exclusive of the wrapper leaves. (See §51.2514.)

Application of Tolerances

§51.2514 Application of tolerances.

(a) In order to meet the requirements of a specified grade the average percentage of defective specimens in the lot, based on sample inspection shall be within the tolerances specified, and the number of defective specimens in individual packages in the lot shall be within the limitations set forth in the following table:

Table I -- Maximum Number of Defective Heads Permitted in Any Package

Lot tolerance, percent	Total number of heads in package			
	24	18 or 20	30	Over 30
1	1	1	2	2
3	3	2	3	4
4	3	3	4	4
5	3	3	4	5
6	4	3	5	6
8	5	4	6	7
12	6	5	7	9

Precooling Requirements

§51.2515 Precooling requirements.

The following precooling requirements may be used in certifying lettuce in the producing area:

(a) Lettuce certified as meeting "Precooling Requirements" in the producing area shall have a core temperature of not more than 36° F (2.2 ° C) when placed in a refrigerated conveyance or storage.

(1) The temperature shall be taken near the center of the head with a thermometer which has previously been cooled to the approximate temperature of the lettuce.

Standard Pack

§51.2516 Standard pack.

(a) Heads of lettuce shall be fairly uniform in size, and fairly tightly to tightly packed but not excessively tightly packed in uniform layers in the container according to the approved and recognized methods; except that in standard fiberboard containers a "bridge" of 6 heads may be placed between the layers in a 2-1/2 dozen pack.

(1) Fairly uniform in size means that not more than 10 percent, by count, of heads in any container may vary appreciably in size from the standard size head for the count pack.

(i) The standard size head for a 2 dozen pack is that size head, having 4 wrapper leaves, which will pack tightly but not excessively tightly, 3 rows with 4 heads of uniform size in each row in a layer in a standard fiberboard container. Heads having lesser or greater numbers of wrapper leaves which can be packed as specified herein are considered equivalent in size to a standard size head with 4 wrapper leaves.

(2) Excessively tightly packed means that heads are packed so tightly as to cause distortion, or crushing of the heads or breaking of the midribs.

(b) When heads of lettuce are wrapped no head may have more than 1 wrapper leaf.

(c) In order to allow for variations incident to proper packing not more than a total of 10 percent of the containers in any lot may fail to meet the requirements of standard pack.

Standard Weight

§51.2517 Standard weight.

(a) The following weight requirements may be used in connection with grade.

(1) Lettuce packed in a standard lettuce containers shall have a net weight of not less than 42 pounds (19 kg) and not more than 50 pounds (23 kg).

(b) In order to allow for variations incident to proper packing, not more than a total of 5 percent of the containers in any lot may fail to meet the requirements of standard weight.

Solidity Classification

§51.2518 Solidity classification.

(a) Solidity of lettuce may be specified in connection with the grade in accordance with any of the following classification:

(1) **Hard.** "Hard" means that the head is compact and solid. This term represents the highest degree of solidity.

(2) **Firm.** "Firm" means that the head is compact, but may yield slightly to moderate pressure.

(3) **Fairly firm.** "Fairly firm" means that although the head is not firm, it is not soft and spongy, and has good head formation.

(4) **Soft.** "Soft" means that the head is easily compressed or spongy.

Definitions

§51.2519 Similar varietal characteristics.

"Similar varietal characteristics" means that the heads in any container have the same characteristic leaf growth. For example, lettuce of the Iceberg and Big Boston types shall not be mixed.

§51.2520 Fresh.

"Fresh" means that the head as a whole has normal succulence and the wrapper leaves and the outermost head leaves are not more than slightly wilted.

§51.2521 Green.

"Green" means that one-half or more of the exterior surface of the head, exclusive of the wrapper leaves, has at least a light green color.³

³ The color referred to is illustrated by plate 5 GY 8/6 in the Munsell Book of Color. Individual plates of the above color may be purchased from the Munsell Color Co., 2441 North Calvert, Baltimore, MD. 21218.

§51.2522 Burst.

"Burst" means that the head is split or broken open.

§51.2523 Doubles.

"Doubles" means two heads on the same stem.

§51.2524 Fairly well trimmed.

"Fairly well trimmed" means that the butt is trimmed off closely below the point of attachment of the outer leaves, and that on a head of Iceberg type lettuce, wrapper leaves do not exceed 7 in number.

§51.2525 Closely trimmed.

"Closely trimmed" means that the butt is trimmed off closely below the point of attachment of the outer leaves, and that on a head of Iceberg type lettuce, wrapper leaves do not exceed 3 in number.

§51.2526 Reasonably trimmed.

"Reasonably trimmed" means that the butt is trimmed off closely below the point of attachment of the outer leaves, and that on a head of Iceberg type lettuce, wrapper leaves do not exceed 12 in number.

§51.2527 Cap leaf.

"Cap leaf" is the first head leaf. This is the outermost leaf which fairly closely enfolds the compact portion of the head, some portion of which extends to the top of the crown. The tip of the leaf may be separated from the head, **Provided**, That the separation does not extend more than 1-1/4 inches (31.8 mm) in height from the compact portion of the head. (See figure 1.)

(a) All leaves outside of the cap leaf are wrapper leaves.

(b) On elongated or pointed heads the inner leaves that closely enfold the head three-fourths of their length are head leaves.

§51.2528 Crown.

"Crown" means the upper half of the head. (See figure 1.)

§51.2529 Injury.

"Injury" means any specific defect described in §51.2534, Tables II and III, or an equally objectionable variation of any one of these defects, any other defect, or any combination of defects, which noticeably detracts from the appearance, or the edible or marketing quality of the lettuce.

§51.2530 Damage.

"Damage" means any specific defect described in §51.2534, Tables II and III, or an equally objectionable variation of any one of these defects, any other defect, or any combination of defects, which materially detracts from the appearance, or the edible or marketing quality of the lettuce.

§51.2531 Serious damage.

"Serious damage" means any specific defect described in §51.2534, Tables II and III, or an equally objectionable variation of any one of these defects, any other defect, or any combination of defects, which seriously detracts from the appearance, or the edible or marketing quality of the lettuce.

§51.2532 Permanent defects.

"Permanent defects" means defects which are not subject to change during shipment or storage, including but not limited to soft, burst, open or poorly trimmed heads, seedstems or dirt.

§51.2533 Condition defects.

"Condition defects" means defects which are subject to change during shipment or storage, including but not limited to decay, tipburn, russet spotting, pink rib, rib discoloration, and freezing injury.

§51.2534 Classification of defects. Table II -- At Shipping Point²

Defect	Injury	Damage	Serious damage
Tipburn	More than 2 spots of tipburn occurring anywhere in the compact portion of the head or the aggregate area of discernible tipburn, regardless of color, exceeds that of a rectangle 1-inch (25.4 mm) in length and 1/4-inch (6.4 mm) in width.	Aggregate area of tipburn occurring anywhere in the compact portion of the head exceeds a rectangle 1-inch (25.4 mm) in length and 1/2-inch (12.7 mm) in width.	Aggregate area of tipburn occurring anywhere in the compact portion of the head exceeds that of a rectangle 3-inches (76.2 mm) in length and 1-inch (25.4 mm) in width.
Downy mildew	Occurring on any head or wrapper leaf.	Readily apparent on any head leaf; when mildew not accompanied by discoloration is readily apparent on more than 2 wrapper leaves, or discoloration associated with mildew is readily apparent on any wrapper leaf.	Materially detracting from the appearance or shipping quality of any head leaf; mildew not accompanied by discoloration is readily apparent on more than 3 wrapper leaves, or discoloration associated with mildew is readily apparent on more than 2 wrapper leaves.
Opening		In a hard or firm head when 1/4 or more of the head is separated from the remainder, or any degree of opening in a fairly firm head.	
Seedstems		Excessively long, excessively curved, tough or fibrous. (See figures 2 and 3).	Causing the head to split or when protruding through the outer head leaves.
Broken midribs		More than 2 head leaves have midribs broken in 2 due to abnormal growth.	More than 4 head leaves have midribs broken in 2 due to abnormal growth.
Russet spotting	Present in any degree.	Present in any degree.	Present in any degree.

² Shipping point, as used in these standards, means the point of origin of the shipment in the producing area or at port of loading for ship stores for overseas shipment, or, in the case of shipments from outside the continental United States, the port of entry into the United States.

Pink rib	Occurring on any head leaf.	Ribs of more than 2 head leaves show areas of deep pink color more than 2-inches (50.8 mm) in length or when causing more than 2 head leaves to be excessively papery and tough.	Areas of deep pink color seriously detracts from the appearance or the edible quality of more than 2 head leaves.
Rib discoloration	Occurring on any head leaf.	Aggregate length of brown or black spots on outer surface of any head leaf exceeds 1 inch (25.4 mm).	Seriously detracting from the appearance or the edible quality of more than 2 head leaves.
Dirt		Compact portion of the head is smeared with mud, or wrapper leaves are badly smeared with mud, or when the basal portion is caked with mud or dry dirt.	
Insects and worms		Compact portion of the head is infested, or the wrapper leaves are badly infested with insects or worms, or there is feeding injury on the compact portion of the head.	Compact portion of the head is infested, or the wrapper leaves are badly infested with insects or worms, or there is feeding injury on more than 2 head leaves.
Field Freezing	Any peeling, feathering or yellow or brown discoloration resulting from field freezing is readily apparent on any outer head leaf.	Peeling or feathering extends over more than 3/4 the area of the crown on more than 2 head leaves or yellow or brown discoloration resulting from field freezing extends over more than 1/2 of the crown, or the wrapper leaves are seriously damaged by discoloration resulting from freezing.	
Discoloration (other than caused by freezing)	Any 1 of the following types or a combination of 2 or more types the seriousness of which exceeds the maximum allowed for any 1 type. (1) Yellow or brown discoloration from any cause affecting any portion of the leaf, or when materially detracting from the appearance of the wrapper leaves.	Any 1 of the following types or a combination of 2 or more types the seriousness of which exceeds the maximum allowed for any 1 type. (1) Yellow or brown affecting any portion of the leaf, or when seriously detracting from the appearance of the wrapper leaves.	Any 1 of the following types, or a combination of 2 or more types the seriousness of which exceeds the maximum allowed for any 1 type. (1) Yellow or brown, affecting any portion of the leaf, or very seriously detracting from the appearance of the wrapper leaves.

(2) Yellow or brown discoloration from any cause when readily apparent on the compact portion of the head.

(3) Discoloration following bruising noticeably detracting from the appearance of more than 2 outer head leaves.

(2) Yellow or brown, materially detracting from the appearance of the head exclusive of the wrapper leaves.

(3) Discoloration following bruising materially detracting from the appearance of more than 2 outer head leaves.

(2) Yellow or brown, seriously detracting from the appearance of the head leaves exclusive of the wrapper leaves.

(3) Discoloration following bruising seriously detracting from the appearance of more than 2 outer head leaves.

Table III -- (En Route or at Destination)

Defect	Injury	Damage	Serious damage
Tipburn.	Aggregate area of tipburn of a light buff ⁴ or darker color exceeds that of a rectangle 1 inch (25.4 mm) in length and 1/4 inch (6.4 mm) in width.	Aggregate area of tipburn of a light buff ⁴ or darker color occurring anywhere in the compact portion of the head exceeds a rectangle 1 inch (25.4 mm) in length and 1/2 inch (12.7 mm) in width.	Aggregate area of tipburn of a light buff ⁴ or darker color occurring anywhere in the compact portion of the head exceeds that of a rectangle 3 inches (78.2 mm) in length and 1 inch (25.4 mm) in width.
Downy mildew.	Any that is readily apparent on any head leaf or discoloration associated with mildew is readily apparent on more than 2 wrapper leaves.	Materially detracting from the appearance of any head leaf or seriously detracting from the appearance of more than 2 wrapper leaves.	Materially detracting from the appearance of more than 2 head leaves or seriously detracting from the appearance of the wrapper leaves.
Pink rib.	More than 2 head leaves having midribs showing noticeable areas of pink color as viewed on the outer surface of the leaf or when causing any head leaf to be excessively papery and tough.	See Table II.	See Table II.

⁴ The color referred to is illustrated by plate 10 YR 8/4 in the Munsell Book of Color. Individual plates of the above color may be purchased from the Munsell Color Co., 2441 North Calvert Street, Baltimore, MD. 21218.

Russet spotting.	Present in any degree.	Present in any degree on more than 2 outer head leaves, or when the number, size, and color of the spots materially detracts from the appearance of any head leaf.	The number, size, and color of the spots seriously detracts from the appearance of 2 or more head leaves.
Rib discoloration.	Any distinct brown or black spots or rib discoloration present on the outer surface of any head leaf.	See Table II.	See Table II.

Note: For classification of the following defects refer to Table II: opening, seedstems, broken midribs, field freezing, discoloration, and dirt.

Figure 1

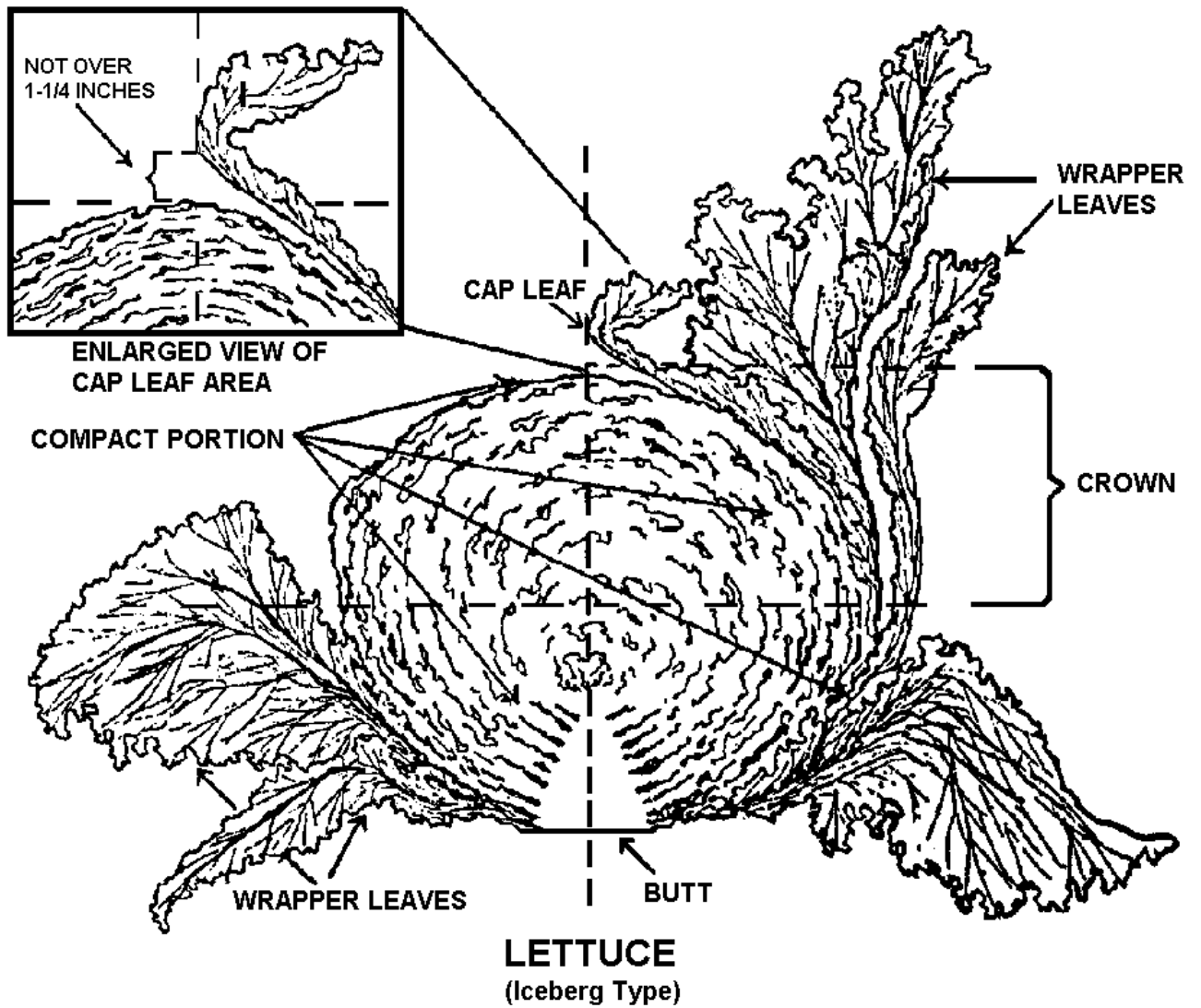


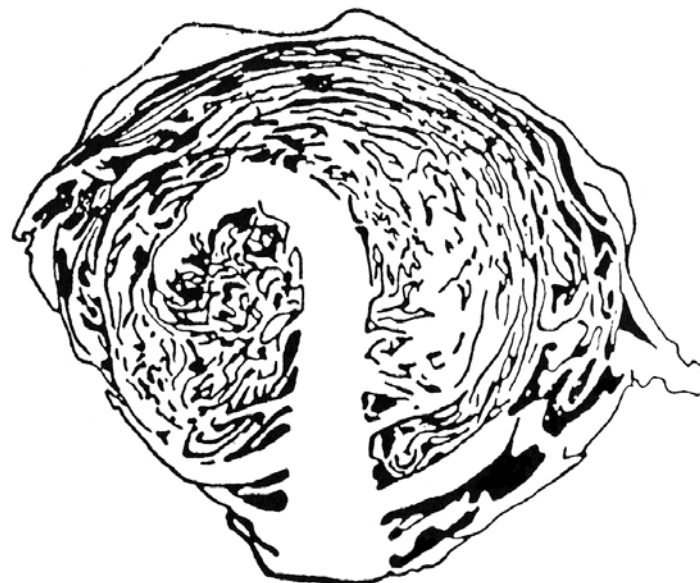
Illustration LET 1

LETTUCE SEEDSTEM



MAXIMUM EXTENT TO WHICH HEAD MAY BE AFFECTED
BY SEEDSTEM IN U.S. NO. 1 GRADE

FIGURE 2.



MAXIMUM EXTENT TO WHICH HEAD MAY BE AFFECTED
BY SEEDSTEM IN U.S. NO. 1 GRADE

FIGURE 3.

United States Standards for Grades of Romaine¹

Effective August 10, 1960

Grades

51.3295 U.S. No. 1.

Unclassified

51.3296 Unclassified.

Tolerances

51.3297 Tolerances.

Application of Tolerances

51.3298 Application of tolerances.

Definitions

51.3299 Similar varietal characteristics.

51.3300 Fresh.

51.3301 Well developed.

51.3302 Well trimmed.

51.3303 Damage.

51.3304 Serious damage.

Grades

§51.3295 U.S. No. 1.

"U.S. No. 1" consists of romaine plants of similar varietal characteristics which are fresh, well developed, well trimmed, and which are free from decay, and free from damage caused by seedstems, broken, bruised or discolored leaves, tipburn, wilting, foreign material, freezing, dirt, disease, insects, mechanical or other means.

Unclassified

§51.3296 Unclassified.

"Unclassified" consists of romaine plants which have not been classified in accordance with the foregoing grade. 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

§51.3297 Tolerances.

In order to allow for variations incident to proper grading and handling the following tolerances, by count, are provided:

(a) 10 percent of the plants in any lot may 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 serious damage, including therein not more than 2 percent for decay.

Application of Tolerances

§51.3298 Application of tolerances.

The contents of individual packages are subject to the following limitations: **Provided**, That the averages for the entire lot are within the tolerances specified for the grade:

(a) A package shall have not more than one and one-half times a specified tolerance of 10 percent and not more than double a specified tolerance of less than 10 percent, except that at least one defective plant may be permitted in any package.

Definitions.

§51.3299 Similar varietal characteristics.

"Similar varietal characteristics" means that the plants in any container are of the same general type.

§51.3300 Fresh.

"Fresh" means that the plant has normal succulence but the outermost leaves may be slightly wilted.

§51.3301 Well developed.

"Well developed" means that the plant shows normal growth and shape.

§51.3302 Well trimmed.

"Well trimmed" means that the stem is trimmed off close to the point of attachment of the outer leaves.

¹Compliance 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.

§51.3303 Damage.

"Damage" means the specific defect described in this section; any other defect, or any combination of defects, which materially detracts from the appearance, or the edible or shipping quality of the plants.

(a) Seedstems when the length of the attached seedstem is more than one-fourth the overall plant length or when any portion of the seedstem has been removed.

§51.3304 Serious damage.

"Serious damage" means any defect, or any combination of defects, which seriously detracts from the appearance, or the edible or shipping quality of the plant.

United States Standards for Grades of Endive, Escarole or Chicory¹

Effective October 1, 1964

General

51.3535 General.

Grade

51.3536 U.S. No. 1.

Unclassified

51.3537 Unclassified.

Tolerances

51.3538 Tolerances.

Application of Tolerances

51.3539 Application of tolerances.

Definitions

51.3540 Similar varietal characteristics.

51.3541 Fresh.

51.3542 Well trimmed.

51.3543 Fairly well blanched.

51.3544 Damage.

51.3545 Serious damage.

General

§51.3535 General.

These standards do not apply to French Endive or Chicory marketed for its roots.

Grade

§51.3536 U.S. No. 1.

"U.S. No. 1" consists of plants of endive, escarole, or chicory of similar varietal characteristics which are fresh, well trimmed and fairly well blanched, and which are free from decay and free from damage caused by seedstems, broken, bruised, spotted, or discolored leaves, wilting, dirt, disease, insects or other means.

Unclassified

§51.3537 Unclassified.

"Unclassified" consists of plants of endive, escarole, or chicory which have not been classified in accordance with the foregoing grade. 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

§51.3538 Tolerances.

In order to allow for variations incident to proper grading and handling, the following tolerances, by count, shall be permitted in any lot:

(a) 10 percent for plants of endive, escarole, or chicory which fail to meet the requirements of the grade:

Provided, That included in this amount not more than 5 percent shall be allowed for defects causing serious damage, including in this latter amount not more than 2 percent for plants affected by decay.

Application of Tolerances

§51.3539 Application of tolerances.

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:

(a) For a tolerance of 10 percent individual packages may contain not more than one and one-half times the specified tolerance, and for a tolerance of less than 10 percent individual packages may contain not more than double the specified tolerance, except that at least one defective plant may be permitted in any package.

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.

Definitions

51.3540 Similar varietal characteristics.

"Similar varietal characteristics" means that the plants in any package are of the same type such as curly-leaved endive or broad-leaved escarole.

§51.3541 Fresh.

"Fresh" means that the plant as a whole has normal succulence and the outermost leaves are not more than slightly wilted.

§51.3542 Well trimmed.

"Well trimmed" means that the roots are neatly cut near the point of attachment of the outer leaf stems.

§51.3543 Fairly well blanched.

"Fairly well blanched" means that the plant has a yellowish-white to white heart formation with a spread averaging not less than four inches in diameter when the head is opened as far as possible without breaking the leaves or leaf stems.

§51.3544 Damage.

"Damage" means any defect, or any combination of defects, which materially detracts from the appearance, or the edible or shipping quality of the individual plant or the lot as a whole.

§51.3545 Serious damage.

"Serious" damage means any defect, or any combination of defects, which seriously detracts from the appearance or the edible or shipping quality of the individual plant or the lot as a whole.

United States Standards for Grades of Greenhouse Leaf Lettuce¹

Effective September 1, 1964

Grades

51.3455 U.S. Fancy.

51.3456 U.S. No. 1.

Unclassified

51.3457 Unclassified.

Tolerances

51.3458 Tolerances.

Application of Tolerances

51.3459 Application of tolerances.

Definitions

51.3460 Similar varietal characteristics.

51.3461 Well grown.

51.3462 Well trimmed.

51.3463 Fairly well trimmed.

51.3464 Injury.

51.3465 Damage.

51.3466 Serious damage.

Grades

§51.3455 U.S. Fancy.

"U.S. Fancy" consists of plants of leaf lettuce of similar varietal characteristics which are well grown, well trimmed and free from decay and which are free from injury caused by coarse stems, bleached or discolored leaves, sprayburn, dirt, wilting, freezing, disease, insects, or other means.

§51.3456 U.S. No. 1.

"U.S. No. 1" consists of plants of leaf lettuce of similar varietal characteristics which are well grown, fairly well trimmed and free from decay and which are free from damage caused by coarse stems, bleached or discolored leaves, sprayburn, dirt, wilting, freezing, disease, insects, or other means.

Unclassified

§51.3457 Unclassified.

"Unclassified" consists of plants of leaf lettuce which have not been classified in accordance with any 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

§51.3458 Tolerances.

In order to allow for variations incident to proper grading and handling, the following tolerances by count, shall be permitted in any lot:

(a) **U.S. Fancy and U.S. No. 1 grades.** 10 percent for plants of leaf lettuce which fail to meet the requirements of the grade: **Provided**, That included in this amount not more than 5 percent shall be allowed for defects causing serious damage, including in this latter amount not more than 1 percent for plants affected by decay.

Application of Tolerances

§51.3459 Application of tolerances.

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:

(a) For packages which contain more than 15 plants, 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.

(b) For packages which contain more than 15 plants and a tolerance of less than 10 percent is provided, and for packages which contain 15 plants or less, individual packages in any lot shall have not more than double the tolerance specified, except that at least 1 defective plant may be permitted in any package.

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.

Definitions

§51.3460 Similar varietal characteristics.

"Similar varietal characteristics" means that the plants in any container are of the same general type.

§51.3461 Well grown.

"Well grown" means that the plant is not stunted or poorly developed.

§51.3462 Well trimmed.

"Well trimmed" means that the stem is trimmed off to within three-fourths inch of the point of attachment of the first whorl of leaves and that leaves which are more than slightly bleached or discolored have been removed.

§51.3463 Fairly well trimmed.

"Fairly well trimmed" means that the stem is trimmed off to within three-fourths inch of the point of attachment of the first whorl of leaves and that leaves which are materially bleached or discolored have been removed.

§51.3464 Injury.

"Injury" means any specific defect described in this section; or an equally objectionable variation of this defect, any other defect, or any combination of defects, which noticeably detracts from the appearance, or the edible or shipping quality of the lettuce. The following specific defect shall be considered as injury:

(a) Stems when more than 2-1/2 inches in length, measured from the end of the butt to the point of attachment of the last whorl of leaves.

§51.3465 Damage.

"Damage" means any specific defect described in this section; or an equally objectionable variation of this defect, any other defect, or any combination of defects, which materially detracts from the appearance, or the edible or shipping quality of the lettuce. The following specific defect shall be considered as damage:

(a) Stems when more than 3-1/2 inches in length, measured from the end of the butt to the point of attachment of the last whorl of leaves.

§51.3466 Serious damage.

"Serious damage" means any defect, or any combination of defects, which seriously detracts from the appearance or the edible or shipping quality of the lettuce

United States Standards for Grades of Field Grown Leaf Lettuce¹

Corrected and Effective August 25, 2006

Grades

51.3760 U.S. Fancy.

51.3761 U.S. No. 1.

51.3762 U.S. No. 2.

Size

51.3763 Size.

Tolerances

51.3764 Tolerances.

Application of Tolerances

51.3765

Definitions

51.3766 Similar varietal characteristics.

51.3767 Well developed.

51.3768 Well trimmed.

51.3769 Fairly well trimmed.

51.3770 Reasonably well trimmed.

51.3771 Injury.

51.3772 Damage.

51.3773 Serious damage.

Grades

§51.3760 U.S. Fancy.

"U.S. Fancy" consists of plants of field grown leaf lettuce of similar varietal characteristics which are well developed, well trimmed, free from decay, freezing, insects, worms or excreta, and free from injury by broken midribs, bruising, dirt or foreign material, discoloration, Downy Mildew, seedstems, Tipburn, watersoaked, yellowing, insect, mechanical or other means.

§51.3761 U.S. No. 1.

"U.S. No. 1" consists of plants of field grown leaf lettuce of similar varietal characteristics which are well developed, fairly well trimmed, free from decay, freezing and free from damage by broken midribs, bruising, dirt or foreign material, discoloration, Downy Mildew, seedstems, Tipburn, watersoaked, yellowing, insects, worms, mechanical or other means.

§51.3762 U.S. No. 2.

"U.S. No. 2" consists of plants of field grown leaf lettuce of similar varietal characteristics which are fairly well developed, reasonably well trimmed, free from decay, freezing and free from by serious damage by broken midribs, bruising, dirt or foreign material, discoloration, Downy Mildew, seedstems, Tipburn, watersoaked, yellowing, insects, worms, mechanical or other means.

Size

§51.3763 Size.

Size may be specified by count or weight. Weight is determined by average weight of the plants, and no plant shall vary more than 50 percent larger or smaller in weight than the average.

Tolerances

§51.3764 Tolerances.

In order to allow for variations incident to proper grading and handling, the following tolerances by count, shall be permitted in any lot:

(a) U.S. Fancy and U.S. No. 1 – (1) For defects. 12 percent for plants that fail to meet the requirements of the grade: Provided, That included in this amount not more than 6 percent for plants affected by damage (U.S. Fancy) and serious damage (U.S. No. 1), including not more than 3 percent for plants affected by decay.

(b) U.S. No. 2 – (1) For defects. 12 percent for plants that fail to meet the requirements of the grade: Provided, That included in this amount not more than 3 percent for plants affected by decay.

(2) For off-size. 10 percent for plants that fail to meet the size requirements.

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.

Application of Tolerances

§51.3765 Application of Tolerances.

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:

(a) For packages which contain more than 15 plants, and a tolerance of 12 percent 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 15 plants, and a tolerance of less than 12 percent is provided, individual packages in any lot shall have not more than double the tolerance specified, except that at least 1 defective plant may be permitted in any package.

(b) For packages which contain 15 plants or less, individual packages in any lot shall have not more than double the tolerance specified, except that at least 1 defective plant may be permitted in any package.

Definitions

§51.3766 Similar varietal characteristics.

"Similar varietal characteristics" means that the plants in the lot are of the same general type, texture and color.

§51.3767 Well developed.

"Well developed" means that the plant shows normal growth and shape, and is not stunted or overgrown.

§51.3768 Well trimmed.

"Well trimmed" means that the butt is trimmed off to within one-half inch of the point of attachment of the first whorl of leaves.

§51.3769 Fairly well trimmed.

"Fairly well trimmed" means that the butt is trimmed off to within three-fourths inch of the point of attachment of the first whorl of leaves.

§51.3770 Reasonably well trimmed.

"Reasonably well trimmed" means that the butt is trimmed off to within one inch of the point of attachment of the first whorl of leaves.

§51.3371 Injury.

"Injury" means any specific defect described in this section; or an equally objectionable variation of this defect, any other defect, or any combination of defects, which slightly detracts from the appearance, or the edible or marketing quality. The following specific defects shall be considered as injury:

- (a) Broken midribs when affecting 1 or more leaves.
- (b) Bruising when 2 or more leaves are slightly affected or slightly discolored by bruising.
- (c) Dirt or foreign material when slightly affects 1 or more leaves.
- (d) Discoloration when brown to black exceeds an aggregate area of 1/2 inch by 1 inch.
- (e) Downy Mildew when exceeds an aggregate area of 1/2 inch by 1 inch.
- (f) Insects or worms when any live or dead insects or worms or when excreta is present, or when 2 or more holes are present.
- (g) Mechanical when cut or torn more than an aggregate of 1-1/2 inches.
- (h) Russet Spotting when present in any amount.
- (i) Seedstems when more than 1 inch in length, measured from the point of attachment to the tip of the seedstem.
- (j) Tipburn when light buff or darker color exceeds an aggregate area of 1/2 inch by 1 inch.
- (k) Watersoaked when exceeds an aggregate area of 1 inch by 1-1/2 inches.
- (l) Yellowing when exceeds an aggregate area of 1 inch by 1-1/2 inches.

§51.3772 Damage.

"Damage" means any specific defect described in this section; or an equally objectionable variation of this defect, any other defect, or any combination of defects, which materially detracts from the appearance, or the edible or marketing. The following specific defects shall be considered as damage:

- (a) Broken midribs when affecting 3 or more leaves.
- (b) Bruising when 2 or more leaves are materially affected or materially discolored by bruising.
- (c) Dirt or foreign material when materially affects 2 or more leaves.
- (d) Discoloration when brown to black exceeds an aggregate area of 1 square inch.
- (e) Downy Mildew when exceeds an aggregate area of 1 square inch.
- (f) Insects when 4 or more live or dead or 1 live or dead worm is present, or excreta exceeds an area 1/4 by 1 inch or 4 or more holes are present.
- (g) Mechanical when cut or torn more than an aggregate of 3 inches.
- (h) Russet Spotting when exceeds 3 spots on one leaf, or any amount on 2 or more leaves.
- (i) Seedstems when more than 2 inches in length, measured from the point of attachment to the tip of the seedstem.
- (j) Tipburn when light buff and exceeds an aggregate area of 1 square inch.

(k) Watersoaked exceeds an aggregate area of 3 square inches.

(l) Yellowing exceeds an aggregate area of 3 square inches.

§51.3773 Serious damage.

“Serious damage” means any defect, or any combination of defects, which seriously detracts from the appearance, or the edible or marketing quality.

(a) Broken midribs when affecting 5 or more leaves.

(b) Bruising when 2 or more leaves are seriously affected or seriously discolored by bruising.

(c) Dirt or foreign material when seriously affects 4 or more leaves.

(d) Discoloration when brown to black exceeds an aggregate area of 2 square inches.

(e) Downy mildew when exceeds an aggregate area of 2 square inches.

(f) Insects when 8 or more live or dead or 2 or more worms are present, or area of excreta exceeds an aggregate area of 1/2 inch by 1 inch or 8 or more holes are present.

(g) Mechanical when cut or torn more than an aggregate of 6 inches.

(h) Russet Spotting when affecting 4 or more leaves.

(i) Seedstems when more than 3 inches in length, measured from the point of attachment to the tip of the seedstem.

(j) Tipburn when light buff and exceeds an aggregate area of 2 square inches.

(k) Watersoaked when exceeds an aggregate area of 6 square inches.


(l) Yellowing when exceeds an aggregate area of 6 square inches.

Example 1 – Inspection Scoresheet

A				B				C				D					
Pack: T in layers				Pack: FT in layers, Film Lined				Pack:				Pack:					
Size: F/U				Size: F/U				Size:				Size:					
SCORESHEET												Solidity - QU					
PLI Number	Other I.D.	TEMP. °F	Sample CT	BMR Quality		HL DK	Peeling & Feathering					H	F	FF	S	Q	U
(A) None	Wrap	34	24	1	0	0	3					0	10	12	2	2	
None	"		24	0	0	0	0					0	18	6	0	0	
None	"	33	24	1	0	0	5					0	20	1	3		
None	"	35	24	2	1	0	0					0	11	9	4		
None	"		24	0	0	0	3					0	7	17	0		
None	"	37	24	0	0	2	4					0	6	14	4		
			144	4	1	2	15					0	72	59	13		
				(3)	(1)	(1)	(10)					X	50	41	(9)		
												Total quality: 12% (0 to 25%)					
												E					
				Quality:		Wt. Court		Poorly Trim & Worm		Tipburn				Cut Heads			
(B) None	Naked	34	24	8-14	10	0	2	1	3	1							24
None	"	36	24	9-12	9	0	3	3	8	4							24
None	"	35	24	8-13	11	0	3	0	2	0							24
			72	30	0	8	4	13	5								72
				(42)	(X)	(11)	(6)	(18)	(7)								
				38 - 46		8-13		0-13		8-33							
												(E) M					
Lot A: FN1 account QU																	
Lot B: FN1 account QU																	
REMARKS / RESTRICTIONS / SPI Lot A: Solidity determined and reported at applicant's request. Tipburn affecting internal leaves																	
CARLOT Basis: _____						REPORTED TO: Mr. Green						INSPECTED BY: I Am Inspector					
HOURLY Basis: _____						DATE: 11/3/10 TIME: 8:30 AM						ASSISTED BY: _____					
TRAVEL Expenses: _____						REQUESTED BY: Mr. Green											
EXPENSES: _____						DATE: 11/3/10 TIME: 6:00 AM											
EST. TOTAL: _____																	

*U.S. Government Printing Office: 1993-339-136

Example 1 – Inspection Certificate

 U.S. DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE		INSPECTION CERTIFICATE EXAMPLE 1											
CARRIER OR LOT IDENTIFICATION LOT PREFIX NUMBER STATE 1 1 2 7		Applicant: Salads Ahoy, LLT Address: Anywhere, PA				Shipper: Super Leaf Co., Inc. Address: Somewhere, CA				Lot ID: 1 1 0 3 1 0 0 7 0 0			
Carrier / Lot ID Stated by: Applicant Carrier Type / Name:		Loading: <input type="checkbox"/> Loaded - LO <input type="checkbox"/> Pkly Unlg - PU <input type="checkbox"/> Unloading - UL <input type="checkbox"/> Lot Insp - LI				Brand / Markings:				Number of Containers:			
Refrigeration Unit: <input type="checkbox"/> On <input type="checkbox"/> Off <input type="checkbox"/> Open <input type="checkbox"/> Closed		Product:				Origin:				Insp count:			
TEMPERATURES 33 to 37 F 34 to 36 F		"Cozy Wrap" 2 dozen "Nude" 24 heads Film Lined				C A C A				600 cartons 300 cartons			
AVERAGE DEFECTS 12 % 01 % 23 %		Including POORLY TRIMMED WRAPPER LEAVES AND WORM INJURY				OTHER				Y Y			
A 12 % 01 % 23 %		Quality - Soft Heads, Broken Midribs (0 to 25%) Peeling and Feathering (0 to 21%) Head Leaf Decay (0 to 8%) - Early Stages Checksum				Lot A: 50% Firm, 41% Fairly Firm, and 9% Soft Heads (included in quality defects).							
B 42 % 18 % 11 % 06 % 77 %		Quality - Poorly Trimmed Wrapper Leaves, Worm Injury (38 to 46%) Tipburn (8 to 33%) Wrapper Leaf Decay (8 to 13%) Head Leaf Decay (0 to 13%) Checksum				Lot B: Wrapper Leaf and Head Leaf Decay: Mostly Early, Some Moderate. Tipburn affecting internal leaves. Poorly trimmed heads range from 8-14 wrapper leaves per head.							
GRADE: Lots A and B: Fail to grade U.S. No. 1 account Quality.													
REMARKS: Lot A: Solidity determined and reported at applicant's request.													
I, the undersigned, a duly authorized inspector of the United States Department of Agriculture, do hereby certify that at the request of the applicant and on the date indicated, samples of the herein described product were inspected and the quality and/or condition as shown by said samples were as herein stated.												ESTIMATED TOTAL	
Inspector's Signature <i>J Am Inspector</i>												Market Office Pittsburgh, PA	

