STANDARDS & GRADES

USDA grades for natural almonds are voluntary minimum standards. The California Almond industry can supply almonds to customers’ unique specifications, both in terms of sizes and grades, based on the intended applications.

USDA grades establish tolerances for various quality factors. Depending on the ultimate use, different grades may be more relevant than others. Other terms like “Supreme” are also used in the industry when referring to particular grades. Be sure to speak with your supplier about your specifications.

USDA GRADES OF SHELLED ALMONDS

<table>
<thead>
<tr>
<th>USDA GRADES</th>
<th>WHOLE KERNELS</th>
<th>MINIMUM DIAMETER (IN INCHES)</th>
<th>DISSIMILAR</th>
<th>DOUBLES &amp; SCRATCH</th>
<th>FOREIGN MATERIAL</th>
<th>PARTICLES &amp; DUST</th>
<th>SPLIT &amp; BROKEN</th>
<th>OTHER DEFECTS</th>
<th>SERIOUS DEFECTS</th>
<th>UNDER SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. FANCY</td>
<td>—</td>
<td>5%</td>
<td>3%</td>
<td>5%</td>
<td>0.05%</td>
<td>0.1%</td>
<td>1%</td>
<td>2%</td>
<td>1%</td>
<td>—</td>
</tr>
<tr>
<td>U.S. EXTRA NO. 1</td>
<td>—</td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
<td>0.05%</td>
<td>0.1%</td>
<td>1%</td>
<td>4%</td>
<td>1.5%</td>
<td>—</td>
</tr>
<tr>
<td>U.S. NO. 1 (SUPREME)*</td>
<td>—</td>
<td>5%</td>
<td>15%</td>
<td>10%</td>
<td>0.05%</td>
<td>0.1%</td>
<td>1%</td>
<td>5%</td>
<td>1.5%</td>
<td>—</td>
</tr>
<tr>
<td>U.S. SELECT SHELLER RUN</td>
<td>—</td>
<td>5%</td>
<td>15%</td>
<td>20%</td>
<td>0.1%</td>
<td>0.1%</td>
<td>1%</td>
<td>5%</td>
<td>3%</td>
<td>2%</td>
</tr>
<tr>
<td>U.S. STANDARD SHELLER RUN</td>
<td>—</td>
<td>5%</td>
<td>25%</td>
<td>35%</td>
<td>0.2%</td>
<td>0.1%</td>
<td>5%</td>
<td>3%</td>
<td>2%</td>
<td>—</td>
</tr>
<tr>
<td>U.S. NO. 1 WHOLE &amp; BROKEN</td>
<td>30%</td>
<td>20/64 UOS†</td>
<td>5%</td>
<td>35%</td>
<td>x</td>
<td>0.2%</td>
<td>0.1%</td>
<td>x</td>
<td>5%</td>
<td>3%</td>
</tr>
<tr>
<td>U.S. NO. 1 PIECES</td>
<td>x</td>
<td>8/64</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>0.2%</td>
<td>1%</td>
<td>x</td>
<td>5%</td>
<td>3%</td>
</tr>
</tbody>
</table>

CALCULATION OF GRADING PERCENTAGES (EXAMPLE)

\[
% \text{ DISSIMILAR KERNELS} = \frac{\text{WEIGHT OF [DISSIMILAR KERNELS] (G) \times 100}}{\text{WEIGHT OF TOTAL SAMPLE (G)}}
\]

USDA GRADES OF IN-SHELL ALMONDS

<table>
<thead>
<tr>
<th>USDA GRADES</th>
<th>MEDIUM</th>
<th>EXTERNAL DEFECT</th>
<th>DISSIMILAR</th>
<th>UNDER SIZE</th>
<th>FOREIGN MATERIAL</th>
<th>INTERNAL DEFECT</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. NO. 1*</td>
<td>28/64</td>
<td>10%</td>
<td>5%</td>
<td>5%</td>
<td>2%</td>
<td>10%</td>
</tr>
<tr>
<td>U.S. NO. 1 MIXED</td>
<td>28/64</td>
<td>10%</td>
<td>—</td>
<td>5%</td>
<td>2%</td>
<td>10%</td>
</tr>
<tr>
<td>U.S. NO. 2</td>
<td>28/64</td>
<td>10%</td>
<td>5%</td>
<td>5%</td>
<td>2%</td>
<td>10%</td>
</tr>
<tr>
<td>U.S. NO. 2 MIXED</td>
<td>28/64</td>
<td>10%</td>
<td>—</td>
<td>5%</td>
<td>2%</td>
<td>10%</td>
</tr>
</tbody>
</table>

*U.S. No. 1 is commonly referred to by industry as Supreme. However, Supreme is not a USDA grade.
†UOS = Unless Otherwise Specified.

Sample Sizes in pounds

<table>
<thead>
<tr>
<th>Lot Size</th>
<th>Grams Drawn</th>
<th>Grams Analyzed</th>
</tr>
</thead>
<tbody>
<tr>
<td>10,000</td>
<td>&gt;44,000</td>
<td></td>
</tr>
<tr>
<td>4,000</td>
<td>10,000-44,000</td>
<td></td>
</tr>
<tr>
<td>2,000</td>
<td>2,000</td>
<td></td>
</tr>
<tr>
<td>1,000</td>
<td>1,000</td>
<td></td>
</tr>
<tr>
<td>3,000</td>
<td>3,000</td>
<td></td>
</tr>
<tr>
<td>2,000</td>
<td>2,000</td>
<td></td>
</tr>
</tbody>
</table>

No limit established. x
Also included in “Other Defects.”
Includes max. 2% under 20/64 inch.
Includes max. 5% under 20/64 inch.
Also included in “Chip & Scratch.”
UNDERSTANDING USDA SHELLED GRADES

More rigorous specifications are typically negotiable to meet customer’s application requirements.

**U.S. FANCY**
The highest grade—typically appropriate for products where the visual appeal of the almond is critical to the application.

**U.S. EXTRA NO. 1**
Similar to U.S. Fancy—ideal for food applications where the appearance of the almond is very important.

**U.S. NO. 1**
Sometimes referred to as Supreme, and often used for whole almond applications or for further processing like blanching and roasting.

**U.S. SELECT SHELLER RUN**
Mid-quality grade—good choice for applications where the almonds with minimal sorting/processing can be incorporated with other ingredients; for example, inside a confectionery product a higher level of chipped and scratched kernels is accepted. Also appropriate for further processing, such as blanching, grinding, roasting, dicing and slicing.

**U.S. STANDARD SHELLER RUN**
Good grade for further processing, such as blanching, dicing, grinding or paste, particularly where a higher level of split and broken kernels is not a concern.

USDA GRADING PARAMETERS

The following is the breakdown of parameters that affect the grading for almonds, regardless of the variety or size.

**DISSIMILAR**
Different varieties of almonds in one load. Used for whole almond applications or for further processing, such as blanching and roasting.

**DOUBLES**
Two kernels developing in one shell. One side of a double kernel is flat or concave.

**CHIP & SCRATCH**
Loss of kernel skin as a result of mechanical processing. Greater than 1/8" (3.2mm) in diameter, is defined as injury; if affecting, in aggregate, greater than 1/4" (6.4mm) in diameter, it is defined as defect.

**FOREIGN MATERIAL**
Pieces of shell, hulls or other foreign matter that will not pass through a round-opening screen measuring 8/64" (3.2mm) in diameter.

**PARTICLES & DUST**
Fragments of almond kernels or other material that will pass through a round-opening screen measuring 8/64" (3.2mm) in diameter.

**SPLIT & BROKEN**
Seven-eighths or less of complete whole kernels that will not pass through a round-opening screen measuring 8/64" (3.2mm) in diameter.

**OTHER DEFECTS**
Any defect that materially detracts from the appearance of the individual kernel or the edible or shipping quality of the almonds. The defects include gum, shrivel, brown spot and discolored.

**SERIOUS DEFECTS**
Any defect that makes a kernel or piece of kernel unsuitable (includes decay, rancidity, insect injury and damage by mold).

UNDERSTANDING USDA IN SHELL GRADES

**U.S. NO. 1**
Similar varietal characteristics. Free from loose, extraneous and foreign material. Shells are clean, fairly bright, fairly uniform in color and free from damage caused by discoloration, adhering hulls, broken shells or other means. Kernels are well dried, free from decay, rancidity, damage caused by insects, mold, gum, skin discoloration, shriveling, brown spots or other means.

**LOOSE FOREIGN MATERIAL**
2%, including 1% passing through a 24/64" screen (this is also by weight).

**INTERNAL DEFECTS**
10%, including 5% serious damage.

**U.S. NO. 1 MIXED**
U.S. No. 1 grade, except that two or more varieties are mixed.

**U.S. NO. 2**
Consists of almonds in the shell that meet the requirements of U.S. No. 1 grade, except that an additional tolerance of 20% shall be allowed for almonds with shells damaged by discoloration.

**U.S. NO. 2 MIXED**
Consists of almonds in the shell that meet the requirements of U.S. No. 2 grade, except that two or more varieties of almonds are mixed.

**SIZE**
Unless otherwise specified, 28/64" in thickness.