UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL MARKETING SERVICE

FRUIT AND VEGETABLE DIVISION

FRESH PRODUCTS STANDARDIZATION AND INSPECTION BRANCH

SHIPPING POINT INSPECTION

OF

CAULIFLOWER FOR PROCESSING

Washington, D. C.

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For Use of USDA Fresh Fruit and Vegetable Inspectors

Agriculture - Washington

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SHIPPING POINT INSPECTION HANDBOOK FOR CAULIFLOWER FOR PROCESSING

INTRODUCTION

In 1958, 33,251,370 pounds of cauliflower were processed in frozen form. The volume canned is insignificant and separate production figures are not available. California, New York and Texas are the three largest producing States. (1)

Buying and selling on the basis of uniform standards encourages better production and better handling methods. Growers should properly be paid a suitable premium for cauliflower which will make a manufactured product of highest quality. They should also logically expect to be penalized in price for the delivery of low quality cauliflower. (2)

INSPECTOR'S RESPONSIBILITY

Contracts may stipulate a certain price per ton for U. S. No. 1, and no payment for culls or cull material. Therefore, it is your duty to determine the grade of cauliflower for all loads or lots delivered to receiving stations or processing plants and to report each classification on the inspection certificate. These classifications furnish the basis of payment for each load. (3)

Processors may reserve the right, by contract, to reject all loads of cauliflower that do not contain a certain percentage of U. S. No. 1 quality or those which contain more than a specified percentage of culls or cull material. The Inspection Service has no authority to reject loads that fail to meet contract specifications. You should report such loads to the processor's representative. It is then the processor's responsibility to accept or reject. (4)

You are to be guided by the instructions in this handbook and by any additional instructions which may be given to you by your supervisor either verbally or in writing. In the conduct of your work, however, you may encounter problems which are not fully covered by such instructions. In such instances, you should contact your supervisor by telephone for further instructions. If it is necessary to take immediate action, you must use your best judgement and immediately advise your supervisor of the action taken in order that corrective measures can be taken if the proper course was not followed. (5)

INSPECTION EQUIPMENT

(6) Inspection Certificates
Grading Table
Three suitable containers for sampling
One set direct reading table scales
One set portable platform scales
Equipment essential to blanch specimens
Sizing gauge
Slide rule
Water bucket for washing hands
Towels for drying hands

SAMPLING

(7) Representative Sample. Obtaining representative samples is of first and basic importance. You may be able to grade cauliflower perfectly, but unless the sample is representative of the load the inspection report is not correct. It should be kept in mind at all times that the grade reported in the certificate determines the amount of money the grower will receive and the processor will pay for the load. Therefore, if the sample is not representative, settlement cannot be equitable.

(8) Some processors may furnish helpers to obtain samples from the conveyance, place cauliflower on the grading table and other related duties. Such assistance from helpers is often necessary if you are to keep up with the deliveries. Although these helpers are expected to do the manual labor, it is your responsibility to select representative samples.

(9) You should always remember that you, and not the helper, sign the inspection certificate. Regardless of how competent the helper may be, you must not allow him to draw a sample from the load without sufficient supervision to assure that the sample drawn is representative of the load.

(10) Since helpers assigned to assist you are employed by the processor, some growers may get the impression that these men are working primarily for the interests of the processor, unless you, by your actions, let it be known that you are fully supervising the drawing of the samples. You should not hesitate to tell helpers to draw additional samples from different containers or from more containers.

(11) You must necessarily be guided by the type of loading in setting up a procedure for sampling. Cauliflower is normally bulk loaded onto trucks for delivery to the plant or receiving station, although large wooden boxes or bins are sometimes used in field loading.

The sample should consist of a minimum of 15 heads, regardless of the size of the load. There is no objection to increasing the size of the sample when time will permit. In fact, your supervisor may set higher minimums when the conditions justify increasing the size of the sample. (12)

It is absolutely necessary that the sample shall be representative of the quality and condition of the whole load in so far as this can be assured by your best judgement and knowledge. (13)

Grading Samples Selected by Other Parties. In some cases, growers bring in loads after the inspection platform has closed and you have gone for the day, and one of the processor's employees draws the sample to be graded the following day. It is obvious that you should not grade and certify to the quality of such a sample as being "sample of lot herein described", when you have never seen the lot and the quality may have materially changed during the night. However, you inspect and certify to the grade of sample drawn by other parties and it is up to the processor and grower whether settlement for the load will be made on the basis of inspection of the sample. In all such cases, you should show the number of containers you inspected in the blank marked "Number of Containers" and not the number of containers reported to be in the load from which they supposedly were drawn. In addition, you should make the following statement under "Remarks": "This certificate restricted to ____ crates (or other containers); not official sample." (14)

Irregularity in Loads. If the quality of the cauliflower in the load or lot appears to be irregular, you may take additional samples, averaging the results of all samples together. The resulting average grade is the grade reported on the inspection certificate. (15)

The Inspection Service should have a definite understanding with the processor to the effect that he may send back a load for regrading if in the process of unloading it is shown that there is a material difference between the upper and lower portions of the load. The same privilege should also be extended to a grower if he feels that he has better cauliflower in the bottom of his load. Thus, in some instances the load may be sent back to the inspection platform for the examination of portions not accessible for sampling at the time of the first inspection. If the portion of the load returned for re-sampling, is to be weighed, a new certificate should be issued on this portion of the load, and treated as a new inspection without reference to the first inspection. (16)

Some processors may stipulate in their contracts with growers that loads showing a material difference in quality of the cauliflower in the lower portion of the load from that in the upper portion may be reweighed and sent back to the grading platform for a grading of the lower portion. (17)

INSPECTION PROCEDURE

(18) Adherence to Contract Specifications. Your supervisor will obtain or arrange for you to be provided with a copy of the processor's contract with the growers. This will indicate the basis for inspection, with which you must be familiar before inspection is started.

(19) Quite frequently processors will deviate from their contract specifications. Some processors may even request you to notify the growers of the deviation from the contract specifications. In no case should you or the Inspection Service assume the processor's responsibility of notifying the growers of the variation from or return to the contract specifications. However, the Inspection Service should always insist that the processor notify the central Inspection Office in the State, in writing, of any deviation from the contract, or of a subsequent return to the contract specifications. Such changes in specifications should also be posted at the grading platform. Your supervisor should instruct you in the methods of handling such changes and inform you regarding the proper notation to be placed on the certificate to cover any deviations from the grades.

(20) Inspection Under Artificial Light. In some processing plants, in order to handle the volume, it may be necessary to inspect cauliflower under artificial light. The Inspection Service should insist on proper lighting facilities for both the grading table and the place where the loads are to be sampled. You should consult with your supervising inspector regarding proper lighting facilities.

(21) Sorting the Sample. The procedure in grading the sample may vary from area to area depending upon equipment at hand and local conditions, but the following general procedure should be followed:

(22) After the 15 head (or larger) sample has been drawn, the sample is weighed to determine the total gross weight. After weighing, the sample is placed on the grading table. You will then remove all jacket leaves, core each head, and then quarter and inspect each head individually. Heads which are defective as a unit and defective segments removed from other heads shall be sorted out and weighed together. The U. S. No. 1 or usable cauliflower shall be placed in another container and weighed.

(23) Weighing and Dumping Containers. As a rule, to eliminate errors in weighing and weights, the containers should not be dumped until all the cauliflower from the sample has been sorted. However, if containers will not hold the segregated portions, a second weighing may be necessary. It will be helpful to have extra weighing containers for use in such cases to avoid the need for transferring cauliflower from one container to another.

GRADE INTERPRETATION

Bruising. Bruising can be associated with discoloration; therefore it was not specifically mentioned in the standards. As a guide, bruising should be scored when causing appreciable discoloration or when materially detracting from the appearance, or the processing quality. (24)

Fuzziness. Fuzziness is caused by the lengthening of the floral stems of the bud or flower giving the surface of the segment a velvety or hairy appearance. Fuzziness frequently develops around the edges of the curd before appearing on other portions. Fuzziness should be scored when materially detracting from the appearance, or the processing quality of any individual segment or head. (24)

Small White Bracts. The name "bracts" applies to cauliflower leaves growing through the head. Some lots may show numerous small white bracts, usually about 1/8 to 1/2 inch in length, extending up through the segments of the head. When these occur and detract from the appearance to a greater extent than either of the examples under "Englarged Leaf Bracts" in the standards, the head shall be scored as damaged. (26)

Dirt or Other Foreign Material. There is no intent to be technical in judging whether heads are damaged by these factors. However, if the dirt or foreign material is imbedded and it will not wash out in normal plant operation, it shall be scored as damage. (27)

Insect Injury. When more than 5 Aphids are plainly visible on a segment 2 inches in diameter, the segment shall be scored as damaged. (28)

If worm excreta is present in more than small amounts and it will not wash off in normal plant operation without staining, the affected segment shall be scored as damaged. (29)

INSPECTION CERTIFICATES

Care of Certificates. You should take necessary precautions to prevent blank certificates from falling into hands of persons who have no right to use them. You will be held responsible for the return of all unused certificates to your supervising inspector or inspection office at the close of the season or deal. (30)

You will receive specific instructions from your supervising inspector with reference to mailing the copy of the certificate to the Inspection Office. Some States desire these mailed daily, while others follow different procedures. (31)

(32) Care in Recording. The certificate must be easily legible. All data recorded during the process of inspection should be complete, neat in appearance, and clear. All computations should be checked carefully for errors. You will be held responsible for figures being legible on all copies of the certificate. The original certificate is sometimes lost, and it then becomes necessary to use the carbon copies.

(33) Number of Containers or Weight of Load. Most of the processors furnish the growers with a book of forms which are to be filled in by the growers on each load delivered. These forms give the name of grower, date, and number of packages or weight in the individual load. You will copy this information from this form to the certificate. There is no excuse for failure to record this information correctly on the certificate.

(34) Place, Date, Time and Names. The name of the place where the inspection is made, name of processor and grower, time of inspection and date should be filled in on the certificate just before starting the inspection, or immediately after the inspection is made. Where the processor has obtained authority from Washington to print a supply of inspection certificates to be used in their inspections, it will not be necessary to write in the name of the processor since it appears on the face of each certificate.

(35) Recording Weights and Percentages. The weight of the sample to be graded must be recorded, because it is impossible to calculate the percentages of No. 1 cauliflower and other percentages without it. The form outlined below illustrates the part of the certificate on which you record weights and percentages. After the cauliflower in each designation has been weighed, the results should be recorded on the certificate as shown below:

	WEIGHT LBS.	PERCENT
U. S. No, 1	25	42
Culls	6	10
Cull Material	29	48
Totals	60	100

(36) The weight of the total sample graded shall be recorded to the nearest whole pound. For example: 60 lbs., 7 oz. as 60; 60 lbs., 8 oz. as 61. The weight of U. S. No. 1 cauliflower or Culls shall be recorded to the nearest half pound. For example: 25 lbs., 3 oz. as 25; 25 lbs., 4 oz., as 25.5; 5 lbs., 11 oz. as 5.5; 5 lbs., 13 oz. as 6. If less than one-quarter pound of Culls are found, the figure entered should be zero.

When computing percentages from the percentage chart or slide rule, it may be necessary to add to or subtract from the percentage of one of the classifications in order to make the percentage totals exactly 100. Such changes should always be made in the percentage of culls. (37)

Signing of Inspection Certificates. You will sign the certificate with your full name, or the initials of your given names, and your last name in full. This warning is given because some new inspectors may be tempted to either initial the certificate or sign his last name only. Legally either of such signatures would be worthless. (38)

Issuing Restricted Certificates on Large Loads. Certificates restricting the inspection to certain portions of loads may be issued on large loads only at receiving stations located at considerable distances from the processing plant where the processor is unwilling to make the load accessible. When inspections are made at outlying receiving stations, it is usually not practicable to break down large loads for sampling. In such instances, you may issue certificates restricting the inspection to the accessible portion of the load and stating clearly what portion of the load has been inspected. When you are located at processing plants, you should not issue restricted inspection certificates because it is always possible for you to obtain representative samples even though some must be taken during the process of unloading. (39)

Correcting Inspection Certificates. If the corrections are not too conspicuous, minor mistakes which will not affect the validity of the certificate if presented in court, may be changed by crossing out the part in error, and inserting the correct information. No corrections should be made on any certificate unless you have all copies so that all may be corrected at the same time. No attempt should be made to erase errors on certificates. All corrections should be initialed to show the authority for the correction. When an error has been discovered, and you do not have all copies of the certificate, a new certificate should be issued upon which the following statement should be made: (40)

"This certificate supersedes Certificate No. _____, which is in error."

Distribution of Certificate Copies. The distribution of the original certificate and one copy will depend on the arrangements made by the party requesting the inspection. In most cases, this party will be the processor. In all probability, he will request that the inspector give the original and one copy to the grower, who will then present these documents to the processor with the load. The processor usually keeps the original and gives the copy to the grower for his files. The second carbon copy is retained by you for the Inspection Service file. (41)

APPEAL INSPECTIONS

(42) Either the grower or the processor may appeal your findings. The appeal may be based on either (1) the sampling, or (2) the grading of the sample.

(43) (1) Appeal on Sampling. A grower or processor may question the accuracy of the sampling owing to the irregularity of quality in the various containers. In such cases, it is the sample obtained rather than the grade interpretation that is in question. Regardless of how careful you are in sampling loads, there may be an occasional load in which the samples will not accurately represent its true quality. For this reason, it is necessary to admit the possibility of error in sampling loads of irregular quality.

(44) When the grower or processor questions the accuracy of the inspection, it will be permissible for you to draw another sample for analysis. This sample should be inspected, and the results of the two inspections combined into a weighted average on a new certificate. The first certificate should be voided if all copies are on hand. (See paragraph 40)

(45) (2) Appeal on Grading. If either the processor or grower questions the accuracy of your report because of grade interpretation, he may request an appeal inspection. Such a request usually cannot be granted immediately at outlying plants or receiving stations where only you are located, unless a keyman or your supervising inspector happens to be in the immediate vicinity. If neither is available, you should endeavor to adjust the difficulty, perhaps by taking additional samples and giving a detailed explanation of the reasons for your scoring. If a processor or grower still insists on having an appeal inspection, you should try to arrange by telephone for your supervisor or keyman to come as soon as possible to make the inspection. Meanwhile, the lot of cauliflower will have to be held aside until the appeal inspection can be made. If you are in doubt as to whether some of your grade interpretations are correct, you should so notify your supervisor and request an early check-up of your grade interpretations.

(46) The certificate issued on an appeal inspection by your supervisor or keyman upon request of either a grower or processor should include only the results of the appeal examination. In other words, results of the appeal inspection should never be averaged with those obtained from the first inspection reported on the first certificate.

(47) When Second Inspection Not an Appeal. If a considerable period of time has elapsed since the first inspection was made, or the load has been out of the inspection yard, a second inspection should be treated as a new inspection, and no reference should be made to the first certificate. This policy is necessary in the inspection of cauliflower for processing, as it wilts very rapidly after harvesting, particularly during periods of hot weather.

Number of Containers Sampled. The number of containers to be sampled in case of an appeal or second inspection will depend upon the uniformity of the lot in question and the character of the defects. If the load shows considerable irregularity, double the usual number should be sampled. If the quality is relatively uniform in the different containers, and it is only a question of proper interpretation of certain quality factors, it may not be necessary to increase the size of the original sample. (48)