

§ 4-41-46

STANDARDS FOR HAWAII-GROWN IN-SHELL MACADAMIA NUTS\*

This UNOFFICIAL COPY of standards for in-shell macadamia nuts, rewritten for easy interpretation, is based on Chapter 4-41, Hawaii Administrative Rules, Standards for Fresh Fruits and Vegetables. The general provisions of this Chapter, summaries of standards for other fruits and vegetables, and official copies of the complete chapter are available in each county.

HAWAII NO. 1 (GRADE A) in-shell macadamia nuts shall consist of husked in-shell nuts which meet the following requirements:

Basic Requirements

Similar varietal characteristics (1)

More than 5/8 inch in diameter (2)

Free from doubles (3), live insect, and loose extraneous or foreign material (4).

Shell Requirements

Clean (5)

Dry (6)

Free from damage (7) caused by rodents, adhering husk, cracks, holes or punctures, surface mold, or other means.

Kernel Requirements

Well developed (8)

Free from mold, decay, rodent injury, off-odor or off-flavor by any cause (9), and insect infestation (10).

Free from damage (7) caused by insect scar, discolored area, or other means.

Moisture Requirement

Average moisture content of the kernels shall not exceed 3%, by weight.

TOLERANCES

FOR BASIC REQUIREMENTS: Not more than 3 percent, by gross in-shell weight, of the macadamia nuts may fail to meet the requirements of this grade, included in this amount not more than 1 percent allowed for loose extraneous or foreign material. There shall be no tolerance for live insect.

FOR SHELL REQUIREMENTS: Not more than 5 percent, by gross in-shell weight, of the macadamia nuts may fail to meet the requirements of this grade.

FOR KERNEL REQUIREMENTS: Not more than 10 percent, by gross kernel weight, of the macadamia nut kernels may fail to meet the requirements of this grade, included in this amount:

\*Numbers in parentheses following grade terms indicate where such terms are defined under "Definitions."

1. Not more than a total of 3 percent allowed for kernels affected by mold, decay, rodent injury, insect infestation other than live insect, off-odor or off-flavor by any cause, or serious damage (11) other than by insect scar.
2. Not more than 2 percent allowed for serious damage (11) by insect scar.
3. No tolerance for live insect.

Table 1. Grade Tolerances

GRADE	BASIC REQUIREMENTS	SHELL REQUIREMENTS	KERNEL REQUIREMENTS
Hawaii No. 1	<p>3% total, including:</p> <p>1% loose extraneous or foreign material.</p> <p>No tolerance for live insect.</p>	5% total	<p>10% total, including:</p> <p>3% mold, decay, rodent injury, insect infestation other than live insect, off-odor or off-flavor by any cause, or serious damage other than by insect scar.</p> <p>2% serious damage by insect scar.</p> <p>0% live insect.</p>

APPLICATION OF TOLERANCES. The tolerances provided in these standards are on a lot basis and shall be applied to a composite sample representative of the lot. However, any identifiable container or group of containers in which the macadamia nuts are obviously of a quality materially inferior from that in the majority of the containers shall be considered as a separate lot.

OFF-GRADE. "Off-grade" is not a grade within the meaning of these standards, but is a descriptive term applicable to in-shell macadamia nuts which have a market value, and designates a quality lower than the lowest applicable Hawaii grade for in-shell macadamia nuts.

MINIMUM EXPORT GRADE. In-shell macadamia nuts for export shall meet the requirements of Hawaii No. 1 in-shell macadamia nuts.

DEFINITIONS.

(1) "Similar varietal characteristics" means the macadamia nuts have similar shape and shell texture. For example, smooth-shell type nuts shall not be mixed with rough-shell type in a lot.

(2) "Diameter" means the shortest axis of the nut.

- (3) "Doubles" means the nuts that result when two nuts have a common husk.
- (4) "Loose extraneous or foreign material" means loose pieces of shell and husk, empty shell, plant material, and substance other than macadamia nuts in the shell.
- (5) "Clean" means the shell is practically free from dirt or other foreign material, or the general appearance of the lot is not more than appreciably affected by dirt or other foreign material.
- (6) "Dry" means the shell is free from surface moisture.
- (7) "Damage" means any specific defect described in Table 2, Classification of Defects; 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 shipping quality of the in-shell macadamia nuts.
- (8) "Well developed" means the kernel is plump and not shriveled or excessively soft.
- (9) "Off-odor or off-flavor by any cause" means the macadamia nut kernel possesses an odor or flavor which is not characteristic of macadamia nuts and which appreciably affects the eating quality of the kernel.
- (10) "Insect infestation" means an insect or insect fragment, web, or frass is present within the nut.
- (11) "Serious damage" means any specific defect described in Table 2, Classification of Defects; 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 shipping quality of the in-shell macadamia nuts.

Table 2. Classification of Defects

FACTOR	DAMAGE	SERIOUS DAMAGE
<u>Shell Defects</u>		
Rodent injury	Shell shows evidence of gnawing.	
Adhering husk	More than 10% of shell surface covered with husk.	
Crack	When open or exceeds one-half the long axis of the nut.	
Holes and punctures	When extending to the kernel.	
Surface mold	When conspicuous.	
<u>Kernel Defects</u>		
Insect scar	When any feeding scar exceeds an area $3/32$ inch in diameter; or 2 or more scars are present within a $1/2$ inch area.	When any feeding scar or an aggregate of such scars within a $1/2$ inch area exceeds an area $1/8$ inch in diameter.
Discolored area	When any markedly discolored spot is present; any more than slightly discolored spot exceeds an area $3/32$ inch in diameter; any more than slightly discolored spot exceeds $1/8$ inch in length or width; a markedly discolored varietal ring is present; or speckles that affect appearance more than slightly are present.	When any markedly discolored or prominent spot (abnormalities such as an area encircled by a reddish brown line), or an aggregate of such spots within a $1/2$ inch area, exceeds an area $3/16$ inch in diameter; or speckles that seriously affect appearance are present.
Shriveling		When excessive.