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Processed Products
Branch

Grading Manual for Canned Blackberries and Other Similar Berries

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This manual is designed for Processed Products Branch Personnel of the U.S. Department of Agriculture. Its purpose is to give background information and guidelines to assist in the

uniform application and interpretation of U.S. grade standards, other similar specifications and special procedures.

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GENERAL INFORMATION

Cultivated blackberries, dewberries, boysenberries, and loganberries are grown primarily in the Pacific Coast States. Other blackberry producing states are: Texas, Michigan, Arkansas, and Oklahoma.

Blackberries, dewberries, boysenberries, loganberries, and other similar berries are covered by the same U.S. standards. These berries are referred to collectively as "cane berries."

The difference between blackberries and dewberries is as follows:

Blackberries.

1. Grow on an upright cane;
2. Tightly structured berries; and
3. Resist loss of drupelets during handling and canning.

Dewberries.

1. Grown on a trailing cane;
2. Loose structured drupelets; and
3. Disintegrate easily during handling and canning.

Hybrids.

Blackberry-dewberry hybrids differ in drupelet-structure characteristics of either parent.

Blackberries are harvested starting approximately May 20 in the Southwest; June 1 to June 15 in the Southern States; July 15 to August 1 in Michigan; and August 1 to September 15 in the Pacific Northwest.

Machine harvesting (shaking) is replacing hand-picked fruit. Only good quality fresh berries produce good quality canned berries. Overmature berries are soft, break down during handling, and are unsuitable for canning. Immature berries are firm, partially red, and sour. Ripe berries have plump drupelets, and a velvety appearance. Because blackberries do not ripen uniformly, machine harvested berries contain fruit of all stages of maturity -- ripe, immature, and overmature.

VARIETAL TYPES

Blackberries.

Evergreen (Black Diamond).

1. Erect bush and berries retain a firm character.

Thornless Evergreen.

1. Late-season sport of the Evergreen; and
2. Large, firm, sweet berries.

Lawton (New Rochelle).

1. Bush has long thorns; and
2. Long sweet, soft berries.

Eldorado (Stuart).

1. Firm, sweet, medium to large size berries.

Loganberries.

1. Hybrid trailing variety;
2. Tightly structured drupelets; and
3. Large, long, dark-red to reddish-purple, acid, highly flavored berries.

Boysenberries.

1. Similar in appearance but slightly more acid than youngberries;
2. Loosely structured drupelets; and
3. Large, long (about 1-1/4 X 1 inch), light-red to dark, deep, reddish-purple berries.

VARIETAL TYPES - (CONTINUATION)

Youngberries.

1. Sweeter than loganberries or boysenberries;
2. Loosely structured drupelets; and
3. Sweet, deep, wine-colored berries.

Nectaberries.

1. Trailing bush and intermediate in appearance between boysenberries and youngberries; and
2. Loosely structured drupelets.

Marionberries.

1. A dewberry-olallieberry cross;
2. Trailing cane; and
3. Bright, reddish-black, medium to large berries.

Olallieberries.

1. A loganberry - youngberry cross;
2. Trailing cane;
3. Tightly structured drupelets; and
4. Firm, small-seeded berries.

FDA policy guide for identification of varieties.

"Certain varieties of blackberries are known by specific names. The Standards of Identity for canned berries designates blackberries, boysenberries, dewberries, loganberries, and youngberries as the names of varieties of berries."

VARIETAL TYPES - (CONTINUATION)

FDA policy guide for identification of varieties (continued).

"Botanically, blackberries are divided into two general classes of varieties, the first class being those which grow with erect canes and are commonly known as blackberries, and the second being those which grow with trailing canes and as a class are sometimes referred to as dewberries. Three varieties of the second class are commonly known as boysenberries, loganberries, and youngberries, and the other varieties of that class are commonly known as dewberries."

"The term "dewberries" is considered the specific common usual name for varieties of blackberries that are obtained from trailing canes. Olallieberries should be designated as "dewberries," when used in _____, and canned berries. However, we have not objected to the use of the specific name "Olallieberries." The term "olallie blackberries" should not be used since it may be misleading for berries which are now specifically designated as dewberries."

The term "blackberries" is considered an acceptable common or usual name for the labeling of any variety of blackberries obtained from erect canes."

QUALITY FACTORS

Similar varietal characteristics.

Canned blackberries are usually of similar varietal characteristics. If mixed varietal types occur, and seriously detract from the overall appearance of the sample unit, classify as Substandard. If mixed varieties occur, and do not seriously detract from the overall appearance, whether intentionally or accidentally mixed, consider as meeting the requirement of similar varietal characteristics.

Flavor and odor.

Normal flavor and odor is a pleasing, ripe, berry flavor. Classify any flavor other than normal, but edible, as Substandard. Inedible flavor is "worse-than-a-deviant." Consider "deviants" to normal flavor with other quality factors (collectively) and allow in accordance with the "Regulations."

Color.

Consider both intensity of color and uniformity of color. Uniformity of color is the most important. Generally, the color of the packing media reflects the ripeness of the berries. Within a single variety, the packing liquid is more highly colored from well-ripened berries than from less mature berries. Mechanically harvested blackberries contain ripe, overripe, and immature berries. The harvester is not selective and harvests all berries from the canes that can be shaken off. Mold growth attacks well-ripened berries in hot, humid growing areas.

To keep berries within acceptable mold tolerance limits, processors may advise their growers to time harvest dates so that predominately reasonably well-ripened berries are harvested. These berries are recognized by the light-red color appearance of the fruit and packing media. Berries at this stage of maturity should not be scored higher than Grade B, although the color may be uniform.

Canned berries packed in high-density sirups are more lustrous than those packed in light-sirup, juice, or water. Judge brightness of color without allowing the brightness created by the sirup to influence the color score.

Insect infestation causes full-growth berries to stay opaque-red and never ripen. Insect damage ranges from a single black drupelet on a red berry to a black berry with a single red drupelet. Allow 5 percent, by count, of all of the berries to vary from overall color appearance of the mass in Grade A color.

QUALITY FACTORS - (CONTINUATION)

Uniformity of size.

Consider overall appearance in addition to variation in size. The U.S. standards specify the variation in size permitted in each grade classification. Percentage restrictions for size in Grades A and B apply only to canned blackberries. Other varietal types are judged on the basis of overall appearance.

There is no restriction for size of canned blackberries and other similar berries in the Grade C classification. **Do not apply the limiting rule indicated in the standards or score sheets.**

Defects.

Harmless extraneous material.

HEM is a problem due to increased use of mechanical harvesting equipment. A large amount of HEM mixed with the berries at harvest increases the chance of this material getting into the market container. Dead berry canes usually float during the washing operation. Green berry canes and leaves are difficult to remove.

Grit, sand, or silt.

If sand or grit is present in the berries, it usually is present in the packing media. After the berries are removed from the grading tray, slowly decant the packing liquid from the tray. Sand and grit present in the liquid collects in the bottom corner of the tray. A heavy rain immediately before harvest increases the chance of sand and grit. Berry drupelets are difficult to clean of sand and grit.

Doubles.

Do not score "doubles" or "clusters" as defects. If a portion of the double cluster is defective, count it as one defect.

Foreign material.

Larva, worms, insects, and mold are natural and unavoidable defects in canned berries. See Branch instructions for foreign material.

QUALITY FACTORS - (CONTINUATION)

Damage.

1. Slug damage or bird pecks;
2. Deformed berries;
3. Hail damage;
4. Bruise;
5. Hard, seedy ends; and
6. Blight damage.

Allowance For Defects

Each 40 ounces net weight (sample average)						
GRADE	HEM (leaves, caps, sepal bracts, etc.) measurable by area	Stems 1/2 inch or less in length	Stems over 1/2 inch in length	Small pieces HEM (weeds, grass) not measurable by area	Damaged berries (by count)	Sand, silt and grit
A	1/4 sq in	2	1 or	1 small piece	4%	Practically free
May slightly affect appearance or eating quality						
B	1/2 sq in	4	2 or	2 small pieces	8%	Reasonably free
May materially affect appearance or eating quality						
C	1 sq in	8	4 or	4 small pieces	15%	Fairly free
May materially affect appearance or eating quality						
SStd	Fails requirements of Grade C					

Character.

Consider the following conditions in evaluation of character: firmness; degree of disintegration; seediness; crushed berries; and accompanying packing liquid.

The color of certain varieties of blackberries does not have a direct bearing on the character of the berries. Taste the berry to determine if it is ripe.

Separate percentages, by weight, of crushed berries are permitted in Grades A and B for blackberries, as one category, and other similar berries as a separate category. Blackberries and other similar berries are included in the same category in Grade C. The more restrictive allowance applies to blackberries because the tightly structured drupelets of the blackberries are expected to hold their shape better during processing.

Consider detached seed cells in the accompanying packing liquid in Grades A and B. This is not a requirement of Grade C.