

## In-Shell Nut Sorting Guide for CA Macadamia Nuts

Below is a guide to sorting/culling out nuts prior to sale to market. This includes a description of the disorder as well as suggestions for control. In addition to the sorting guidelines below, Gold Crown does not accept nuts smaller than 3/4" dia.

<b>Rat Damage</b>	Empty shell, hole in shell with beveled edges (chew marks). Can cause major crop loss in orchard and post harvest facilities.	Review efficacy of IPM rodent control methods.
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<b>Bird Damage</b>	Empty shell with hole pecked into the shell. Usually limited crop loss.	Add reflective "scare tape" to affected trees.
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<b>CA Ground Squirrel Robbing</b>	Nuts are gone - Scrapes of husks are often left on the orchard floor. Can cause major crop loss.	Review efficacy of IPM rodent control program.
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<b>Small Holes in Nuts</b>	Physiological defect, borers, potential mechanical damage.	Monitor for pests and efficacy of IPM program.
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<b>Open Microphyte Hole</b>	Physiological defect occurring on one end of the nut. Often hole has white margins.	
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<b>Cracked Shell</b>	Older shells, sun baked shells. Often cracked along suture lines. Mold may occur to nut kernels.	Review orchard management practices. Clean trees of stick-tights. Clean orchard floor before harvest.
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<b>Cracked Shell (Germination)</b>	Cracked along suture line. Germination from exposure to prolonged moisture. Can happen on the tree or on the orchard floor. Mold may occur to nut kernel.	Review harvest intervals and post harvest drying, storage and management practices.
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**Shell Damage  
(mechanical)**

May happen from weed eaters, mowers, or post-harvest with mechanical husking machines.

Review orchard management practices. Examine and adjust mechanical huskers.



**Pale Shells, Small Nuts**

Immature nuts. Lightweight, often "rattles" when shaken. Can be due to out of season flowering, pre mature harvesting (picking nuts from tree), or lack of water.

Harvest only after nut drop. Review watering guidelines to ensure proper watering.



**Dark/Black Shells**

Late season or out of season nuts. Stick-tights dropped from previous season.

Review orchard management practices. Clean trees of stick-tights, clean orchard floor before harvest.



**Black Discoloration/Staining/  
Moldy**

Black mold/stain. Moisture left on nuts too long in orchard. Nuts not dried quickly enough after harvest.

Review harvest intervals and post harvest drying, storage and management practices.

