

State of New Jersey
Department of Agriculture
W. H. ALLEN, *Secretary*

Division of Markets
WARREN W. OLEY, *Director*

**Marketing Green Asparagus for Processing by Grades
in New Jersey**

Circular
No. 382
(No. 312 Revised)

Trenton, N. J.
April 1951

Marketing Green Asparagus for Processing by Grades in New Jersey

M. N. Edmonston, *Chief, Bureau of Fruit and Vegetable Service*

Grades for processing asparagus which will provide a definite basis for contracts between the processor and the grower are meeting with increased favor. Such grades recognize the variations in commercial value and are still simple enough to be practical in actual operation.

It should be understood at the outset that no grading is required of the grower. However, it is suggested that culls be left in the field. It is not intended that the grower sort the asparagus into No. 1 and No. 2 grades, or into any sizes. The grades provide a basis for sampling the asparagus as it is delivered to the processing plant, or such other place as may be agreed upon by processor and grower.

The application of these grades requires the services of private or official inspectors to determine the amounts of each grade in the various loads of asparagus. Such inspectors must be capable, efficient, and above all, they must be absolutely neutral.

Buying and selling on grade will encourage better production and better methods of harvesting and handling. The practice of paying a flat price for all asparagus accepted discriminates against the better growers. The grower should be paid a premium for high quality stock which will make a high quality manufactured product. Such stock can be processed at a minimum cost and with little waste. There should be a suitable penalty for the delivery of a high percentage of culls. Such stock is only a cost to both grower and processor and has little or no commercial value.

NEW JERSEY STANDARDS FOR GREEN ASPARAGUS FOR CANNING OR FREEZING

New Jersey No. 1 shall consist of spears of asparagus which are fresh and not badly misshapen; which are free from decay and broken tips and from damage caused by spreading tips, doubles, hail, freezing, dirt, diseases, beetles or other insects, mechanical or other means.

Unless otherwise specified, spears shall be classified as "Small", "Medium", or "Large", the length shall not exceed $7\frac{1}{2}$ inches, and not less than $4\frac{1}{2}$ inches of the spear length shall be of a green color. (See diameter classifications.)

New Jersey No. 2 shall consist of spears of asparagus which are fresh, free from decay and from damage caused by dirt, and from serious damage caused by diseases, freezing, beetles or other insects, mechanical or other means.

Unless otherwise specified, each spear shall be not more than $7\frac{1}{2}$ inches in length, nor less than $\frac{1}{4}$ inch in diameter, and not less than 3 inches of the spear length shall be of a green color.

Culls are spears of asparagus which do not meet the requirements of either of the foregoing grades. The length of the spear in excess of that specified in the lowest grade upon which a contract is based, and any amount of white in excess of that which may be specified for that grade, shall be considered as a "Butt".

Butt. That part of a spear that is in excess of the maximum length specified shall be classified as a butt; and if a contract between processor and grower restricts the amount of white on a spear, the white in excess of the amount specified shall also be classified as a butt; and in either case the remaining portion of the spear shall be considered as meeting the grade requirements in regard to these factors.



Fig. 1 Shape (Maximum for New Jersey No. 1.) Description on Page 4.

DIAMETER CLASSIFICATIONS

Unless otherwise specified, the following terms shall be used for describing the diameter of spears:

Small— $\frac{1}{4}$ inch to less than $\frac{3}{8}$ inch in diameter.

Medium— $\frac{3}{8}$ inch to less than $\frac{5}{8}$ inch in diameter.

Large— $\frac{5}{8}$ inch or larger in diameter.

The diameter shall be the greatest thickness of the spear measured at a point 5 inches from the tip, except that spears which are less than 5 inches in length shall be measured at the base of the spear.

DEFINITION OF TERMS

As used in these standards:

"Fresh" means that the spear is not badly wilted, limp, or flabby.

"Not badly misshapen" means that the spear is not badly flattened, crooked, or otherwise so badly deformed that its canning or freezing quality is materially affected. (The photograph on page 3 shows maximum crooks permitted in N. J. No. 1. This does not apply to spears that may show definitely sharp crooks. The photograph on page 5 shows maximum crooks permitted in N. J. No. 2.)

"Damage" means any injury or defect which appreciably affects the canning or freezing quality of the portion of the spear that extends a distance of $4\frac{1}{2}$ inches from the tip, or which seriously affects the canning or freezing quality of the remaining portion of the spear exclusive of the butt. Any one of the following defects or a combination of defects which exceeds the maximum allowed for any one defect shall be considered as damage.

(a) Doubles which appreciably affect the appearance of that portion of the spear that extends a distance of $4\frac{1}{2}$ inches from the tip. Doubles which occur on the remaining portion of the spear shall not be regarded as damage.

(b) Spreading tips, when the tips are so spread or branched that the appearance is appreciably affected. Tips with a "seedy" appearance which materially affect the canning or freezing quality of the spear shall be considered as damage. (The photograph on page 7 shows maximum of spreading tips permitted in N. J. No. 1. The photograph on page 9 shows maximum of spreading tips permitted in N. J. No. 2.)

(c) Dirt or sand which is so embedded in the tip, or under the scales on that portion of the spear that extends a distance of $4\frac{1}{2}$ inches from the tip, that it cannot be removed in the process of washing. Dirt or sand which occurs on the remaining portion of the spear shall not be regarded as damage.

(d) Beetle holes or beetle eggs which affect the portion of the spear that extends a distance of $4\frac{1}{2}$ inches from the tip, or which seriously affect the canning or freezing quality of the remaining portion of the spear exclusive of the butt.

"Green color" means any shade of green color. The amount of green color shall be determined by measuring the distance from the extreme tip to the lowest point at which the spear is entirely of a green color.

"Serious damage" means any injury or defect which seriously affects the canning or freezing quality of that portion of the spear not classed as a butt.

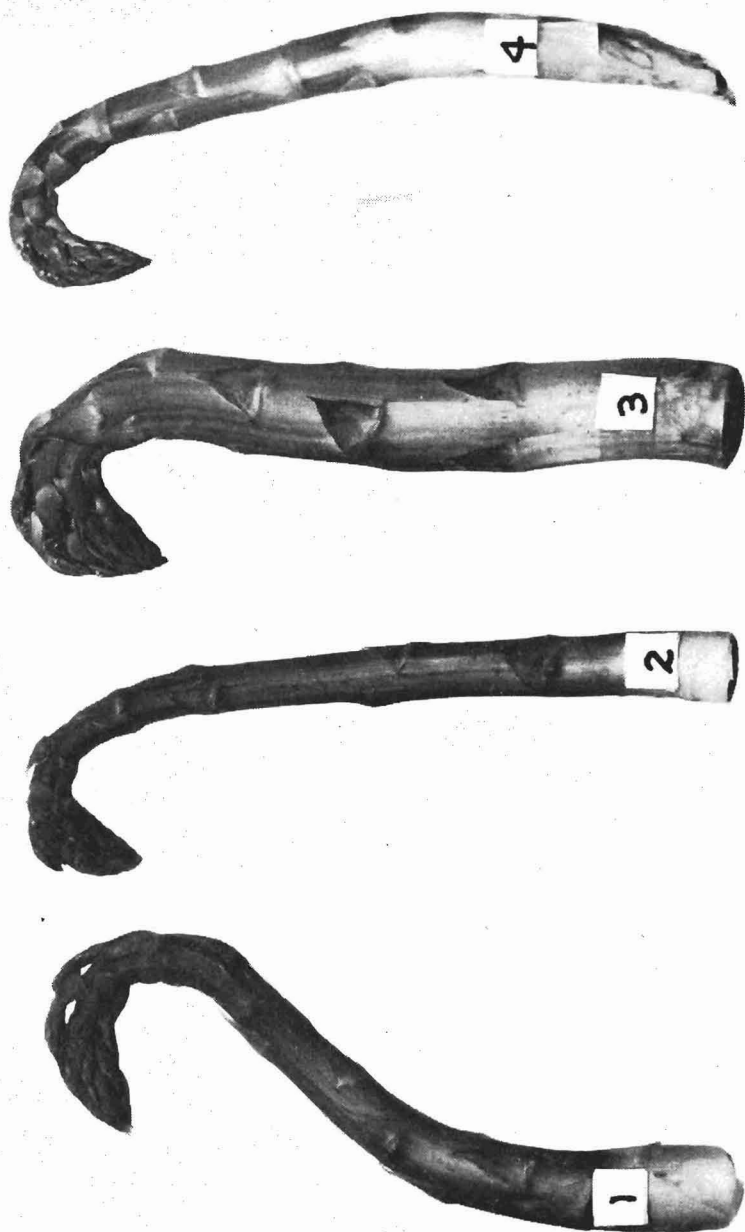


Fig. 2. Shape (Maximum for New Jersey No. 2.) Description on page 4.

GRADE CLASSIFICATIONS

In an attempt to minimize the possibility for misunderstanding in the interpretation of the New Jersey Standards For Green Asparagus For Canning Or Freezing and to promote uniformity in grading asparagus under these standards, the following information is meant to further clarify the "Definition of Terms" as used in the standards; also to show the extent of damage permitted on individual spears, from the causes mentioned; and the grade classification thereof.

I. No amount of damage on white part of any spear shall be considered as affecting the canning or freezing quality.

II. "Fresh" means that the spear is not so wilted, limp or flabby as to appear lifeless or does not appear shrunken from loss of moisture.

III. The following described spears shall be permitted in N. J. No. 1 grade:

A. "Shape"

(1) Spears which are slightly flat with rounded or oval sides and having a normal tip.

(2) Spears without sharp crooks, but whose curves are not so great as to prevent their being straightened, after blanching, without breaking.

B. "Doubles"

(1) Doubles which do not affect the shape of that portion of the spear which extends $4\frac{1}{2}$ inches from the tip end or which show a hollow opening in the center of the spear not greater than $\frac{1}{8}$ inch in diameter at a distance of $4\frac{1}{2}$ inches from the tip end.

C. "Broken Tips"

(1) Spears with one segment missing in the tip providing it does not materially affect the shape or general appearance of the tip.

D. "Spreading Tips"

(1) Tips which are not so spread or branched that the appearance is appreciably affected. "Seedy" tips which are not materially affected in appearance and canning or freezing quality is not materially affected when seeds are removed.

"Scars" (Fresh or healed) *Hail, Insects, Mechanical or Other Means.*

(1) Spears with superficial scars that do not aggregate more than $\frac{1}{8}$ inch in diameter in the area extending $4\frac{1}{2}$ inches from the tip end or scars on the remaining green portion of the spear aggregating not more than $\frac{1}{4}$ inch in diameter.

F. "Insect Eggs"

(1) Spears which have no eggs in the area extending $4\frac{1}{2}$ inches from the tip end, nor more than 3 eggs on the remaining green portion of the spear.

G. "Disease—Discolored Scales—Rust"

(1) Spears having not more than a total of 4 discolored scales, provided that not more than 2 are within the area extending $4\frac{1}{2}$ inches from the tip end. (Slight discoloration of edges or tips of scales will not be considered as discolored scales, except that scales showing more than slight discoloration of edges or tips, sufficient to detract from the appearance of the spear more than 2 discolored scales do, should be scored.)

H. "Freezing"

(1) Spears showing slight or minor whitish or bleached areas and dark spears which do not have a watery, glazy appearance.

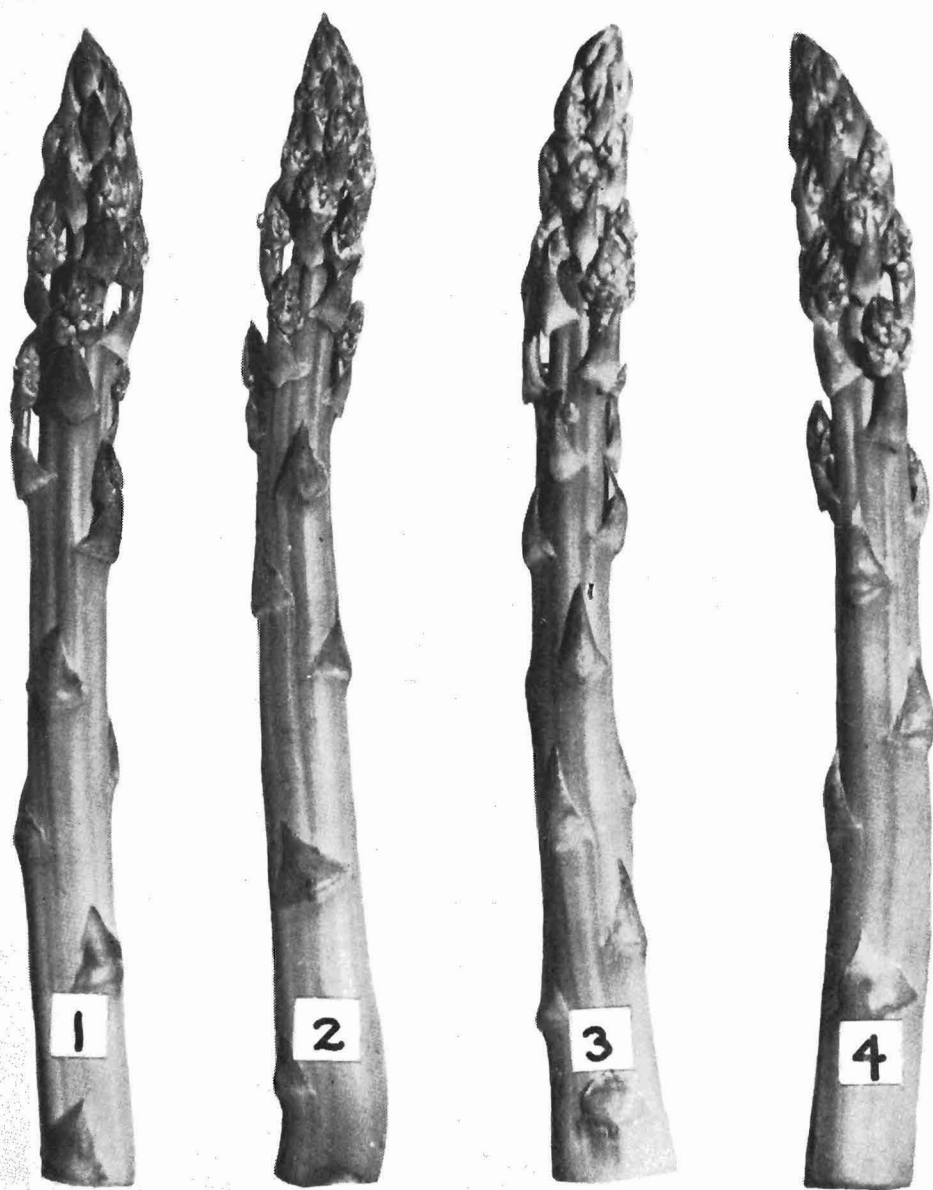


Fig. 3. Spreading Tips (Maximum for New Jersey No. 1.) Description on page 4.

J. "Dirt"

(1) It is no longer the policy to score individual spears when dirt is embedded in the tips or under the scales.

(2) Loads delivered after severe wind and rain storms are likely to have varying amounts of dirt or sand in the tips or under the scales. Each processor knows the capacity of his plant machinery to remove such dirt. It is the responsibility of the inspector to notify the receiver when loads show excessive dirt or sand in tips or under scales. If the load is accepted the inspector should sample and grade it as he normally does without regard for dirt or sand. After establishing the percentages the inspector should write the statement "Except for dirt or sand" across the certificate. This provide a basis for settlement on these loads when accepted by the receiver.

Loads which are rejected by the receiver need not be sampled and graded.

IV. The following described spears shall be permitted in New Jersey No. 2 grade:

A. "Shape"

(1) Flat spears which are not deformed by abnormal growth of spear or tip.

(2) Crooked or curved spears that are not actually curled or do not show badly deformed tip.

B. "Broken Tips"

(1) Spears with not more than 2 segments missing from tip or with extreme tip missing but fairly well covered by lower scales and general head shape retained.

C. "Spreading Tips"

(1) Spears with tip branches not exceeding $\frac{3}{4}$ inch length (exclusive of head) and not sprangled out from spear.

D. "Scars"—(Fresh or healed) *Hail, Insects, Mechanical or Other Means.*

(1) Spears with shallow scars that do not aggregate more than $\frac{1}{4}$ inch in diameter in the area extending $4\frac{1}{2}$ inches from the tip end or scars on the remaining green portion of the spear aggregating not more than $\frac{1}{2}$ inch in diameter.

E. "Insect Eggs"

(1) Spears with not more than a total of 6 eggs provided that not more than 3 eggs are within the area extending a distance of $4\frac{1}{2}$ inches from the tip end.

F. "Disease—Discolored Scales—Rust"

(1) Spears with not more than 4 discolored scales in the area extending $4\frac{1}{2}$ inches from the tip end or all scales discolored on remaining green portion.

G. "Freezing"—Spears not showing dark green watery, glazy, wrinkled or pebbly areas on the stalk.

V. "Culls"—Spears of asparagus which have defects, from any cause, in excess of those permitted in N. J. No. 2 Grade.

VI. "Butt"—That part of a spear in excess of the maximum length specified shall be classified as a butt and if a contract between processor and grower restricts the amount of white on a spear, the white in excess of the amount specified shall be classified as a butt; and in either case the remaining portion of the spear shall be considered as meeting the grade requirements in regard to these factors.

VII. "Green Color"—means any shade of green or that shade of purple which will blanch green. The amount of green color shall be determined by measuring the distance from the extreme tip to the lowest point at which the spear is entirely of a green color.

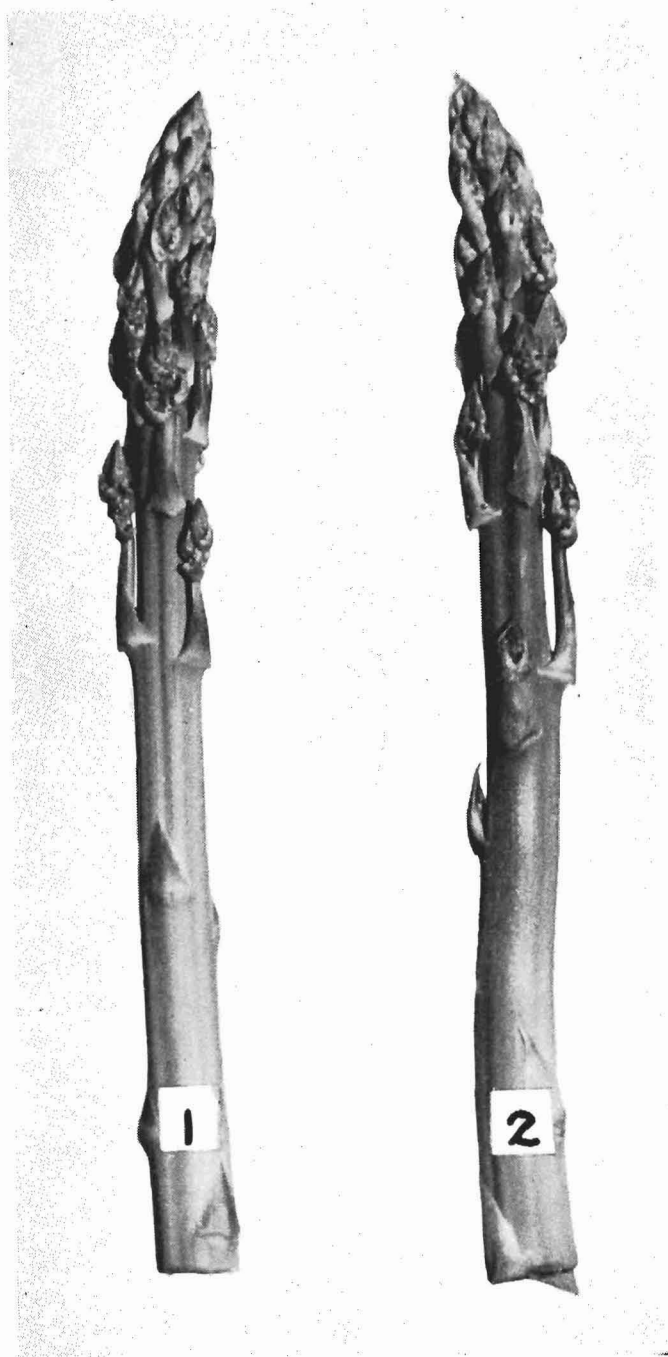


Fig. 4. Spreading Tips. (Maximum for New Jersey No. 2.) Description on page 4.

QUESTIONS AND ANSWERS

1. What is the official duty of the inspector?

His duties are only to select samples believed by him to be representative of a particular lot of asparagus, and grade such samples according to the standards as specified in the State of New Jersey Grades for Green Asparagus for Canning or Freezing.

2. Can the inspector grade on any other basis?

Yes. But the specifications must be stipulated and clearly defined in the contract between grower and processor, and be acceptable to the New Jersey Department of Agriculture. The words "unless otherwise specified" are found in the grades.

3. Does the inspector have the right to accept or reject any lot of asparagus?

No. The inspector has no such authority. The inspector is only an impartial representative of a service and has no police authority.

4. What are the qualifications of inspectors?

The inspectors employed are licensed by the New Jersey State Department of Agriculture and are men trained in the inspection and grading of cannery asparagus and other farm products.

5. Who employs the inspectors?

The New Jersey Agricultural Society employs the inspectors and pays them for their services and they are supervised by the Division of Markets, New Jersey Department of Agriculture. Inspectors are not permitted to accept any honorarium from grower or processor.

6. Who pays for the inspection?

The processor, the grower, or the processor and the grower together may pay the New Jersey Agricultural Society the approximate cost of the service.

7. Can the grades be varied to suit weather conditions?

No. The grades are only a means of measuring quality and must remain the same throughout the entire season. Grades must be considered in the same light as any other standard.

8. What grading is required of the grower?

None. However, the removal of culls is desirable and financially beneficial.

9. What are "culls" and what should be done with them?

"Culls" are spears of asparagus that show decay, broken tips, and serious damage from any cause. Such spears should be left in the field.

10. Are "culls" usable?

Some cull asparagus may be used but its value to the processor is considered to be offset by such costs as labor and materials used.

11. Who benefits by the use of grades?

Both processor and grower are benefited in that prices are based on quality delivered.

12. Can the inspector refuse to inspect a lot or lots of asparagus?

Yes, if the grower or processor or agent of either attempts to intimidate or influence the inspector or in any way interferes with the inspector's work.

THREE POINTS OF IMPORTANCE

1. Both growers and processors **using grades as a basis for buying and selling** asparagus should be thoroughly familiar with the grades and their "Definition of Terms". Growers should also be thoroughly familiar with the contents of the contract signed.

2. Growers should take special care to prevent the infestation of asparagus beetle. Damage by this pest causes heavy losses to growers annually. The Pure Food Laws are very rigid in their requirements relative to the absence of beetle eggs or other foreign materials, from the processor's pack.

3. Special care should be taken in harvesting. Spreading tips, commonly referred to as "blown" heads, and lack of sufficient green color are two of the chief defects found in grading asparagus. These two defects often cause the manufactured product to fail to meet the set standards established for canned asparagus.

No one realizes more fully than the grower that the growth and quality of asparagus depends largely on weather conditions. During the first part of the season, and during any cool period, growers may find it necessary to cut over only every other day, whereas, during extremely hot weather it is very difficult to cut only once each day without considerable loss. During such weather, spears of asparagus which show slightly less than the required amount of green color, perhaps 4 inches green, are likely to be culls by the following day, due to "blown" heads. But, if such spears are cut they will either be graded as No. 2 or culls. Therefore, during extremely hot weather it would seem advisable and profitable to attempt to cut three times in two days.

"All Green" asparagus is meeting with increased favor with the consumer. The New Jersey pack, having a rich green color and being tender and succulent, is taking a prominent place in the processing industry. These facts should not be overlooked by New Jersey growers. Furthermore, it must be remembered that careful cultivation and harvesting methods will insure increased returns. Growers who contract on the basis of a set price for the season are not faced with price fluctuations caused by a "flooded" market. Net returns depend entirely upon the quality of asparagus grown and delivered.