

Foods and Nutrition

If judging is to be a learning experience for the 4-H member, it is important that they learn the cause of failures and ways to improve. The suggested foods scorecard and the specific information about judging food items may be helpful in evaluating items.

Tips for Foods Judges

1. Determine what equipment and supplies will be available to you for judging, and determine what you may want to bring on your own. The following are helpful, depending on category. Use tape for your name on those supplies which are yours personally.
 - Tableware – knife, fork, spoon
 - Sharp, long-bladed knife
 - Long serrated knife
 - Paring knife
 - Pie server
 - towel or apron
 - Paper goods – plates, towels, cups
 - Damp sponge
 - drinking water
2. Avoid using hand lotions and perfumes.
3. Use all senses – seeing, touching, smelling, hearing and tasting – in foods judging. Taste is the most subjective. It can be the deciding factor when all other conditions are equal.
4. Be consistent in the methods you use for judging. (This insures fairness to all exhibitors.)
5. In order to check the tenderness and texture of products:
 - Break open biscuits, muffins, rolls and cookies.
 - Cut loaves of yeast breads and quick breads from one-third to one-half the way in from one end. Cut out a thin slice to view the grain, moisture, blending of ingredients, etc.
6. Cut and remove wedges from cakes and pies. Cut wedges large enough to provide optimum evaluation. Avoid cutting corners of cakes. Cakes which are to be judged on decoration only are not to be cut.
7. Feel or taste frostings.
8. Do not open canned foods. Judging is done by visual observation only.

Batter Breads & Quick Breads

Points to Consider	Common Defects	Probable Causes
Flavor – Generally bland and pleasantly sweet, complemented by nuts or fruit	Off Flavor	Overbaked (burned); underbaked (raw); poor quality shortening (rancid); too much baking powder, soda, spices, salt
Appearance – Well-proportioned shape with an evenly rounded top	Fallen or dipped in center	Underbaking (too low oven temperature and/or too short baking time); too small pan; batter too deep; oven door opened too soon
	Excessive lumping or peaking in center	Too high oven temperature; too small pan; batter too deep; not lowering oven temperature when using enameled anodized, aluminum, glass or dark pans; pans too close together or too close to oven wall; overmeasurement of liquid; extreme overbeating
Volume – Appropriate for size considering amount of fruit added	Low or undersized volume	Incorrect proportion or inaccurate measuring; improper mixing; incorrect pan size; oven temperature too high; pan not placed in center of oven
Crust – Medium to deep brown, depending on type of bread; shiny and thicker than a cake crust	Sticky top crust	Underbaking (too low oven temperature and/or too short baking time); covering bread while still warm; high humidity in air after baking; overmeasurement of liquid
	Too pale or too brown in color	Incorrect time or temperature; wrong sized pans; uneven heat
Internal Characteristics Texture – Firm body; thin slices hold together well; moist but not gummy	Falls apart when cut	Too much flour; not enough liquid; too much fruit
	Coarse; crumbly grain	Incorrect proportions (too much fat) or inaccurate measuring; improper mixing
	Dry; top heavily cracked or peaked	Too stiff a batter; oven temperature too high; overmixed; baked too long
	Soggy, compact	Inaccurate measuring; improper mixing; underbaked; incorrect pan size; poor handling after baking
Grain – Small air cells and medium thick cell walls without tunnels	Holes and tunnels	Oven temperature too high; improper placement of oven shelf or pan; extreme overheating; not lowering oven temperature when using enameled, anodized, aluminum, glass or dark pans; undermeasurement or overmeasurement of liquid

Yeast Bread

Points to Consider	Common Defects	Probable Causes
Flavor – Sweet, slightly nutty flavor and odor; blend of well-baked ingredients; free from off flavors such as yeasty, rancid, sour or musty	Flat tasting	Too little salt
	Rancid	Rancid fat or other ingredient
	Musty	Moldy flour
	Sour or yeasty	Old yeast; too much yeast; temperature too high while rising; rising too long; too well covered as it cooled; utensils not clean; incomplete baking
Appearance		
Shape – Oblong, well-proportioned, evenly rounded top; tender, smooth, free from cracks and bulges; slight break and shred at edge of pan	Irregular shape	Poor technique in shaping; not raised properly when put into oven
	Cracks and bulges	Not well molded; not kneaded properly; dough too stiff; bread raised improperly; incorrect oven temperature; bread pans too close together
	Higher on one side	Uneven heat
Crust – Even golden brown; slightly darker on top than sides and bottom; crisp and tender	Overbrowned on top	Oven too hot; baked too long; bread located in oven improperly
	Pale crust	Oven too slow; too much salt; dough dried out during rising; too little sugar
	Crust tough, hard	Baked too slowly; too much salt; lack of fat; not risen enough
Volume – Light in weight in proportion to size	Overlight for size	Too long period of rising; oven too slow
	Poor volume	Poor yeast; yeast partially killed; ingredients not well mixed; too much kneading; wrong type flour; raised improperly before putting in oven
Internal Characteristics		
Texture – Tender, springy crumb, elastic, not dry or doughy	Harsh dry crumb	Too much flour; baked too long; wrong type of flour; too stiff dough; too cool oven; not kneaded enough
	Tough	Improper raising before baking; dough did not rise enough; dough was too stiff
Grain – Fine cells (small holes) elongated from bottom to top of loaf; evenly distributed; thin cell walls	Coarse	Dough not stiff enough; too light due to too long rising period; chilled while rising; oven too cool
	Heavy dark streaks or soggy	Uneven mixing; wrong type of flour; poorly mixed or flour added when shaping rolls; improper length of rising periods; poor yeast; bread left in pan to cool
	Large holes	Poor molding; over raised
	Compact texture at bottom	Oven temperature too low
Color – Even and characteristic of ingredients used; free from dark streaks; creamy white, silken sheen in light	Dark	Poor ingredients; wrong temperature while rising; improper rising before baking; oven too cool; stale yeast
	Streaked	Addition of flour at molding stage; drying of dough on top before shaping; overgreasing of surface

Yeast Rolls

Points to Consider	Common Defects	Probable Causes
Flavor – Blended flavor slightly sweet and nutty; richer than bread; pleasing odor	Flat tasting	Too little salt
	Yeasty	Too long rising period; high temperature in the kitchen
	Sour	Poor yeast or flour; rising too long; too high temperature while rising; baked too slowly; incomplete baking (standing at warm room temperature).
	Too much or too little salt, sugar, etc.	Improper measuring
<i>Appearance</i>		
Shape – Uniform size; attractively shaped; for type of roll; well-rounded and symmetrical, smooth crust, free from cracks and bulges; rolls hold their shape	Irregular shape	Poor technique in shaping; not raised properly when put into oven
	Crust – Even golden brown; tender, crisp	Tough crust
	Thick crust	Baked too slowly
	Pale crust	Oven too slow; too much salt; dough dried out during rising; too little sugar; underbaked
	Burned	Too hot oven; baked too long
	Cracked	Not kneaded properly; cooled too quickly; too short rising period
Volume – Relatively light in proportion to size	Heavy	Low grade flour; under kneaded; raised improperly when put in oven
	Poor volume	Too cool while rising; yeast killed; not enough flour; short rising period
<i>Internal Characteristics</i>		
Texture – Tender, elastic crumb, slightly moist; free from dryness or doughiness or tears easily	Crumbly	Soft wheat flour; too much flour; raised improperly when put into oven
	Compact texture at bottom	Not raised enough when put into oven
	Sticky	Underbaked; steamed by cooling in pan after baking
Grain – Uniform; fine cells, even distribution, thin cell walls; less resilient than bread	Coarse	Poor yeast; low grade flour; too long rising period; not enough kneading; wrong temperature or other unfavorable conditions
	Color – Uniform color; no dark or light streaks; characteristic of ingredients used	Streaks
	Dark crumb	Kind of flour or liquid used; unfavorable conditions as: overraised when put in oven; wrong temperature while rising; oven too cool; old or stale yeast

Drop Biscuits

The following are characteristics of good quality drop biscuits.

Appearance

- Shape –Irregular, rounded, very rough top-crust – pale golden brown.

Internal Characteristics

- Texture – crisp outer crust and tender interior.
- Grain, gas holes larger and less uniform than rolled biscuits; cell walls slightly thick, slightly coarse

Refer to rolled biscuits for common defects and probable causes.

Rolled Biscuits

Points to Consider	Common Defects	Probable Causes
Flavor – Pleasant and mild	Off Flavor	Stale ingredients (rancid fat); too much leavening (bitter); too much salt or fat (salty or greasy); not enough salt (flat or tasteless); improper mixing
Appearance		
Size and shape – Uniform with level tops and straight sides	Uneven shape	Carelessness in handling; uneven pressure when cutting; twisting cutter; uneven heat; overmixing
Volume – Light in respect to size	Low volume	Not enough leavening; too much shortening; too much or too little mixing or handling; too hot or low an oven; oven not preheated; allowed to stand too long before baking
Crusts – Evenly browned, smooth, medium thick	Pale top crust	Too low oven temperature; too deep pans; underbaking; flour on surface
	Too dark crust	Too high oven temperature; use of dark cookie sheet or pans
	Brown on top and bottom but not on sides	Too deep pans
	Bottom crust too dark	Baked on darkened pan; baking rack too low in oven
	Yellow or brown spots	Too much baking powder or soda; ingredients not well mixed; poor grade of flour
	Unevenly browned	Oven temperature too high or too low; flour on surface; uneven heat
Internal Characteristics Grain – Even and medium fine; uniform; small gas holes without tunnels	Heavy, compact	Not enough leavening; too much mixing or handling; too slow an oven; too much flour; too much liquid; oven not preheated
	Tunnels and holes	Overmixing
Texture – Flaky and moist but not too gummy	Too dry	Overbaking; improper oven temperature; too much flour or dough too stiff; undermeasurement of liquid
	Tough	Not enough fat; too much liquid or flour; too much mixing or handling
	Hard crust	Baked too long; incorrect oven temperature
	Coarse, uneven cells	Too much leavening; too little mixing
	Not flaky	Not enough shortening; too much or too little mixing of shortening with flour mixture; not enough kneading
	Soggy	Underbaked
	Crumbly	Too much shortening; too much leavening
Streaks	Careless mixing; adding more flour after liquid and dry ingredients are combined	

Coffee Cake

Points to Consider	Common Defects	Probable Causes
External Characteristics Shape Slightly rounded in center with sides uniform thickness	Fallen or dipped in center	Underbaking – too low oven temperature and/or too short baking time; under- or overmeasurement of liquid; too small pan or batter too deep; testing too soon for doneness; moving or jarring coffee cake before sufficiently baked
	Shrinkage (excessive pulling away from sides of pan)	Overbaking – too high oven temperature and/or too long baking time; pan too near oven walls or, if more than one pan is used, placed too close together
	Humping or peaking in center	Too high oven temperature; too small pan or batter too deep; uneven baking or overbaking, which may be due to use of enameled, glass or dark pans; pan or pans too close to oven walls or too close together; under- or overmeasurement of liquid; extreme overbeating
Volume – Slightly heavier than cakes	Low volume	Over- or undermeasurement of liquid; extreme overbeating; pan too large; oven temperature too high; improper placement of oven shelf or pan; letting batter stand too long before baking
Crust – Evenly browned and tender; evenly covered with the right amount of topping in proportion to the cake	Sticky top crust	Underbaking; oven temperature too low and/or too short baking time; covering coffee cake while still warm; high humidity in air after baking; overmeasurement of liquid; fruit in coffee cake not well drained
	Uneven browning	Oven shelf or oven not level; pan or pans too close together or too close to oven walls
	Pale top crust	Opening oven door too often; overmeasurement of liquid; oven temperature too low; pan too deep; extreme overbeating
	Dark top crust	Oven temperature too high; pan placed too close to oven walls; not lowering oven temperature when using enameled, glass or dark pans
Internal Characteristics Texture – Baked throughout; tender but not too crumbly; moist but not gummy	Crumbly or dry	Overbaking – too high oven and/or too long baking time; undermeasurement of liquid; omission of egg; undermixing
	Gummy or doughy	Underbaked – oven temperature too low and/or baking time too short; overmeasurement of liquid; fruit in coffee cake not well drained
	Topping or fruit goes to bottom	Uneven division of batter when layering topping and fillings; fruits not well drained; oven temperature too low; overmeasurement of liquid
Grain – Medium to coarse cell structure without tunnels	Holes and tunnels	Oven temperature too high; not lowering oven temperature when using enameled, anodized aluminum, glass, or dark pans; improper placement of oven shelf of pan; extreme overbeating

Cakes Containing Fat

Points to Consider	Common Defects	Probable Causes
Flavor – Delicate, sweet, well-blended; characteristic of ingredients	Bitter	Too much baking powder or baking soda
	Flat	Too little salt
	Unpleasant flavor	Strong or rancid shortening; poor quality eggs or flavoring
Appearance Shape – Level, slightly rounded top; free from cracks or peaks	Rises higher on one side	Uneven heat; oven grate not level; batter spread in pan unevenly
	Runs over top of pan	Too much batter in pan; oven not hot enough; too much leavening
	Peaked or cracked	Oven too hot; too much flour; not enough liquid; too much batter in pan; pan placed too high in oven; overmixing
Volume – Light in weight in proportion to size	Low	Not enough baking powder or baking soda; baked in too large a pan; wrong oven temperature; improper handling
	Falls	Too much shortening, baking powder, or baking soda; insufficient baking; oven door opened too soon; moved in oven too soon
Surface – Smooth, uniform, evenly browned	Cracked crust	Too much sugar
	Sticky crust	Too much sugar, insufficient baking
	Tough crust	Not enough shortening or sugar; too much flour; oven too hot; cake baked too long
	Hard crust	Oven too hot; cake baked too long
	Sticks to pan	Pan not properly prepared; left in pan too long
	Pale color	Too little sugar; too little leavening or shortening; wrong type pan; underbaked
	Too brown	Too much sugar; oven too hot; overbaked
	Crust soggy or doughy	Cake allowed to steam in pan while cooling
Internal Characteristics Texture – Tender, moist crumb, velvety feel to tongue, springs back when pressed lightly with finger	Tough cake	Not enough shortening, sugar, baking powder or baking soda; too little or too much mixing; overbaking; oven too hot
	Dry cake	Too much flour or leavening; too little shortening, liquid, sugar; overbeaten egg whites; overbaked; baked too long at too low temperature
	Too light, crumbly, and dry	Too much leavening; oven too hot
	Falls apart as it comes from pan	Too much shortening, sugar, or leavening; cake removed from pan too soon; insufficient mixing; insufficient baking
Grain – Fine, round, evenly distributed cells; thin cell walls; free from tunnels	Heavy and compact	Overbeaten batter; too much shortening or liquid; too little sugar or leavening; incorrect baking temperature
	Soggy layer or streak at bottom	Undermixing; shortening too soft; not enough leavening; too much liquid; damp flour that prevents blending; lower part of oven not hot enough
	Coarse grain	Too much leavening; insufficient creaming; use of liquid shortening; use of bread flour; oven too slow
	Large, uneven cells; thick cell walls	Too little liquid; insufficient mixing; too much shortening; too cool oven
Color – Uniform; characteristic of kind of cake	Dark spots or streaks	Too much baking powder or baking soda; insufficient creaming, mixing, sifting of dry ingredients
	Dull color	Poor ingredients; improper mixing of ingredients

Cakes (Foam or Containing No Fat)

Points to Consider	Common Defects	Probable Causes
Flavor – Delicate, pleasing	Too strong	Too much flavoring added
	Eggy flavor	Incorrect proportion of ingredients
Appearance Shape – Symmetrical; level or slightly rounded top	Fallen	Incorrect oven temperature; underbaked; too much sugar; sides of pan were greased; improper mixing; pan not inverted after baking
Surface – Even delicate brown; cracks in crust of angel food and chiffon cakes	Too brown	Oven too hot; baked too long
Volume – Light in weight in proportion to size	Poor volume	Egg whites underbeaten or extremely overbeaten; overfolding; not inverting pan after baking
	Undersize	Wrong size pan for recipe
Internal Characteristics Texture – Very tender and light; feathery; resilient crumb that is slightly moist	Tough	Underbeaten egg white; overfolding; improper storage after baking; use of all-purpose flour
Grain – Fine, round, uniform, evenly distributed cells, thin cell walls; free from tunnels	Compact grain	Overfolding; underbeaten egg whites
	Coarse grain	Underfolding; too much sugar
Color – Even throughout; characteristic of kind of cake	Streaks	Improper folding; poor quality ingredients
	Soggy streak or layer at bottom	Insufficient beating of egg whites or yolks; underfolding; oven not hot enough

Muffins

Points to Consider	Common Defects	Probable Causes
Flavor – Delicate, slightly sweet	Off flavor	Too much baking powder or soda (bitter); too much salt or fat (salty or greasy); not enough salt (flat); strong or sour (poor quality ingredients, especially fat)
Appearance		
Shape – Gently rounded pebbly top with smooth sides	Peaks, cracks, smooth crust	Uneven heat; insufficient leavening; overmixed; too much flour or egg; too hot an oven; placed too high in oven
	Brownish spots	Too much baking powder or salt or not evenly mixed
	Oversize	Too much batter in pan; too much baking powder
	Undersize	Too much liquid; too little baking powder; overmixed; uneven oven temperature; wrong size pan or not filling pan enough
	Uneven sizes	Carelessness in filling pans
	Rough surface (sharp edges, horny-like)	Undermixed; too much flour
Crust – Evenly browned; medium thick	Unevenly browned	Oven too hot; oven does not heat uniformly; pans filled too full; wrong proportions; too much heating
	Pale	Overmixed; too slow an oven; not well-placed in oven
	Hard crust	Overbaked; oven temperature too high; too slow an oven
Internal Characteristics		
Texture – Light and tender; breaks easily without crumbling; slightly moist	Tough and compact	Overmixed; too much flour
	Waxy, shiny	Insufficient mixing of egg and milk
	Too moist	Too much liquid; underbaked; steamed in pan after removal from oven
	Too dry	Baked too long; oven temperature too high; too much flour
Grain – Uniform, medium-sized cells, free from tunnels	Very compact, heavy	Overmixing; insufficient leavening
	Crumbly	Too much shortening
	Tunnels; tough	Overmixed; too much flour
	Waxy, shiny	Insufficient mixing of egg and milk (yet batter may be overmixed)

Pastry

Points to Consider	Common Defects	Probable Causes
Appearance – Golden brown color, blistery surface, uniform attraction edge, did not shrink; not greasy	Unevenly browned	Overbaked; underbaked
	Uneven edge	Not rolled in even circle; not shaped carefully enough in pan
	Shrunken	Stretched when eased into pan
	Large blisters or bubbles	Not pricked enough
	Pale, dull color	Underbaking; overhandling
Texture – Flakes layered throughout; crisp eating; light, flaky	Smooth surface, not blistery	Overhandling; too much flour when rolling; too much water
Tenderness – Cuts easily with table knife or fork, will not crumble; tender, crisp	Tough, rubbery	Overhandling; too much water; not enough shortening
	Too tender; falls apart	Too much shortening; shortening not cut into flour enough; not enough liquid; rolled too thin
	Compact, doughy	Underbaked – too much liquid
	Dry, mealy	Shortening cut in too finely; insufficient liquid
Flavor – Pleasant, bland flavor; no raw or burned taste	Rancid	Poor quality shortening
	Raw	Underbaked; improper oven temperature

Fruit Filling for Pastry

Points to Consider	Common Defects	Probable Causes
Appearance – Whole fruit or size suited to fruit used		
Color – Natural color retained; fresh, appetizing		
Consistency – Tends to hold shape; tendency to run when lukewarm	Gummy, too firm	Too much thickening agent
	Too thin	Not enough thickening agent; too much sugar
	Filling spilled out of crust	Upper crust not well sealed to lower crust; insufficient thickening; stretched upper crust shrunk during baking; too much sugar
Texture of fruit – Tender but holds shape	Fruit mushy	Cooked too long; cut too small pieces
Taste and flavor – Pleasing flavor; no starchy taste; not raw or too sweet	Fruit filling too underdone; raw	Used too much sugar; not baked long enough
	Excessively sweet	Too little fruit and fruit juices in proportion to sugar
	Spices overpower fruit flavor	Too much spice

Cookies

Points to Consider	Common Defects	Probable Causes
Flavor – Blended flavor of well-baked ingredients; characteristic of kind; free from excessive flavor of fat, spices, flavoring, sweetening, etc.; pleasing odor	Bitter flavor	Too much baking power or soda
	Flavor of some ingredient outstanding	Poor recipe; poor mixing
Appearance		
Shape – Regular, even top nearly smooth	Irregular shape and size (peaks or cracks); uneven thickness	Drop Cookies – Improper dropping of dough; dough too thick or too thin
		Rolled or Refrigerator Cookies – Improper molding of dough; dough not chilled enough when sliced or cut; thin, sharp knife not used for slicing; cutter not dipped in flour before using
Size – Medium (2½”-3” in diameter)	Excessive spreading	Dough too warm; dropping on hot baking sheet; incorrect oven temperature; not peaked when dropped; too much fat, sugar, leavening, or liquid
	Uneven in size	Varying amounts of dough used
Color – Evenly browned; characteristic of kind	Too brown	Overbaking
	Not browned on top, burned on bottom	Incorrectly placed in oven; dark baking sheet which absorbs heat
	Dark, crusty edges	Overbaking; baking sheet too large for oven
	Loose flour visible on top	Too much flour used when rolling dough; poor mixing techniques
Crust	Shiny or sticky	Too much sugar; insufficient baking
Internal Characteristics		
Texture Thin cookies – crisp, tender Thick cookies – moist, tender	Soft	Cut too thick
	Tough	Too much re-rolling; excessive flour
Drop cookies – soft, tender Bar cookies – moist, tender	Dry, hard	Overbaking
Grain – Even cells, not too coarse or crumbly	Coarse	Poor method of combining ingredients; too much baking powder; poor recipe
Color – Uniform; characteristic of kind	Streaks	Poor mixing techniques

Type		
Bar Cookie	Irregular textured cuts	Combining center and edge cuts
	Crumbles when cut	Cutting bars while warm
	Hard, crusty top	Overmixing
	Dry, crumbly	Overbaking
Drop Cookie	Dark, crusty edges	Overbaking; baking sheet too large for oven
	Too dry hard	Overbaking
	Doughy	Underbaking
Molded Cookie	Misshapen cookie	Poor molding or method of flattening cookies; dough too warm
	Too brown	Overbaking; too hot an oven
	Crumbly	Insufficient shaping
Pressed Cookie	Misshapen	Improper use of cookie press; dough in press either too warm or too cold; placing dough on hot baking sheet; too low an oven temperature
	Over-browned spots	Overbaking
Refrigerator Cookie	Irregular shape	Improper molding of dough roll; dough not chilled enough when sliced; thin, sharp knife not used for slicing
	Too brown	Overbaking
	Soft	Cuts too thick
Rolled or Cutout Cookie	Irregular shape, uneven thickness	Careless rolling and handling; uneven pressure on cutter
	Loose flour visible on top or bottom	Using too much flour when rolling dough
	Dry	Rolling in too much flour or re-rolling; overbaking
	Tough	Excessive rolling

Gingerbread

Points to Consider	Common Defects	Probable Causes
<i>Appearance</i>		
Shape – Slightly rounded in the center, and well-proportioned	Fallen or dipped in center	Underbaking – oven temperature too low and/or baking time too short; under- or overmeasurement of liquid; pan too small; batter too deep; testing for doneness too soon; moving or jarring cake before sufficiently baked; undermixing
	Extreme lumping or peaking in center	Oven temperature too high; pan too small; batter too deep; uneven baking or overbaking which may be due to use of enameled, glass, or dark pans; pan or pans too close to oven or too close together; extreme overbeating; under- or overmeasurement of liquid
Volume – Heavier than cake	Low volume	Pan too large; overmixing; oven temperature too high; improper placement of oven shelf or pan; mix stored under poor conditions, such as excessive heat or high humidity
Crust – Slightly crisp and sugary; much the same color as the interior	Sticky top crust	Underbaking – oven temperature too low and/or baking time too short; gingerbread covered while still warm; high humidity in air after gingerbread is baked; overmeasurement of liquid
<i>Internal Characteristics</i>		
Texture – Heavy and moist; breaks easily but doesn't crumble	Gummy or doughy	Underbaking – oven temperature too low and/or baking time too short; overmeasurement of liquid
Grain – Coarser and thicker cells than cake; not holes or tunnels	Holes and tunnels	Oven temperature too high; not lowering oven when using enameled, anodized aluminum, glass, or dark pans; improper placement of oven shelf or pan; extreme overbeating; overmeasurement of liquid

Canned Fruits & Tomatoes

(Must be processed in boiling water bath canner or a pressure canner. Must be processed in a jar manufactured for canning.)

Appearance

- | | | |
|-----------|---|--|
| Fruit | - | Uniform in size, color, shape. |
| | - | Well-ripened; free from bruises or brown spots. |
| | - | Fresh, tender, firm. |
| | - | Clean cut edges; shape well preserved. |
| | - | Color as natural as possible. No artificial coloring. |
| | - | Free from mold, discoloration, or other indications of spoilage. |
| | - | No undue bleaching or darkening. |
| Liquid | - | Clear, bright. |
| | - | Free from sediment, cloudiness and bubbles. |
| | - | Covers food in jar. |
| | - | Syrup of consistency suitable for product. |
| Container | - | Clean, standard jar, colorless glass. |
| | - | Perfectly sealed. |
| | - | Free from cracks, rust, or other damage. |
| | - | Properly labeled. |



Common Problems

- Fruit soft and mushy – overripe fruit; overcooking.
- Fruit looks hard – underripe fruit.
- Fruit floats – packed too loose; syrup too heavy; overripe fruit; over processing.

Fruit and vegetables should be a clear, natural color with no dark spots and not any loose floating particles. The product should be packed in the bottle attractively, so it looks like it's good enough to eat. They should all be cut the same size and be all the same maturity – not too old.

- Should be all the same maturity
- Cut the same size
- Not too tight or too loose in the pack
- Should be ½ inch head space in the bottle
- Should use USDA approved recipe
- Adjust canning time to higher altitude
- Use approved canning jars, lids and rings
- Jars sealed tightly and properly labeled
- Bottles should be clean and ring come off easily – can use vinegar water to clean jars

Jams, jellies, pickles, and relishes should have a clear and pretty color; process in a water bath Jelly should quiver a little in the jar, not be a hard set

Berries – when you get the berries out of water bath, lay bottle on its side and carefully roll it around. Do this for 2 or 3 days. Can also store them on shelves on their sides. This will prevent the berries from going to the top of the jar. (This is for raspberries, blackberries, boysenberries, blueberries, etc. – not strawberries)

Recommendations for Specific Fruits

- Apples – Free of seeds and skin; pared and quartered or canned as sauce; (may turn dark from overcooking with too much sugar).
- Apricots – May be peeled or canned with skin left on; should not float.
- Peaches – Halves packed upside down in overlapping layers; fruit free from fuzz or skin.
- Pears – Pared and cut into even pieces or halves; fruit white and firm, but tender.
- Plums – If plums are pierced with a darning needle, they are less likely to break in an unsightly way.
- Rhubarb – Skin left on rhubarb to give better shape and color.
- Tomatoes – Cut and whole tomatoes should not be combined; strained tomato juice, instead of water, is preferred for the liquid; a bright red color is important; seeds may show; tomatoes should be free from cores and skin.

Labels for canned fruits, vegetables, meats, pickles, relishes, jams and preserves.

Canning exhibits should be labeled with basic information. The following are generally accepted items to be included. ***Be sure to check with the local fair or show for specific requirements.***

Variety may also be included on the label when known:

- Recipe name and source
- Date canned
- Method of processing
- Time of processing

Canned Food Products

Common Defects	Probable Causes
Loss of liquid during processing	Jars packed too full; pressure fluctuated in pressure canner; pressure lowered too fast
Sediment on bottom of jar (vegetables)	Minerals in hard water; starch from overripe vegetables; bacterial spoilage (liquid murky, food soft) – don't use
Darkened food	On top: too little heating or processing to remove air from jars or to destroy enzymes in food Throughout jar: overprocessing
Jar fails to seal	Many reasons, including: failure to follow instructions; piece of food or grease left on jar rim or forced between jar and lid during processing

Canned Meat

(Must be processed in pressure canner and in jars manufactured for canning.)

Appearance

- | | |
|-----------|---|
| Meat | <ul style="list-style-type: none"> - Firm, normal color, free of gristle and excess fat. - Cut across grain into uniform, attractive pieces. - Moist, but not overcooked. |
| Liquid | <ul style="list-style-type: none"> - Jells when cold. - Preferably covers meat. - Clear with little sediment (meat canned raw-pack will have more sediment than a precooked pack). |
| Pack | <ul style="list-style-type: none"> - Pieces of uniform size; appropriate to serve. - Packed to within 1 inch of top of jar. - Full pack, but not too tight to prevent good heat penetration in processing. |
| Container | <ul style="list-style-type: none"> - Clean, standard jar, colorless glass. - Perfectly sealed. - Free from cracks, rust, or other damage. - Properly labeled. |

Canned Low-Acid Vegetables

(Must be processed in pressure canner and in jars manufactured for canning.)

Appearance

- Vegetable**
- Prime stage of maturity, tender and firm, not tough, woody or mushy.
 - Uniform in size and shape. Natural, clear, bright color. Not unduly bleached or darkened, no artificial coloring.
 - Not overcooked; shape well preserved.
 - Free from indications of spoilage.
- Liquid**
- Clear.
 - Free from cloudiness, bubbles, or extraneous material.
 - Liquid should cover food and in sufficient quantity to make a loose pack of greens, corn, shelled peas, and beans.
- Pack**
- A firm, but not tight pack.
 - Sufficient liquid for proper heat penetration and good eating.
 - Pieces well arranged to use the space to advantage.
 - Vegetables – packed to 1½ inches from top of jar.
 - Liquid on all packs to within 1 inch of top of jar and cover vegetables.
- Container**
- Clean, standard jar, colorless glass.
 - Perfectly sealed.
 - Free from cracks, rust, or other damage.

Common Problems

- Cloudy liquid
 - Starch from overripe vegetables.
 - May be sign of spoilage. (Boil the food ten minutes and destroy if off odor or flavor.)
 - Minerals in hard water.

Recommendations for Specific Vegetables

- Beans
 - May be left whole or be chopped into 1” pieces.
 - Beans should be filled but tender.
 - There should be few, if any, free beans.
- Beets
 - Peeled; all traces of skin removed; stem end and root cut off.
 - Beets should be a deep, even red color.
- Carrots
 - Small, preferably 1” to 1¼” in diameter.
 - Scraped or pared well.
 - Should have smooth surface with no evidence of skin.
- Corn.
 - Distinct kernel in fairly clear liquid preferred.
 - Pack should be full but not too dense.
 - Corn free from silks or pieces of cob.
- Greens
 - Shrunk before putting in jar and heavy stems removed.
 - If not thoroughly washed – dirt and grit showing in jar.
 - Pack should be full; not too tight.
 - Color should be reasonably bright green.
- Peas
 - If the peas are too old, the liquid will be cloudy.

Pickles and Relish

(Must be processed in boiling water bath canner and in jars manufactured for canning.)

Pickles

Quality of Product

- Uniform in size, shape, color.
- Plump, not shrunken.
- Liquid – clear.
- Pickled fruits – tender, plump, unbroken skins, not shriveled.
- Pickled cucumbers – uniformly crisp and firm; transparent or semi-transparent appearance.

Color

- Natural; characteristic of kind of pickle.
- No artificial coloring.

Container and Pack

- Clean, standard, perfectly sealed container.
- Neatly labeled
- Filled, allowing ½ inch headspace.
- Attractive and economical pack of solids and liquids.
- Full pack without crowding.
- Liquid over top of food in jar.

Relish

Quality of Product

- Uniform in size, shape, color.
- Mixture of evenly chopped vegetables.
- Liquid – clear.

Container and Pack

- Clean, standard, perfectly sealed container.
- Neatly labeled.
- Filled, allowing 1/2 inch headspace.
- Attractive and economical pack of solids and liquids.
-

Common Defects

Hollow pickles

Probable Causes

Faulty growth of cucumbers; cucumbers standing too long before processing; improper curing.

Soft or slippery pickles

Brine or vinegar used too weak.

Shriveled

Too much salt, sugar or vinegar added at one time; too much time between gathering and pickling.

Dark

Minerals in water; ground spices; iron or copper utensils used.

Sweet Spreads

(Jelly, Jam, Conserve, Preserves, Marmalades and Fruit Butters must be processed in a boiling water bath and in a jar manufactured for canning.)

Sweet spreads are a class of foods with many textures, flavors, and colors. They all consist of fruits preserved mostly by means of sugar and they are thickened or jellied to some extent. Fruit jelly is a semi-solid mixture of fruit juice and sugar that is clear and firm enough to hold its shape. Other spreads are made from crushed or ground fruit.

Jam will also hold its shape, but it is less firm than jelly. Jam is made from a mixture of fruits usually called conserves, especially when they include citrus fruits, nuts, raisins or coconut. Preserves are made of small, whole fruits or uniform pieces of fruits in a clear, thick, slightly jellied syrup.

Marmalades are soft fruit jellies with small pieces of fruit or citrus peel evenly suspended in a transparent jelly. Fruit butters are made from fruit pulp cooked with sugar until thickened to a spreadable consistency.

Color

- Characteristic of the fruit; free from discoloration.

Container and Pack

- Clean, standard, perfectly sealed container.
- Neatly labeled.
- Filled allowing 1/4-inch headspace.
- Free from air bubbles and foam.



Fruit Spreads

Points to Consider	Common Defects	Probable Causes
Flavor – Pleasing, characteristic of the fruit; should not be too sweet or too tart	Unsatisfactory flavor	Poor selection of fruit; unsatisfactory proportions of ingredients; overcooking
Appearance, Color – As nearly like the natural fruit color as possible	Fading	Storage place too warm or for too long, faulty seal
	Darkened	Cooked too long; cooked too slowly; too much juice cooked at a time; storage in too warm a place; faulty sealing; excessive spices
Clearness – Clear, sparkling, transparent and translucent; free from sediment and cloudiness	Cloudy	Poor method of extracting juice; jelly not well skimmed; jelly poured into glasses from too great a distance above glass or too slowly; jelly cooked before pouring in glasses; jelly set too fast; usually the result of using fruit that is too green; fruit cooked too long before straining; juice not properly strained; jelly mixture stood too long before poured
Container – Clear, sparkling, transparent and translucent; free from sediment and cloudiness	Improper container and label	Failure to use a standard jar manufactured for canning and a two-piece lid
		Label did not contain name of product (s), method of processing, time processed, date of processing
Consistency – Firm enough to hold shape, yet tender and quivery	Soft jelly	Too much juice; too little sugar; mixture not acidic enough; too much made at one time; too little cooking
	Syrupy jelly	Too little pectin, acid or sugar
	Stiff jelly	A great excess of sugar; too much pectin; overcooking
	Tough, gummy jelly	Too little sugar; overcooking; cooking too large an amount at one time
	Crystals in jelly	Too much sugar; mixture cooked too little; too slowly or too long; crystals on top may be caused by evaporation
	Weeping jelly	Too much acid; layer of paraffin too thick; storage place too warm or temperature fluctuated
	Fermented jelly	Too little sugar or cooking; improper sterilization of jars; improper sealing
	Molded	Improper sterilization of jars; imperfect seal
	Fruits float in jar	Fruit not fully ripe; not thoroughly crushed or ground; undercooked; not properly packed in jars
	Faded; dark at top of container	Too warm storage place; stored too long; faulty seal
	Separating marmalades	Not allowing product to cool five minutes with gentle stirring and skimming at frequent intervals