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Department of
Agriculture

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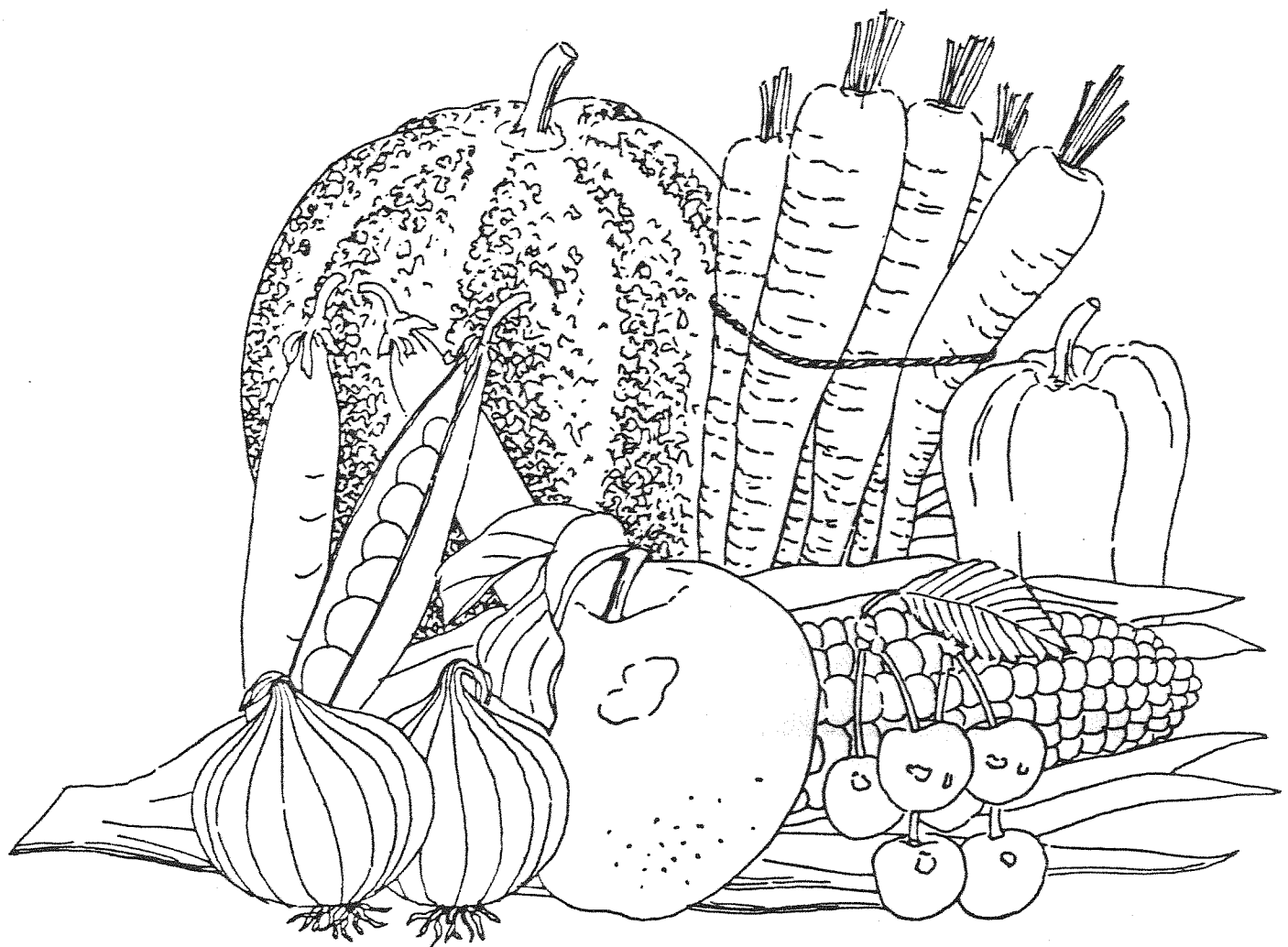
Fruit and
Vegetable
Division

Fresh Products
Branch

Washington, D.C.

Blueberries for Processing

July 6, 1951



Issued July 6, 1951
Reissued October 1956 1/

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

INSPECTION INSTRUCTIONS FOR BLUEBERRIES FOR PROCESSING

GENERAL INSTRUCTIONS

The inspector is to be guided by these instructions and by such additional instructions as may be given him either orally or in writing by his supervisor. When in doubt in any matter, he should consult his supervisor. If it is necessary to take immediate action, he must use his best judgment and advise his supervisor of the action that was taken so the corrective steps can be taken, if the proper procedure was not followed.

This circular contains instructions regarding methods of inspection which must be learned in detail before any attempt is made to inspect blueberries under practical operations. The inspector must know the complete details of the specifications of the U. S. Standards for Blueberries for Processing.

BASIS OF PAYMENT

Buying and selling on the basis of uniform standards encourages better production and better handling methods. The practice of paying a flat price for all blueberries which are accepted discriminates against the best growers. The grower should be paid a suitable premium for blueberries which will make a high quality manufactured product. Likewise the grower should be penalized for the delivery of low quality berries.

It should be understood at the outset that in the application of these standards, the grower will deliver to the processing plant only berries that have been run through the winnowing machine.

Processors frequently reserve the right by their contracts to reject all loads of blueberries which contain over a certain percentage of rejects,

1/ The only change in this reissue of October 1956 is in the name of the organization.

or loads that have more than a specified percentage of culls. It must be remembered that the Inspection Service has no authority to reject loads that do not meet the contract specifications. The duty of the inspector is to determine the percentage of the various grades and issue a certificate showing these facts. It is then optional with the canner to reject or accept a load, and the inspector should have nothing whatsoever to do with the rejection.

NECESSARY EQUIPMENT

1. Standard 1/4 quart cup.
2. Wide, flat, shallow tray, approximately 1/2 to 1 inch deep.
3. Small trays or cups to hold defects (muffin pan).
4. Pair of tweezers or a huller.
5. Two one quart sample containers or #10 tin cans.
6. Container for cooking sample -- #10 tin cans (preferably with handle).
7. Heating apparatus for cooking sample (Steam hose or gas hot plate).
8. Round pan 2 to 3 inches in depth, 12 inches in diameter (bottom painted black).
9. 1/8 to 1/4 inch mesh sieve, approximately 6 inches in diameter by 3 inches in depth.
10. Suitable grading table to be set up where there is adequate space and sufficient light.
11. Fresh water (available at all times).
12. Trash can.

METHOD OF INSPECTION

In the inspection of blueberries, as in other commodities, the selection of the sample is of primary importance. If the sample drawn is not representative of the lot, the result cannot be accurate regardless of the care and precision used in the actual inspection.

Frequently, it is impossible for an inspector to select his own samples. When this condition exists, it will be permissible, with the consent of the supervising inspector, to have some designated and properly instructed person select the samples under his direction.

However, it must be remembered that it is the responsibility of the inspector who signs the certificate to see that representative samples are selected. Therefore, he must take whatever steps are necessary to insure that his report is correct. When possible, he should observe the sampling process, and if he has any reason to believe that representative samples are not being drawn, he should notify the Supervisor who will investigate and take necessary steps to insure proper sampling.

Since flats arriving from the fields may have containers of blueberries picked by several different growers, the sample should be taken from as many containers as possible or practicable. The number of containers sampled will vary according to the size of the load.

Care should be taken not to mash or crush the blueberries. The hand should be gently inserted into the center of the containers, securing handfuls of berries for the sample. When an adequate number of containers have been sampled, the blueberries should be mixed together by turning the contents of one can into another can two or three times. The 1/4-quart cup should then be filled from one of the sample containers. The blueberries should then be poured from the measuring cup onto one of the wide flat trays and sorted for defects. After the inspector has completed the grading process, the defects are counted and recorded on the inspection certificate.

Each sample should be graded as soon as possible after it has been taken. The inspector must be certain that each sample is accompanied by a ticket which amply and correctly identifies it with the lot.

TAKING WORM COUNT

Weigh or measure out one pound from the original sample. Put the one pound of blueberries in the sample container (#10 tin can) and mash them, making a thin liquid by adding fresh water. Heat the container until the blueberries have reached a hot 'rolling' boil. Pour contents through sieve into pan (2" x 3" x 12"). Before removing sieve from pan, wash skins and pulp with fresh water, almost filling pan. Empty skins and pulp into trash can. It will be necessary to let the pan stand a while as the contents at first will be cloudy. When the contents clear, slowly pour water and some of the finer pulp out of the pan until there is about one-half inch of water left. Repeat this by adding fresh water and pouring off until solution in pan is practically clear. Then the pan should be placed on a flat surface. Stir the solution with the finger in a circular motion. If maggots or worms are present, they will settle toward the center of the pan and will be readily apparent as small white objects against the black surface of the pan. The number of maggots found should be shown on the written report.

CONDITIONS AFFECTING QUALITY OF BLUEBERRIES

The outstanding conclusions drawn from all the data made available indicates that wet and immature berries lower the quality of the canned product.

Berries which are wet from overmaturity, rough handling, or rainy weather, cannot be cleaned properly, since foreign material sticks to the fruit. Berries held too long before processing, become wet and sticky from leaking berries and have a dull, lusterless appearance. Such berries are undesirable from the standpoint of appearance and the processing quality is lowered since such fruit cooks up into a "mush."

Immature berries are likely to hang together into clusters and have attached stems which are part of the plant. Many clusters and stems will be found in the canned product when immature fruit is processed, with the result that one eating the product has the unpleasant experience of chewing onto woody bits.

The flavor is not good when immature berries are processed, although the green berries left tend to cook up soft and take on a blue color from the juice of the other berries.

Other berries, such as bunch berries, choke plums, etc. which are about the size of the blueberry, are difficult to remove and they impair the quality of the finished product.

Many leaves or parts of leaves are gathered with the blueberries in the harvesting operation and are objectionable in the canned product. Since they can easily be removed from dry berries with the use of a winnowing machine, the blueberry grade sets a limit on the number of leaves permitted in the various classifications.

Green berries, clusters, and long stems all indicate immaturity. Weather conditions influence the evenness of ripening, and since the blueberry fields are harvested only once, it is difficult to select the most opportune time for harvesting in order to secure the maximum amount of mature berries and a minimum amount of immature berries, clusters, stems, and leaves.