

Judging Home Preserved Foods



National Center for Home Food Preservation

University of Georgia Cooperative Extension Service

College of Family and Consumer Sciences

in cooperation with the College of Agricultural and Environmental Sciences

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Prepared for the National Center for Home Food Preservation

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Introduction

Fairs... festivals... and special events. Judging of exhibits is often included as a way to add excitement and anticipation. In order for these activities to take place in a meaningful way, however, knowledgeable people willing to participate as judges must be identified. Judging should be a recognition of quality work on the part of those who enter exhibits. Remember, each exhibitor thinks his or her exhibit worthy of a prize.

Judging requires basic rules and standards from the sponsor, as well as concentration and practice on the part of the judges. It is essential that the judges be well informed about the activity they are critiquing and that they know the standards required for prize-winning quality. Applying uniform standards is the only way to defend placing decisions, give reasons for your placements, and avoid the pitfalls of personal bias.

Sound objectives for conducting competitions and judging events involving foods include:

- To appreciate standards of safety and quality.
- To recognize entries which best represent recommended standards.
- To decide which entries achieve their intended purpose most effectively.
- To determine ranking of competing articles in relation to one another.

Goals of Judging

“Judging” in competitive events is a term that implies a qualified person makes decisions based on standards of quality. However, judging not only produces a ranking or score of a product against these standards, it also affects the person who has created the product. There are a lot of emotions and feelings of self-esteem or worth wrapped up in an entry of homemade foods. A judge has an important role in helping create a positive growth experience. The development of people is a priority concern. Projects should be viewed as a means to an end – not an end in themselves.

Two major purposes for judging include:

1. To judge the quality of the project or exhibit.

Judging the entry involves the objective appraisal of the finished product in a uniform way.

2. To contribute to the learning experience of the exhibitor.

Contributing to the exhibitor's learning experience is equally important. It can show that the amount of effort expended in developing the entry is valued. It also represents an interest in, and valuing of, the person. The learning experience of the exhibitor can be enhanced by personal notes from, or contact with, the judges.

- No exhibit is so poorly done that it is not worthy of an encouraging comment.
- No exhibit is so well done that some improvement may not be made.

Methods of Judging

Judging Systems

There are basically two systems of judging that are commonly used in fair judging, the American System and the Danish System. Check with the superintendent or agent in charge before you begin judging to clarify which system you will be using and how many placings you will be required to make.

American System - Exhibits in this system are compared against a standard of perfection, as well as against the other entries in the competition. All exhibits in a particular class are looked at and ranked with only one selected for first place, second place, third place, etc. If there are no high quality exhibits, at the judge's discretion, exhibits may be placed in the appropriate position, even if it is second or third place.

Danish System - In this system all exhibitors receive a ribbon. All exhibits are grouped according to quality, and there may be multiple entries that get the same ranking and ribbon. Quality may vary from excellent to fair, and ribbon categories may be blue, red, white and/or yellow. In this system of judging, exhibits are not in competition with or compared to each other.

There is no formula to determine the number of ribbons to be given in the Danish System. Quality determines the ranking for blue, red, white and/or yellow ribbon. A blue ribbon is generally recognized and used for excellence. Red ribbons are given for an adequate exhibit that does not meet all the standards. White and/or yellow ribbons are given when the exhibit is below standard quality and improvement is definitely needed. Under the Danish system, participation ribbons are given to recognize the efforts of the exhibitor.

Types of Judging

There are two types of judging commonly used in county fairs and competitive events – open judging and closed judging.

Open judging is an open assessment by the judge before a group about the items in the exhibit. The exhibitors may be present. All exhibitors benefit from the discussion in open judging, although extra care must be taken so that the judge's comments do not embarrass exhibitors or cause unnecessarily hurt feelings.

Closed judging is done in a private area, where only the officials are allowed until the judging is completed. This is usually done when there are a large number of items in the exhibit, and/or when there is not enough room for spectators to listen to open judging. The judging is conducted prior to the opening of the event.

In some judging situations, score sheets are provided for judges to record comments for the exhibitor about the qualities desired and standards used for judging.

Selection and Orientation of Judges

How to Select Judges

Judging may be done by:

- The individual exhibitor – as s/he completes each step and each item.
- Extension educators, volunteer leaders or other teachers – as they assist others and work with groups; at contests or fairs for Extension- or community-sponsored events; agricultural or commodity themed events (e.g., strawberry or peach festivals).
- Professional judges – usually paid, at special contests or fairs.

Judges should:

- Be attractively dressed and well groomed.
- Have a pleasant manner; smile; be prompt.
- Be flexible; anticipate changes in time needed to do the job right, for example.
- Understand the abilities and tastes of the age level of competitors that are being judged.
- Be tactful and concerned about the participants and their feelings.
- Offer compliments and constructive criticism.
- Avoid being flippant or sarcastic.
- Hide personal likes and dislikes.
- Make quick and firm decisions.
- Avoid consulting with spectators.
- Avoid talking about other fairs they have judged.
- Be familiar with the products being judged.
- Keep up-to-date with current techniques and trends.
- Make comments that will help the individual improve.
- Be as consistent as possible.
- Recognize quality standards.
- Give the exhibitor the benefit of the doubt.
- Offer reasons for decisions, when appropriate.

Comments from Judges

Not all situations allow for recording or making comments to the exhibitor. This is unfortunate because the judge's comments are an important part of the judging process. An exhibitor benefits from learning his/her strengths and weaknesses and receiving suggestions for changes. When permitted, one of the main goals of the judge's comments to the exhibitor should be to help the exhibitor feel pride and accomplishment in the project, as well as to obtain ideas for improvement.

Each judge should remember to:

- Judge the item, not the exhibitor. Help participants feel more positive about themselves as a result of the experience.
- Be consistent. Judge all projects against the same standards.
- Start comments with a positive remark. Write remarks for improvement and try to inspire the exhibitor for future work. Consider individual capabilities and levels of experience.
- Keep an open mind about methods/techniques. Don't consider just one technique or method as being acceptable if there are other acceptable options.
- Encourage the exhibitors to analyze their own work. Ask how their work might be changed or if other methods could be used for more satisfying results.
- Inspire the exhibitor to plan ahead for future successful projects.

Making Additional Decisions About the Competition

SAFETY the Primary Consideration

Individuals usually enter their preserved foods in contests because of pride in their creative activity – and because it's fun! However, safety must be a consideration in recognizing quality home food preservation activities and products. Judging and competitive events can actually be opportunities to teach people about safe food preservation methods.

Safety of the food should be the primary consideration when awarding honors to food preservation entries. It is a consideration, however, that makes judging preserved foods more difficult than some other types of entries. Unsafe methods should not be rewarded and the exhibitors should not leave the event thinking that their unsafe methods are approved and can be shared with others.

There are some characteristics of the preserved food that can be used in evaluating its safety even if it does not look obviously spoiled. Each jar of a canned food, for example, should be labeled with the processing time and method used (i.e., boiling water or pressure canning at how many pounds pressure). Types of jars and lids used should be a consideration, as should the condition of the jar and lid. Post-processing leaks in canned foods can be detected in even apparently sealed jars if the screw band is removed. Judges should be allowed to disqualify entries that are not labeled with an appropriate process, have not used USDA or Extension-endorsed canning methods and processing times, or that show common signs of spoilage, such as cloudy liquids, bubbling and unsealed lids. The following section, *General Suggestions for Entry Guidelines*, gives some more specific suggestions that can help the judge determine safety.

If desired by the event organizers, foods can be opened and taken out of containers if needed, especially in close competitions. This may let the judge better determine color, texture, piece size, corrosion of the underside of lids, and/or presence of unnatural deposits, for example. For one-day events where foods do not have to remain on exhibit after judging, opening the product may actually be desirable.

For events where exhibits usually do remain for days of exhibition, or are judged some time before the event actually begins, the event organizers need to think through how open food will be handled – e.g., if it is determined necessary to open some jars, *will* they remain on display during the fair? Should the opened jars be emptied and the ribbon displayed on an empty jar? Or, does the exhibitor have to appear within so many hours of judging to take the product home? If opening jars is routine, should two jars of each food be submitted per entry so that one remains for display? Who will clean up open jars of food? Will opened jars be returned to

exhibitors, especially if they have to be cleaned up to be stored until the exhibitor returns?

Food that is identified as unsafe or potentially unsafe by judges must be labeled with some type of sticker so that even the exhibitor does not keep or use the food after the event. Judges must have the authority to dispose of any foods that are considered hazardous to consume. This includes disposal of the jar or packaging that contains the food. Fair attendants must also have the authority to dispose of any potentially hazardous foods at any time throughout the event. The seals of canned foods, for example, may break at any time or there may be signs of spoilage that develop in the jars as they sit at the event.

The personal safety of the judge should also be considered. Whether or not to taste canned foods is an extremely important issue to address. It is recommended that home canned foods **not be tasted** by judges. Not all spoilage can be detected by normal human senses (taste, odor, appearance, etc.). And, even though dishonest exhibitors may be rare, labels may occasionally contain falsified process times and methods.

If event organizers are insistent that tasting take place, the only canned foods that should be tasted are jellies, jams and other fruit preserves made with high concentrations of sugar or flavored vinegars. There should be enough sugar and acid in these products to protect against the growth of most harmful microorganisms. Especially if these products show signs of spoilage – such as mold, yeasty odors, clumps that could be microbial growth instead of poorly mixed ingredients or sugar crystals, or unnatural cloudiness – the judges should be allowed the discretion of not tasting. In fact, these foods should not be tasted and the judges should be cautioned not to take a chance on anything that appears suspect. Improperly pickled foods and salsas may allow the growth of harmful microorganisms because they are not acid enough to be processed as acidified foods.

An additional personal safety consideration for judges is their access to facilities for handwashing and sanitizing. Jars of leaking food can be picked up before realizing the outside is wet. Jars may be close to leaking if seals have broken and the first movement off, or across, the judges' table will cause overflow of liquid. This liquid in unsealed jars can contain harmful microorganisms or toxins. The judges need to be able to immediately wash off and sanitize their hands. The work surface should also be sanitized after any leak, spill, or suspect food is detected after jars are opened. In general, plenty of paper towels and/or disposable wet towelettes are helpful to have for judges at all times. An extra that might be appreciated are alcohol containing gel-type sanitizers for use after handwashing.

Assistance During Judging

Judges appreciate organizational strategies that make their job as efficient and orderly as possible. Volunteers or paid superintendents can carry out tasks that do not really require the judges' time. These assistants can:

- Check that entries have been labeled for the appropriate class.
- Have entries organized by class or category before the judges arrive.
- Check that the number of entries on the table or shelf match the number recorded in official entry lists.
- Pull aside unsealed jars of canned food, leaking containers, etc. and point them out to the judge as s/he reaches that class to judge.
- Record results in required records or computer databases.
- Write comments on official records as (if) judges provide them verbally.
- Place ribbons or awards on the winning entries.
- Arrange the exhibits for public display in the fair or event.
- Be available to help clean up spills, obtain water for judges to drink, or replenish supplies such as paper towels or napkins, paper plates, spoons, etc.
- Enforce rules that may be established to protect judges and the quality of judging – e.g., no smoking.
- Label food identified as unsafe, unsealed or spoiled by the judges.
- Release entries to exhibitors at the end of the event.

General Suggestions for Entry Guidelines

(This information is also provided in Appendix A in an easy-to-duplicate format, ready to use with event organizing committees or other planning activities.)

General Rules

1. All entries must have been preserved within the last year (12 months). If fresh produce is used, the exhibit should have been preserved within the last growing season; in no case should this exceed one year.
2. Unsealed exhibits or products showing signs of spoilage will not be judged.
3. Exhibits must be labeled with the name of the food, the date preserved, and the method of food preservation. Entries without required labeling will not be judged.

If the food is canned, the label must state whether the food was hot or raw packed, boiling water or pressure canned, the process time, and the pounds of pressure if pressure-canned. The entry should also be accompanied by the recipe used. (A judge needs to know if the proper amount of citric acid, lemon

juice or vinegar has been added to canned tomatoes, for example. The judge also has to know whether certain foods have meat, low acid vegetables, starches, etc. added.)

Examples:

1. Peaches, hot pack, boiling water canner, 20 minutes. July 13, 2003.
Recipe:
2. Spaghetti sauce, hot pack, pressure canner, 11 pounds pressure, 45 minutes. July 14, 2003.
Recipe:
3. Dried peaches, electric dehydrator. June 6, 2003.
Recipe:

In addition, some contests require that the source of canning instructions is included.

Examples:

1. USDA Complete Guide to Home Canning, 1994
 2. A county or state Extension publication (name), date
-
4. An exhibit may not have been previously entered in the same event.
 5. Judges are instructed not to award a premium or placing unless the exhibits are worthy.
 6. Exhibits without competition will be judged on their own merit and will receive an award or placing only if determined worthy by the judges.
 7. Judging will be done by comparison to recognized standards of quality and safety (provide a copy of the scoresheet if one is used) and by comparison to other exhibits to determine placings within a class (first, second, third, etc.).
 8. Exhibits usually will not be judged by tasting; visual inspection will be used for the most part. Jars may need to be opened, however, when spoilage is suspected or differences among entries are very small.
 9. Youth exhibits are judged separately from adults.
 10. The decisions of the judges are final.
 11. Foods that are opened during judging will be marked by the judges and should not be eaten when the fair or event is over. Any foods that are considered hazardous to consume will be disposed of by the judges or fair attendants. (This includes the jar or packaging that contains the food.)

Additional Considerations for Canned Foods

1. Canned products should be prepared and processed according to current USDA/Extension Service information. **Event organizers should not offer classes (or entry categories) for which there are not scientific research-based processes available.** The county Cooperative Extension Service is a good source to make sure you have the most up-to-date USDA information.
2. Canned products must be canned in clear, standard (half-pint, pint or quart) jars in good condition with new, two-piece canning lids (flat lid and band). (Note: There are now 12-ounce canning jars available. If there is not a USDA recommended process time available for the 12-ounce jar, these may be used with a pint jar canning process recommendation. The process time for pints cannot be reduced for the smaller jar size, however. If there is only a USDA process for a half-pint jar size, then a 12-ounce jar would be disqualified for lack of a recommended USDA process time.)
3. Jar sizes for which there are no USDA canning recommendations will not be judged.
4. Jams, jellies, marmalades and preserves sealed with paraffin will not be judged; these products must be heat sealed (canned).
5. Fancy padded lids, fabric overwraps or cozies interfere with the judging process and should not be used.

Additional Considerations for Dried Foods

1. Dried foods should be prepared according to current Cooperative Extension Service information.
2. Dried foods may be handled by judges to determine stage of doneness.
3. Dried foods should be displayed in appropriate storage containers (glass jars with rust-free lids, heavy-weight plastic food-quality bags, vacuum-sealed plastic food bags, etc.).

Judging Home Canned Foods

Basics of Acceptable Entries

Rules for acceptable entries and scoring methods will differ among fairs. It is very important that the judge review the catalog of a fair or event ahead of time, in order to make certain that the rules of the current fair or event are considered in making determinations.

Judging preserved foods requires study, training, and good judgement. Judges must be knowledgeable about food preservation and must know what the various types of products should look like if they are of prize winning quality.

Ideally, a scorecard should be completed for each exhibit. However, if there are a large number of entries, completing a scorecard for each one is often too time consuming. It is, therefore, important that judges become very familiar with the criteria associated with the various types of preserved foods in order to judge them accurately without a scorecard.

Processing Method and Recipe

The first thing to consider is the processing method and choice of foods. The label should have a time and temperature (boiling water or pressure process) combination that is recommended for that food in the latest edition of the USDA *Complete Guide to Home Canning* or state Extension Service publication. Event organizers should not offer classes (entry categories) for which there are not scientific research-based processes available. If the event is sponsored by an association or company that has their own published canning directions, these may be included in allowed processes. (However, if there is any question as to the reliability and scientific basis of the recommendations, the best practice would be to have these processes reviewed by a competent authority to determine if they might be unsafe.)

- Low acid foods must be pressure canned. These foods include meats, poultry, seafood, vegetables and some combination foods such as soup mixes, spaghetti sauce with meat, and salsas.
- Acid and appropriately acidified foods (expected pH less than 4.6) such as pickles may be processed in a boiling water canner. However, many fruits also have published pressure canning alternative processes.
- Jams, jellies, and fruit preserves should be processed in a boiling water canner.
- Paraffin should not be used to seal jams, jellies or any food.
- Open kettle canning (putting hot food in a jar, putting the lid on it and giving it no further processing) is not acceptable for any “canned” product.

- Soup mixes or other foods with thickeners (like flour or starch), cream or milk, pasta/noodles, or rice are not permitted unless an established process from USDA or other recognized scientific source can be documented.

Containers

Clear, clean standard (usually half-pint, pint or quart) home canning jars in good condition with two-piece metal canning lids (flat lid and band) must be used. Regular or wide-mouth styles may be used. The jar size should match available processing recommendations. For example, USDA does not have processes for some foods in quart jars such as fish, mushrooms, cream style corn, and marinated peppers.

There are 12-ounce canning jars with the recommended two-piece metal canning lids (flat lid and band) available. Their popularity is increasing for use with jams, jellies and fruit butters as well as some other preserves. If there is not a USDA recommended process time specifically for the 12-ounce jar, the pint jar canning process time is to be used under current USDA recommendations. The process time for pints cannot be reduced for the smaller jar size, however. If the USDA canning recommendations only provide a process for a half-pint jar size, then a 12-ounce jar would be disqualified for lack of a recommended USDA process time.)

Commercial jars such as the ones used for mayonnaise, peanut butter, coffee, tomato sauces, pickles, and jelly should not be allowed in the entry rules. Many of these jars cannot be recommended for home canning. Irregular shapes and volumes of jars can cause inadequate heat penetration during processing and an unsafe product may result. In addition, many of these jars are more likely to break during processing and are less likely to seal properly. If a product is canned in an unacceptable container it should not be judged.

Today's home canning lid of choice is the two-piece lid consisting of a flat metal lid held in place by a metal band. The flat lids must be brand new each time a jar is filled. It should show no signs of rusting, or of food and liquid dried onto the outside. Dried food or liquid residues can mean the jar and lid were not washed and dried after processing. They also might mean the jar is not sealed properly and leaked during transport to or during the competition. While an unwashed jar and lid may not indicate unsafe food, it does show lack of attention to detail and makes a poor appearance, which are important considerations in a competitive event.

Bands should be clean and free of rust. They should not be bent or misshapen. The judge needs to loosen the band to check under it for cleanliness. Removing the band also allows the judge to see that there is a proper amount of headspace in the jar (which is discussed below under *Pack*). Points should be deducted for rusty, dented or misshapen, or corroded lids. If a band is rusted or corroded into place so that it cannot be removed, the jar should not be judged.

Once it has been determined that the appropriate type of jar and lid have been used, the judge must make sure that the jar has a vacuum seal. This can be done by pressing the middle of the lid with a finger. If the lid springs up when the finger is removed, the lid is not sealed. Another way to test the seal is to hold the jar at eye level and look across the lid. A sealed lid should appear curved down in the center, not flat or bulging upwards.

If a lid is bulging as if there is unnatural pressure inside the jar pushing it upwards, the jar should not be opened, even if sealed. Breaking the seal of a bulging lid could force the contents, especially liquids, to come spraying out onto the judge and other surfaces. A lid bulging in this way is a sign of potentially unsafe food and the jar should not be judged.

A buckled lid is one that is sealed but has a crease across a section or edge. Buckled lids do not occur with good canning practices, but are a sign that jars were not filled properly and/or lids were not properly tightened. These vacuum seals are likely to loosen during storage. Jars with buckled lids should have points deducted if the competition does not want to disqualify them for judging.

The old style, bail-type closures and porcelain-lined zinc caps are no longer considered acceptable. Zinc caps make it difficult to gauge the amount of headspace in a jar and hide darkening of food that might occur at the surface when jars of food are not opened during judging. Jars with these types of lids should not be judged.

If jars are opened in the competition, the underside of flat lids can be analyzed for potential problems with canning practices. Rusting is not desirable; neither is the presence of very small corroded areas, called "pinholing." A small amount of staining may be acceptable, particularly in tomatoes, berries and other highly colored foods. These stains should be completely on the surface of the enamel, and not signs of something actually eating away the enamel. Any deposits that do not match the food in the jar, that appear to be building up on the surface of the enamel, or that trail from the lid down onto the food surface are undesirable and could be signs of spoilage. Points should be deducted if the jar is not disqualified.

Jars must be clean and free of mineral deposits. Recognize that handling in transit to the fair and by fair workers may have resulted in smudges on the jars. It should be fairly easy to distinguish between jars that were cleaned but now have fingerprints and jars that were not clean to start with.

Pack

Headspace is the empty space between the food in a jar and its lid. It is important to maintain proper headspace because it can affect safety as well as quality of the food. If adequate headspace was not allowed, food could expand enough during processing to be squeezed out between the jar and lid. The appearance of a sealed

lid in these jars may actually be the result of sticky or dried food holding the lid in place. Also, when very acid foods remain in contact with the underside of the lid, pinholing or corrosion might be the result. A jar with absolutely no headspace, or an extremely small headspace compared to recommended allowances (see below), may be disqualified or have points deducted.

Too much headspace may mean excess air (oxygen) has remained in the jar. This can lead to excessive darkening during storage. It can also lead to a reduced vacuum level in the jar, which means a weaker seal. It is at least a waste of jar space and contributes to a loss of quality. Points should be deducted for poor headspace control even in sealed jars.

Recommended headspace allowances are as follows:

- ¼ inch for jams and jellies
- ¼ inch for apple juice, grape juice and fruit purees
- ½ inch for other fruit products, pickles, and tomatoes processed in a water bath canner
- 1 inch for USDA fruit pie fillings with Clear Jel®; ½ inch for green tomato pie filling
- 1 inch for vegetables, meats, or other products processed in a pressure canner (1¼ to 1½ inches for quart jars of fresh lima beans; see individual directions)
- 1 ¼ inches for poultry

The manner in which the food is packed in the jar is important. The most important consideration in judging the pack of canned food is its safety. Food must be packed into the jar in a way that allows heat to easily penetrate throughout the jar's contents. To do so there must be a proper balance of solids and liquids. If there are too many solids present, then the heat will not be able to penetrate through the mass. The liquid should cover the product and be able to circulate freely throughout the jar.

Excess liquid, or very loose packs of solids, is a waste of jar space. While this is not a safety issue, it is not practical. This practice should influence scoring in a competitive situation as a less than desirable method. Points should be deducted for excessive liquid in a solid food pack.

Many types of fancy packs produce potentially unsafe products. In many events, they are not allowed. The adequacy of process times is dependent on using specified preparation procedures. For example, if the preparation instructions specify cutting into pieces, the vegetable should not be left whole. Fancy packs that allow for dense packing of food pieces may not have received adequate heat penetration to kill harmful microorganisms. An example would be snap beans, asparagus or cucumber spears, or carrots carefully hand-placed to produce a tight, vertical pack. This kind of practice also allows the food temperature to cool down too much if a hot pack process is intended and used. Process times are dependent on an expected initial

temperature of the food as it goes into the canner. At the least, packs of this type are not considered practical or representative of recommended jar filling practices.

Appearance of Contents

The quality of the fresh food being canned and the care with which it is handled are the major factors influencing the appearance of the canned product. The fresh product should have been canned when it was young and tender. It should have no defects such as blemishes, decayed spots, or sunburned spots. It should have been at its peak level of ripeness when canned. Over-mature produce can result in mushy or discolored canned food.

The canned food should be in piece sizes and shapes that are appropriate to the particular product (recommended in processing directions). The pieces should be uniform in size. For example, peach halves should not be mixed with peach slices. This adds to the appearance of the product while assuring uniform cooking in preparation of hot packs – and good fills for expected heat penetration. Consistency of piece sizes in pickles, relishes, mixed vegetables and fruit preserves is considered a quality characteristic to be determined by the judge.

If processing recommendations call for peeled fruit or vegetables, food with peels and skins should be disqualified. Peels and skins can carry high numbers of microorganisms. Including them in recipes where this practice is not recommended can lead to survival of potentially harmful microorganisms.

The texture of the product should appear tender but not mushy. The product should hold its shape and show no signs of overcooking. Edges of food pieces can be examined carefully to detect signs of mushiness or excessive softness.

Any liquid in the canned product (sugar syrup covering fruit pieces, brines in pickles, meat juices, etc.) should be fairly clear and free of cloudiness or sediment. Starchy vegetables may have a slightly cloudy liquid but there should not be a starchy sediment. It is acceptable for the liquid in foods with dark-colored water soluble pigments, such as tomatoes and berries, to have a color characteristic of the product rather than being colorless.

The color of the canned product should be that of a well cooked product. Foods that look raw or just cut most likely have not been processed at all. The color should be uniform and should show no signs of over- or underprocessing. Darkening of food pieces is undesirable quality and can result from too much air being trapped in headspace, use of raw packs, excessively tight bands during canning, or poor quality raw food.

In some products, such as sweet corn, variety can lead to differences in cooked color. Some varieties just do not lend themselves well to good color after canning. Varieties with high sugar content can turn extremely brown from the high heat of pressure canning. The judge will need to decide how much to factor discoloration into his or her scoring.

There should be no foreign particles or sediment in the jar. Foreign matter that should be rated as defects include strings, pits, seeds, skins, stems and cores. Meat entries should not have obvious gristle or tendons.

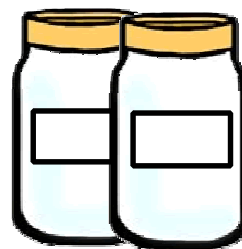
There should be a minimum amount of air bubbles present. The acceptable quantity and size of air bubbles will vary considerably with the product. This is an instance where a judge needs to be knowledgeable about typical appearance of high quality canned foods. Finally, there should be no bubbles that appear to be gas produced by active microorganisms or other signs of spoilage.

Attractiveness

An exhibitor in a competitive event can, and should, expect the judges to use subjective decisions about attractiveness of the display – especially if competition is close. The cleanliness of the containers and lids will influence subjective decisions. Neatness and cleanliness of labels will also play a role in overall impression of the entry. Exhibitors should give consideration to the following as contributions to attractiveness of the entry: naturalness and brightness of the color, good proportions of solids to liquids, absence of excessive air, no darkening of food at the top of the jar, headspace, and shininess of the lid and band. If fair rules call for more than one jar of the product to be submitted, both jars should be of the same type and size of container. The contents in multiple jars should be consistent or similar in appearance.

Labels

Labels on preserved foods should be clean, neat, easy to read, and contain all information required by the event's guidelines. Judges should be alert to signs that old labels have been removed and replaced with new labels. Some exhibitors neglect to clean off all remnants of old adhesive, for example. Original labels can sometimes be seen through new labels, especially when held in an appropriate level of lighting.



Judging by Appearance vs. Tasting

In many events, canned foods are not opened during judging. In fact, as previously stated, it is recommended that no food be tasted with the possible exception of jams, jellies or flavored vinegars. Consequently, a judge must rely on visual inspection of the food inside the jar to judge characteristics like flavor and texture. The descriptions above have shown just how much can be judged by appearance.

To review, safety is judged by appearance in the following ways:

- Use of recommended jars and lids.
- Use of recommended processing methods and times, as well as intended preparation style for the given process.
- Use of recommended headspace and pack style.
- Proper balance of solids and liquids.
- Lids that are clean and new; bands that are not rusted or corroded.
- Absence of non-recommended ingredients such as noodles, rice, flour, oils.
- Absence of gas bubbles, cloudiness, sediments and foreign material.
- Absence of stains, other signs of leaking.

Quality is judged by appearance and the following characteristics:

- Flavor of vegetables is usually indicated by the maturity of the product and its general appearance rather than directly judged by taste.
- Over-maturity is judged by appearance:
 - excess starchiness (peas and beans),
 - softness or mushiness (fruits, some vegetables),
 - large or loose distribution of seeds in cucumber products (e.g., are the seeds loose and floating around or still intact in the food piece, are they larger than is normal for optimum ripeness),
 - discoloration of seeds (yellowish or pale in cucumbers, dark or brown to pinkish in snap beans),
 - sprouting of seeds (tomatoes),
 - browning of cut edges (snap beans),
 - dull, unnatural colors.
- Poor color control or lack of appropriate pretreatments is judged by browning on edges of light-colored fruits.
- Poor choice of raw pack over hot pack is indicated by excessive trapped air bubbles, floating of food pieces above covering liquid, and darkening of food at the surface.
- Overcooking is indicated by poor color and mushiness.

- Artificial coloring is usually considered undesirable except for some specific specialty recipes. Using it when not necessary makes it difficult to observe some signs of spoilage or loss of quality in storage. Some may use it to cover poor raw product quality, over-mature vegetables, and re-packing of formerly canned foods.
- Attractiveness and attention to detail are judged by:
 - Consistency and appropriateness of piece size.
 - Absence of foreign matter, seeds, pits, peel, root hairs on vegetables, stems.
 - Good, characteristic, natural and bright colors, as well as freedom from discoloration.
 - Lids that are clean and dry; bands that are not rusted, corroded, bent or misshapen.
 - Neatness and attractiveness of exhibit.

Judging Canned Fruits and Fruit Juices

Headspace for fruits should be $\frac{1}{2}$ inch. Apple juice, grape juice and fruit purees use $\frac{1}{4}$ inch headspace.

Canned fruit should meet all of the general characteristics for container, pack, appearance of contents and attractiveness. Although the variety of fruits that are canned include many textures, shapes and colors, there is general information that can be applied to each, as well as some specific considerations for some fruits. The consistency of syrup in a jar of canned fruit may vary depending on ingredients and their proportions. Heavier sugar syrups will be thicker and sometimes have a little color compared to light sugar syrups. Regardless of consistency or color, syrup should be clear. If fruit has caused syrup to be colored, the color should be the natural color of the fruit. Artificial coloring is discouraged and should not be allowed in entry guidelines.

Desirable General Characteristics for Fruits

Size and Shape	Uniform pieces of same to similar size and shape; clean-cut edges.
Pack	Attractive; neat; space well used. Good proportion of solids to liquids. Liquid covers all product with $\frac{1}{2}$ inch headspace. No floating fruit. Fancy packs are generally discouraged; however, the most efficient use of space for many halved fruits is placing them in the jar in overlapping layers with the core or pit side down. Although some may initially think of this as a fancy pack, it is acceptable and desirable as an efficient pack for rounded or large halves of fruit.
Texture	Fruit pieces have appearance of being well-ripened and not overripe, firm yet tender. Shape well preserved, free of mushiness.
Color	Natural coloring; no artificial coloring; uniform. Free from bruises, brown spots, mold, or discoloration; no undue bleaching or darkening.
Liquid	Clear, bright. Suitable consistency of syrup for product. No sediment, cloudiness, or bubbles. No foreign matter.
Container	Properly labeled. Appropriate size for available recommended canning processes. Clean, clear standard canning jar. No cracks, chips, or rust on jar. Recommended lid with good vacuum seal. Band free of rust and dents or other damage; clean and easily removed.

Desirable General Characteristics for Fruit Juices

Pack	¼ inch headspace in all jar sizes.
Clarity	Bright and clear. No cloudiness. No sediment, pulp or crystals. No foreign matter.
Color	Natural coloring; no artificial coloring; uniform. No discoloration such as would be associated with excessive heating or oxidative browning during preparation and storage.
Consistency	Suitable consistency or thickness characteristic of the natural fruit juice. Flows freely, not too thick as if concentrated or heavily sugared. No appearance of being thinned with water.
Container	Properly labeled. Appropriate size for available recommended canning processes. Clean, clear standard canning jar. No cracks, chips, or rust on jar. Recommended lid with good vacuum seal. Band free of rust and dents or other damage; clean and easily removed.

Common Problems

Probable Causes

Fruit soft and mushy	Over-ripe product. Overcooking.
Fruit looks hard	Under-ripe product.
Darkened fruit	Surface darkening from air in headspace when fruit is not completely covered by liquid. Too much air left in headspace from under- or no processing. Too much air trapped in pack from use of raw pack. Overprocessing can cause darkening throughout the jar.
Floating of fruit	Fruit was packed too loosely. Syrup is too heavy. Raw pack was used and air in the fruit tissue itself could not all be exhausted during processing. Over-ripe fruit.
Jar underfilled	Raw pack was used; fruit shrunk during processing. Jar was not packed with proper attention to detail.

Common Problems

Probable Causes

Sediment in bottom of jar

Over-ripe fruit.
Hard water.

Bubbles

Small amount: from moving or shaking jar.
Occasional bubble trapped among halves or large pieces.
Larger amounts: trapped air from raw packs or excessive tightening of ring bands.
Bubbles rising through the product (syrup) can indicate fermentation is taking place and the jar should be disqualified.

Judging Criteria for Individual Fruits

Apples

No seeds, core or peel. Canned as slices or sauce. Only hot pack is recommended. Raw packs trap an excessive amount of air, fruit floats, and browning is common over time from both these problems.

Apple Juice

Clear and bright. Characteristic of fresh juice; not overly browned from high heat. No cloudiness. No sediment, pulp or crystals. No foreign matter.

Apricots

May be peeled or the skin left on. Canned as halves or slices. Skin with dark spots should be removed. Fruit should be firm without signs of mushiness.

Berries

Uniform color to all the berries. No stems. Pack should be full with good solids-to-liquid ratio. Liquid should be bright and clear although it may be colored by the fruit pigments. No sediment or signs of fermentation bubbling. No floating of fruit above liquid.

Cherries

Pack should be full with good solids-to-liquid ratio. Liquid should be bright and clear although it may be colored by the fruit pigments. No floating of fruit above liquid. If pitted, cuts or holes are neat and not destructive of the fruit's shape. No stem-end discoloration or discoloration where cut or pitted. If canned unpitted, skins have been pricked to prevent splitting.

Judging Criteria for Individual Fruits

Figs	Canned without peeling and with small stem attached. Firm and uncracked; no signs of mushiness. Color depends on variety, but should be characteristic of optimum ripeness for variety. Only hot pack is recommended. Lemon juice (1 tablespoon per pint) or citric acid ($\frac{1}{4}$ teaspoon per pint) should have been added for safety.
Fruit Purees	Good flowing and uniform consistency; not thickened like a butter and not too thin. No evidence of scorching (black flecks, unusual darkening, and bad odor if opened). Only hot pack is recommended. Fig and tomato purees should not be canned by fruit juice canning methods.
Grape Juice	Clear and bright. Characteristic of fresh juice; no cloudiness. No sediment, pulp or crystals. No foreign matter. Grape juice is usually filtered after extraction to prevent development of crystals.
Grapefruit and Orange Sections	Firm sections with most of white tissue removed. Sections may be packed in citrus juice as well as syrup or water. Citrus juice will yield a cloudier liquid. The flavor of orange sections is best if the sections are canned with equal parts of grapefruit. Grapefruit may be canned without oranges.
Grapes	Pack should be full with good solids to liquid ratio. Liquid should be bright and clear. Fruit is tight-skinned. No floating of fruit above liquid. No stem-end discoloration.
Peaches or Nectarines	Canned as halves or slices. Peaches are peeled; nectarines are not. Pits of both are removed. Fruit should be firm without signs of mushiness or over-ripeness. No discoloration on cut edges. Color should be even and characteristic of cooked ripe fruit. No floating of fruit above liquid. Raw packs trap an excessive amount of air, fruit floats, and browning is common over time from both these problems.
Pears	Canned peeled and without cores. May be halves or quarters. Fruit white and firm, but tender with cooked appearance. No signs of mushiness. Liquid is clear and free of sediment. No floating fruit. Only hot pack is recommended.

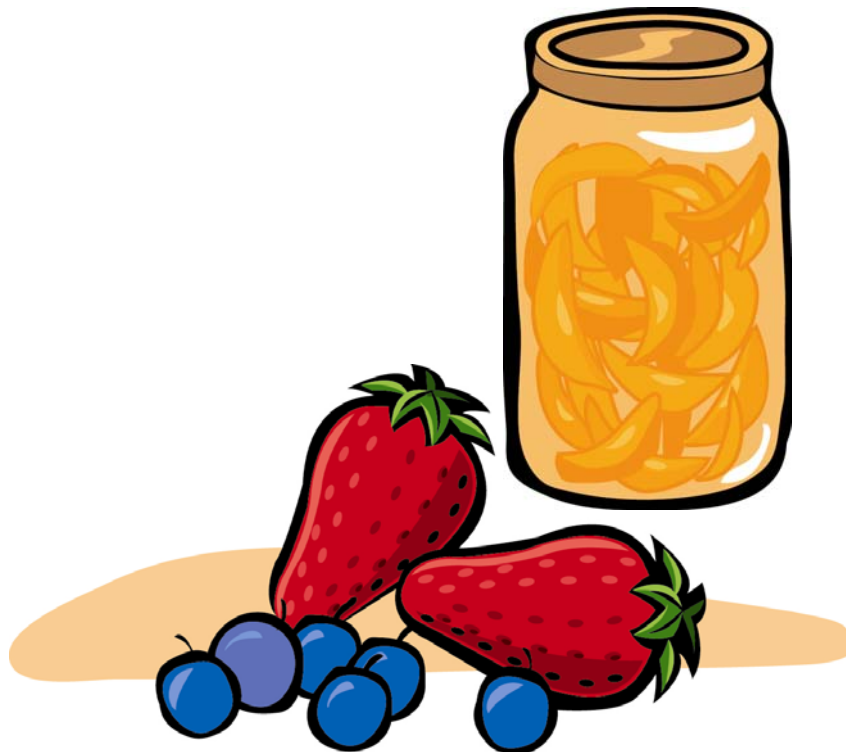
Judging Criteria for Individual Fruits

Plums

Fruit is not usually peeled. Canned whole or halved. Fruit skin on whole plums has been pricked on two sides to avoid uneven splitting. Freestone varieties may be halved; pits should be removed when plums are halved. No floating fruit. No cloudiness in liquid or sediment.

Rhubarb

Brightly colored. Even consistency. Only hot pack is recommended (stewed rhubarb). No leaves. No signs of scorching (burning) during preparation.



Judging Canned Tomatoes and Tomato Products

Headspace allowances for tomato products vary. Headspace for canned tomatoes, tomato juice and chile salsa is $\frac{1}{2}$ inch. For tomato sauce and paste, headspace is $\frac{1}{4}$ inch. Headspace for ketchups is $\frac{1}{8}$ inch.

Canned tomatoes and tomato products should meet all of the general characteristics for container, pack, appearance of contents and attractiveness.

Desirable General Characteristics for Tomatoes and Tomato Products

Size and Shape	Uniform pieces of same to similar size and shape.
Pack – Tomatoes	Attractive; neat; space well used. Good proportion of solids to liquid. Liquid covers all product with $\frac{1}{2}$ inch headspace. No floating pieces. No skins. No sprouting seeds (a sign of over-mature tomatoes). Raw pack tomatoes without added liquid should be packed so that enough juice is extracted from the fruit to produce adequate covering liquid. This pack will not have tomatoes or pieces that retain uniform shapes; the tomatoes are squeezed as they are pushed into the jar to fill all the spaces and create juice.
Pack – Juices and Sauces	No seeds, peel or other foreign particles. No wasted space in jar.
Texture – Tomatoes	Firm but ripened fruit used. Free from cores and green spots. If whole or halved hot packs, pieces retain shapes yet jars are filled as completely as possible with pieces.
Color	Uniform bright color characteristic of variety throughout the pack. Free from brown or black spots, signs of mold, or discoloration. Color of tomato-vegetable juice blends may be lighter (less red) than pure tomato juice.
Liquid – Tomatoes	Clear, bright if water; however, some tissue from the tomatoes will break off and be in the liquid. May be slightly tinted from color of tomatoes. Alternatively, strained tomato juice may be used as the covering liquid. Any liquid completely covers solids. No sediment, cloudiness, or bubbles. No foreign matter.

Desirable General Characteristics for Tomatoes and Tomato Products

Liquid – Juice	No separation. Separation of tomato juice into a yellowish clear layer and red layer happens from enzymes found naturally in the tomatoes. A higher quality product will not have this problem; it is prevented or minimized by (1) heating the tomatoes immediately after peeling and cutting and (2) by squeezing rather than blending the tomatoes into juice.
Container	Properly labeled. Appropriate size for available recommended canning processes. Clean, clear standard canning jar. No cracks, chips, or rust on jar. Recommended lid with good vacuum seal. Band free of rust and dents or other damage; clean and easily removed.
Acidification	To ensure safe acidity in whole, crushed, or juiced tomatoes, the following should have been added: 2 tablespoons of bottled lemon juice or 1/2 teaspoon of citric acid per quart of tomatoes. (Use one tablespoon bottled lemon juice or 1/4 teaspoon citric acid per pint jar.) Vinegar is a less desirable choice because of undesirable flavor changes, but can be used: 4 tablespoons of a 5 percent acidity bottled vinegar per quart jar of tomatoes.

Judging Criteria for Additional Tomato Products

Standard Tomato Sauce	Only hot pack canning is recommended. Can vary in thickness, but should be thicker than drinking juice and more fluid than paste. No pieces of tomato, seeds, skin, cores or stems. If juice is blended instead of being pressed or strained, discoloration from trapped air may have occurred during cooking and canning.
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Judging Criteria for Additional Tomato Products

Spaghetti Sauce

Only hot pack canning is recommended.
Consistency should be that of ready-to-serve thickness and uniform throughout jar.
Pleasant, even color throughout jar.
Added pieces of vegetables or meat should be uniform in size and of appropriate bite-size.
No skins, cores or stems of tomatoes.
No black flecks from burning (scorching).

Spaghetti sauce with vegetables, unlike plain standard tomato sauce, requires pressure processing.

Spaghetti sauce with meat requires pressure processing.

Tomato Salsas

Salsas are mixtures of acid and low-acid ingredients. The actual recipe will determine whether boiling water or pressure canning is appropriate. Salsa should have ingredients evenly distributed throughout jar. Pieces of vegetables should be uniform in size and of appropriate bite-size. No skins, cores or stems of tomatoes. Attractive coloring.

Tomatoes with Okra or Zucchini

Only hot pack canning is recommended. Products must be pressure canned. No stems of any vegetable. No skins or cores of tomatoes. Zucchini should be sliced or cubed; skin may be left on. Okra should be cut into uniform, easily eaten size pieces. Small pods may be left whole.

Catsups and Chili Sauces

No separation. Tomatoes should be heated immediately after peeling and cutting. Tomatoes should be cooked down, not blended, as this will incorporate air. Attractive, appetizing color. Thick, but movable consistency, uniform throughout jar. No peels, cores or stems.

Judging Canned Vegetables

Headspace for most vegetables should be 1 inch. For shelled fresh lima beans, the headspace is greater for quart jars. For small beans, it is 1½ inches for quart jars; for large beans, it is 1¼ inches for quarts.

Canned vegetables should meet all of the general characteristics for container, pack, appearance of contents and attractiveness. Although the variety of vegetables that are canned include many textures, degrees of starchiness, shapes and colors, there is general information that can be applied to each. Specific considerations for certain types of vegetables are needed and presented in the following pages.

Desirable General Characteristics for Vegetables

Size and Shape	Uniform pieces of same to similar size and shape; clean-cut edges. For many vegetable packs, pieces should be appropriate size to serve.
Pack	Attractive; neat; space well used. Good proportion of solids to liquids. Liquid covers all product with appropriate headspace left empty. No floating of pieces. Fancy packs are generally discouraged. Vertical or horizontal layering can not only be impractical, but can interfere with intended heat penetration during the canning process. (i.e., the product may be underprocessed.)
Texture	Pieces of vegetables should hold their shape. No appearance of overcooking. Free of mushiness. Excess starchiness (peas, potatoes) can indicate vegetables chosen were too mature. Free from stringy or fibrous appearance (potatoes, sweet potatoes, carrots, winter squash, pumpkin)
Color	Natural coloring; no artificial coloring; uniform. Free from bruises, brown spots, other blemishes and signs of insect damage.
Liquid	Clear, bright. Suitable consistency of liquid for product. No sediment, cloudiness, or bubbles. No foreign matter such as stems, leaves, strings, husks.
Container	Properly labeled. Appropriate size for available recommended canning processes*. Clean, clear standard canning jar. No cracks, chips, or rust on jar. Recommended lid with good vacuum seal. Band free of rust and dents or other damage; clean and easily removed.

*Check recommended processes. Cream-style corn, mushrooms and peppers should be canned in jars no larger than pints.

Common Problems

Probable Causes

Cloudy liquid

Starch from over-ripe vegetables; sign of spoilage; hard water.
May indicate spoilage is taking place.
May result from minerals in hard water.

Vegetable pieces soft and mushy

Over-mature product.
Overcooking.

Darkened vegetable

Surface darkening from air in headspace when vegetable is not completely covered by liquid.
Too much air left in headspace from underprocessing or no processing.
Too much air trapped in pack from use of raw pack.
Overprocessing can cause darkening throughout the jar.

Sugars in sweet corn can caramelize (brown) from the heat of processing. Some varieties should not be used for canning; severely discolored corn should not be entered in competition.

Floating of vegetable

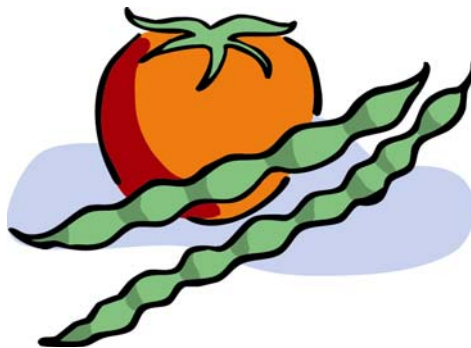
Pieces were packed too loosely.
Raw pack was used and air in the vegetable tissue itself could not all be exhausted during processing.

Jar underfilled

Raw pack was used; vegetable shrunk during processing.
Jar was not packed with proper attention to detail.

Sediment in bottom of jar

Over-mature vegetable.
Hard water.



Judging Criteria for Individual Vegetables

Asparagus	Uniform size and length of stalks (4 to 6 inches) or pieces (usually 1 inch). Tender, tight-tipped spears. Color should be bright. Tough scales should be removed. Free from woody and stringy stalks. Pieces or stalks should not have mushy texture.
Beans, Butter and Lima	Beans should be green, young and tender. Even in size and color. Free from immature beans, beans changing from green to light green or white, and starchy tough beans. Beans should not be over-packed and mashed down. Liquid should not be too cloudy from excess starchiness. Headspace for pint jars is 1 inch. Headspace for small beans in quart jars is 1¼ inches; for large beans in quart jars it is 1½ inches.
Beans, Green and Waxed	Fresh color, typical of variety; uniform in size, length, and color. One-inch length of pieces preferred, but beans may be left whole. Filled but tender pods (seeds should not be prominent in pods. Few if any free seeds that have fallen out of broken-apart pods). Variety may be flat- or round-podded but both should not be included in one jar. Free from browning of cut edges or seeds. Free of rusting or other blemishes and stems.
Beets	<u>Must</u> be canned peeled. Beets less than 2 inches in diameter may be canned whole; larger beets should be sliced or cubed. Uniform size and shape. Color should be dark, deep, and even. Brownish-red or faded color or white rings are undesirable. Liquid should be sparkling clear, red color with no cloudiness or sediment. Free from stems and roots or any traces of skin. Free from fibrous appearance (beets over 3 inches in diameter are often fibrous).
Carrots	May be canned whole if small; otherwise slice or dice. <u>Must</u> be peeled or scraped; smooth surface preferred. Diameter of slices less than 1¼ inches desired. Size and shape should be uniform throughout jar. Color may be vary pale to deep orange, depending on variety, but should be uniform. Free from root hairs, traces of peel and stems. Free from fibrous or wide, woody-looking carrot slices. Liquid should be clear, free of sediment and only contain a tint of color from the carrot.

Judging Criteria for Individual Vegetables

Corn, Cream Style

Can in pints only. Only hot pack canning is recommended. Kernels should be slightly immature, cut from cob at about center of kernel. The rest of the texture comes from scraping the cob. Color should be bright yellow and even throughout jar. Consistency should be thick and creamy, but not stiff or gelled from excessive starchiness. Free from signs of burning (scorching) while being cooked.

Corn, Whole Kernel

Slightly immature kernels should have been chosen. Kernels should be cut to about $\frac{3}{4}$ depth of kernel and retain distinct shape. Color should be bright. Jars should contain a single variety. Good proportion of corn and liquid, with liquid completely covering solids. Liquid may be slightly cloudy from starch, but there should be no excess starch or sediment. Free from silk and pieces of cob. Canning of some sweeter varieties or too immature kernels may cause browning. Exhibitor should not enter jars of varieties that brown or discolor too much when canned.

Greens –
Spinach, Mustard, Turnip, etc.

Only hot pack canning is recommended. Leaves should be tender, free of tough stems and large midribs. Free from signs of insect damage, discoloration. Greens should be packed loosely in jar and have a uniform green color. Liquid should be light green and clear, free from cloudiness or sediment.

Okra

Only hot pack canning is recommended. Pods should be young and tender. Free of diseased and rust-spotted pods. Small pods may be left whole; larger ones should be sliced into 1-inch pieces. Color depends on variety. Liquid clear and free of starchy sediment.

Peas –
Blackeye, Crowder or Field

Only hot pack canning is recommended. Young and tender peas of uniform size and roundness. Color should be bright and characteristic of product, uniform throughout jar. Peas should be adequately hydrated. Free from split, broken or mushy peas. Liquid fairly clear, only a slight starchy appearance is allowable. No excess starch or starchy sediment. Only one variety should be in a jar.

Judging Criteria for Individual Vegetables

Peas, Green or English

Young and tender peas of uniform size and roundness; slightly immature peas may be used. Color should be bright and evenly green with no yellow or white peas. Free from split, broken or mushy peas. Liquid fairly clear, only a slight starchy appearance is allowable. Free from excess starch or starchy sediment.

Potatoes, White

Only hot pack canning is recommended. Potatoes must be peeled. Small potatoes, 1 to 2 inches in diameter, may be packed whole; larger sizes should be cubed. Pieces throughout jar should be of uniform size. Color should be white. Texture should be firm and smooth. Free from mushiness. Any eyes should be shallow and have no color. Liquid should be fairly clear, and in potatoes, a slight starchy appearance is allowable. Free from excess starch or starchy sediment, however.

Potatoes should be covered with fresh boiling water when packed. Use of cooking water causes excess starch in the jar and a potentially unsafe product.

Pumpkin and Winter Squash

Only hot pack canning is recommended. Pieces should be peeled and cut into 1-inch cubes, **not mashed or pureed**. Color should be uniform yellow to orange color, depending on variety. Free from stringy texture or overly soft pieces. Liquid should be clear and free of starchy sediment.

There are no endorsed canning processes for mashed or pureed pumpkin and winter squash.

Soup Mix

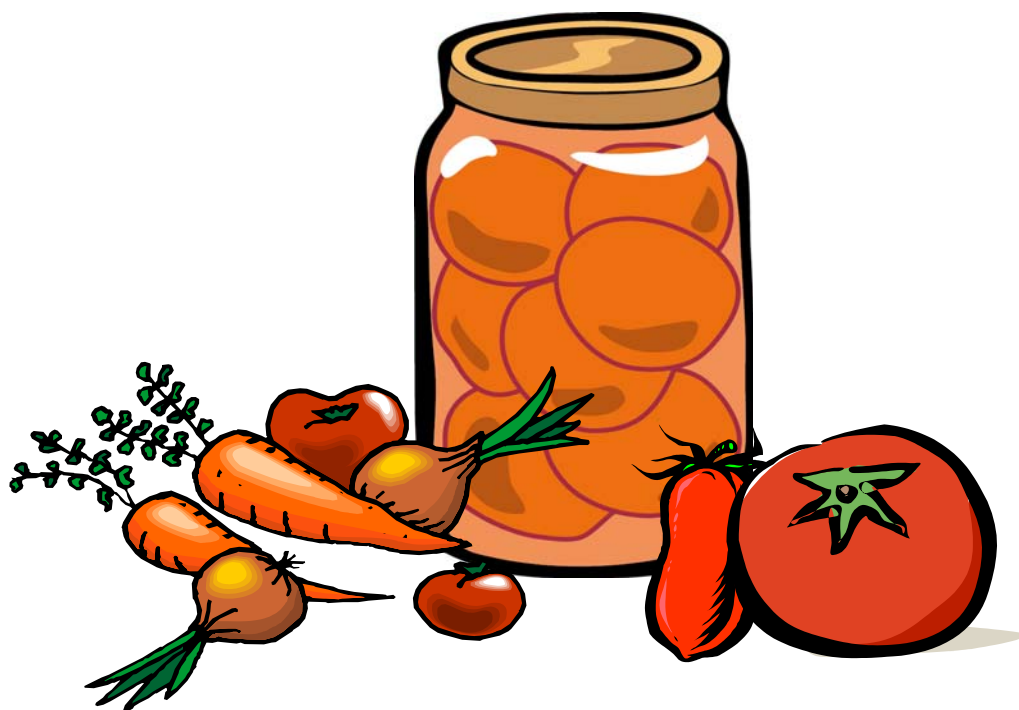
Only hot pack canning is recommended. The jar may consist of a mixture of vegetables, adequately hydrated dried beans and peas, meat, poultry, or seafood. Mix should be even throughout jar with consistent sizing of individual ingredients. Color mix should be attractive and colors should be natural and typical of the individual products. Jars should be filled with about half solids and half liquid. Free from cloudiness or starchiness. May not be thickened or contain rice, noodles, cream or milk.

Judging Criteria for Individual Vegetables

Sweet Potatoes

Only hot pack canning is recommended. Skins of sweet potatoes must be removed. Small potatoes may be canned whole. If larger, potatoes should be cut into pieces, but **never mashed or pureed**. Pieces should be uniform in size and shape. Color may vary from yellow to orange, depending on variety, but should be uniform. Liquid clear and free of starchy sediment; there may be a tint of color from the potatoes. Pack is free from pieces of skin, root hairs, or dark and discolored spots.

There are no endorsed canning processes for mashed or pureed sweet potatoes.



Judging Canned Meats, Poultry and Seafood

Headspace for meats and seafood should be 1 inch. For poultry and rabbit, the headspace is 1¼ inches. Seafood is to be canned in half-pint or pint jars only. All of the general characteristics for container, pack, appearance of contents and attractiveness should be met.

Meat, poultry, fish and game that are of good quality may be canned. Trim the meat of any gristle or bruised spots before canning. When judging canned meat, check the depth of the layer of fat on the top of the jar contents. A small amount is expected and acceptable. No more than 1/4 of the liquid in the jar should be fat. Meat should have been trimmed of excess fat, so a deep layer of fat at the top of the jar means that not enough attention was paid to trimming the meat before canning. Excess fat can interfere with seal formation, as the melted fat can climb the sides of the jar during processing. If the fat comes in contact with the lid, it may prevent the formation of a good seal. Earlier methods of preserving meat that involved packing meat in solid fat are no longer acceptable.

Desirable General Characteristics for Meats, Poultry and Seafood

Size and Shape	Uniform pieces of same to similar size and shape. Ground meat (including sausage) may be in patties, small balls, or crumbles and sausage may also be cased in 3- to 4-inch lengths (or cut into links of this length). Fish may be cut into vertical lengths to fit jar height.
Pack	Attractive, neat; space well used. Good proportion of solids to liquids. Meat is not to be floured or deep fried.
Texture	Excess fat and gristle removed.
Color	Should be characteristic of cooked meat and seafood. Raw packed meat chunks and strips may retain a pinkish color. (This is a physiological/chemical situation and is acceptable.) Hot packed meats and their brine or juices should not be pink. Bloody meat or juice is not acceptable.
Liquid	Meat may or may not be completely covered by liquid. Liquid may be slightly jellied except for fish and shellfish. No more than ¼ of the liquid in the jar of meats should be fat; ½ inch or less preferred. Minimal sediment is preferable. Raw pack meat will have more sediment than a pre-cooked hot pack. Fish and smoked fish do not have added liquid, except tuna which may be packed in water or oil. Clams may be covered with clam juice or water.

Desirable General Characteristics for Meats, Poultry and Seafood

Container	Properly labeled. Appropriate size for available recommended canning processes. Clean, clear standard canning jar. No cracks, chips, or rust on jar. Recommended lid with good vacuum seal. Band free of rust and dents or other damage; clean and easily removed.
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Judging Criteria for Individual Meats, Poultry, Fish, and Game

Poultry and Rabbit	May be canned with or without bones and with or without skin. Pieces should be neatly cut at joints where possible, not ragged or crushed. Free from sharp bone edges. Skin is clean and free from feathers/pin feathers or fur. Poultry giblets should be canned separately and not mixed in jars with meat. Liquid in hot packs should be cooking broth; raw packs have no added liquid.
Bear, Beef, Lamb, Pork, and Venison	Meat may be canned in strips, cubes, or chunks. Large bones must be removed; removal of all bones is preferred. Meat broth, water, or tomato juice are acceptable canning liquids. Fat in meat packed in tomato juice will be tomato-red. Other fat should be free of discoloration. Pieces should be firm, free of gristle and excess fat. Meat cut across the grain into uniform, serving-size pieces is preferred. Meat should be moist with the shape well-preserved. Liquid may be jellied and/or may not completely cover the meat, especially in raw packs where the liquid may only half cover the meat.
Ground Meat and Sausage	Only hot pack canning is recommended. Ground meat should be browned before canning. It may be in patties, small balls, or crumbles. Sausage may also be in cased links.
Finfish and Shellfish	Finfish is usually split lengthwise and fillets cut to fit jar height; pieces are packed vertically. Bones removed from large fish; backbone may be left in small fish. Fish and smoked fish do not have added liquid, except tuna which may be packed in water or oil. Clams may be covered with clam juice or water. Seafood cannot be canned in jars larger than pints.

Judging Jams, Jellies and Preserves

Headspace for jams, jellies, other sweet preserves and butters should be $\frac{1}{4}$ inch.

Canned jams, jellies and preserves should meet all of the general characteristics for container, pack, appearance of contents and attractiveness. The variety of fruits that are made into sweet spreads and preserves include many textures, shapes and colors, but it is still possible to describe desirable characteristics for each class of food.

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 and include chopped, crushed or ground fruit. Jam also will hold its shape, but it is less firm than jelly. Jam is made from crushed or chopped fruits and sugar. Jams made from a mixture of fruits are usually called conserves, especially when they include citrus fruits, nuts, raisins, or coconut. Marmalades are soft fruit jellies with small pieces of fruit or citrus peel evenly suspended in a transparent jelly. Traditional home canned preserves are made of small, whole fruits or uniform-size pieces of fruits in a clear, very thick to slightly jellied sugar syrup. Fruit butters are made from fruit pulp cooked with sugar until thickened to a spreadable consistency.

Judging Criteria for Jellies

Jars of jelly should be held up to a good light source to check for clarity and color. Any sample taken out of the jar to check tenderness and consistency should not be put back into the jar. The consistency of jelly can be judged without removing from the jar. Turn the jar on its side and give it a single, sharp shake. Then rotate the jar slowly at an angle or on its side. The jelly should pull away from the jar cleanly, without breaking and without leaving any residue on the jar. The shape of the jar should be retained and the entire mass of jelly should be able to be rolled around inside the jar in one mass. If a single, sharp shake does not loosen the jelly, try tapping the bottom edge of the jar against the heel of the hand.

Clarity or Clearness	Clear, usually sparkling, transparent or translucent (depending on fruit juice). Free from sediment, cloudiness, pulp or crystals. Pepper jellies will be a little cloudier or have slight amount of pulp that should be suspended throughout the jar.
Color	Natural coloring. Close to characteristic color of original juice.

Judging Criteria for Jellies

Pack	Headspace ¼ inch. No paraffin seals allowed. Free from air bubbles and foam.
Consistency	Firm enough to hold shape, but tender (quivers). Entire half-pint or pint jar contents should stay together and not break apart. Leaves clean, sharp edge when cut. Not sticky, gummy or syrupy.
Container	Properly labeled. Clean, clear standard half-pint or pint canning jars only. No cracks, chips, or rust on jar. Recommended lid with good vacuum seal. Band free of rust and dents or other damage; clean and easily removed.
Flavor/Odor	If jelly is tasted: Characteristic of the base fruit. Not too sweet or too tart. No scorched (burned) or musty odors.

Judging Criteria for Jams and Conserves

Jams are made from chopped, crushed or ground fruit. Shape of the fruit pieces is not retained during preparation. Jam is a shapeless mass outside of the jar, with a uniform, soft consistency thick enough to spread. Juices are of a slight jelly-like consistency. Conserves are a combination of fruits, usually citrus fruits and nuts, and sometimes raisins or coconut, with a consistency like jam.

Clarity or Clearness	Even though there is no separated jelled juice, the jam and conserve should be translucent and not “muddy” looking. Free from separation into layers, sediment, cloudiness or crystals.
Color	Natural coloring. Characteristic of the cooked fruit. Free of discoloration, especially from burning or scorching in preparation.
Pack	Headspace ¼ inch. No paraffin seals allowed. Free from air bubbles and foam.
Consistency	Smooth, thick, uniform throughout. Easily spreadable; not too stiff. Not runny, gummy or syrupy.

Judging Criteria for Jams and Conserves

Container	Properly labeled. Clean, clear standard half-pint or pint canning jars only. No cracks, chips, or rust on jar. Recommended lid with good vacuum seal. Band free of rust and dents or other damage; clean and easily removed.
Flavor/Odor	If jam or conserve is tasted: Characteristic of the natural fruit. Not too sweet or too tart. Not overcooked or burned. The flavor of a conserve should be that of the dominant fruit. No scorched (burned) or musty odors.

Judging Criteria for Preserves and Marmalades

Traditional fruit preserves consist of small, whole fruits or uniformly sized pieces of larger fruits in a very thick sugar syrup or slightly jellied juice. Very thin slices or lemon or lemon juice may have been added. Marmalades consist of pieces of fruit cut in small pieces or slices, and usually include citrus. A mixture of fruits may be used. The pieces of fruit or citrus peel are suspended in a clear, translucent jelly.

Clarity or Clearness	Syrup or jellied juice is clear, and bright in color. Syrup in preserves appears thick to “heavy” like honey and surrounds all fruit. Free from mushy broken-apart fruit tissue, sediment, cloudiness, or crystals.
Color	Natural coloring. Characteristic of the base fruit. Pieces of fruit are translucent to clear.
Pack	Headspace ¼ inch. No paraffin seals allowed. Good proportion of syrup and solids. Fruit well covered with syrup in preserves. Free from air bubbles and foam.
Texture/Consistency	Fruit pieces are tender and hold their shape. Pieces of fruit are uniform in size.
Container	Properly labeled. Clean, clear standard half-pint or pint canning jars only. No cracks, chips, or rust on jar. Recommended lid with good vacuum seal. Band free of rust and dents or other damage; clean and easily removed.
Flavor/Odor	If preserves or marmalade are tasted: Natural flavor. Not too sweet or strong flavor from overcooking. No scorched (burned) or musty odors.

Judging Criteria for Fruit Butters

Fruit butters are made from fruit pulp cooked with sugar until thickened to a spreadable consistency. They are smooth with even, fine-grained textures of medium-soft consistency. They are not jelled and are usually less sweet than jams, conserves, marmalades or preserves. When the closed jar is turned on its side, a fruit butter should move very slowly and in a solid mass.

Color	Natural coloring. No darkening or discoloration from burning (scorching) during cooking. Spices such as cinnamon, allspice and cloves may darken the butters.
Pack	Headspace ¼ inch. No paraffin seals allowed. Free from trapped air or bubbles.
Consistency	Smooth, even grain. Thick enough to mound on spoon. Not runny. No separation of fruit and juice. No pieces of skin, seeds or other foreign matter.
Container	Properly labeled. Clean, clear standard half-pint or pint canning jars only. No cracks, chips, or rust on jar. Recommended lid with good vacuum seal. Band free of rust and dents or other damage; clean and easily removed.

Judging Pickled and Fermented Foods

Headspace for pickled foods should be ½ inch. All pickled and fermented foods should be in standard home canning jars and processed in a boiling water canner. (A few USDA recipes allow for a 30-minute timed pasteurization process at 180°F.) Canned pickled and fermented foods should meet all of the general characteristics for container, pack, appearance of contents and attractiveness.

There are many varieties of pickled and fermented foods. These are usually classified by ingredients and method of preparation.

Fermented dill pickles and sauerkraut go through a curing process for several weeks until they are pickled. The color and flavor of the product changes during curing, and acidity develops. Fresh pack, or quick process, pickles do not go through the process of fermentation. These products may or may not be brined for several hours to overnight. Fresh pack pickles are fruit or vegetables covered with a pickling liquid that is usually vinegar-based. Fruit pickles are made from whole or sliced fruits and the vinegar is usually part of a spicy sugar syrup. Relishes are made from chopped fruits and vegetables cooked in a spicy vinegar solution.

A safety concern arises with pickled or fermented foods if the acidity level is not high enough for them to be treated as acid foods processed at boiling water temperatures. Acid in a truly pickled or fermented food is intended to prevent the growth of *Clostridium botulinum*, the bacteria that causes botulism. It is important to use tested recipes with the proper amount of acidity when making pickled or fermented foods.

Below are some general characteristics to look for in all pickled or fermented foods. For guidelines specific to the type of product, refer to the chart on the following pages.

Desirable General Characteristics for Pickles and Fermented Foods

Size and Shape	Pieces are uniform in size and shape. Pieces in relishes not chopped or ground too fine. No ragged edges.
Pack	Attractive; neat; space well used. Good proportion of solids to liquids. Liquid covers all product with appropriate headspace left empty. No floating of pieces. Fancy packs are generally discouraged. Vertical or horizontal layering is not only impractical, but can interfere with intended heat penetration during the canning process (i.e., the product may be underprocessed).

Texture	Pieces appear plump, not shriveled or shrunken. Firm for pickles and sauerkraut, softer for some relishes and chutneys. See individual product characteristics. A visual indication for texture is that 1/16th inch slice has been removed from the blossom end of cucumbers.
Color	Even color, characteristic of fresh product, and even throughout the jar. No artificial coloring except for a few specialty cucumber or apple ring pickles.
Liquid	Clear. May have color from some spices. Free of sediment or cloudiness. No foreign matter such as stems, leaves, strings, husks.
Container	Properly labeled. Appropriate size for available recommended canning processes*. Clean, clear standard canning jar. No cracks, chips, or rust on jar. Recommended lid with good vacuum seal. Band free of rust and dents or other damage; clean and easily removed.

*Check recommended processes. Some pickled foods and relishes are to be canned in jars no larger than pints.

Judging Criteria for Individual Pickled or Fermented Products

Cucumber and Mixed Pickles	Pieces are firm and plump. Cucumber skin dark green color. All pieces transparent or semi-transparent, completely and evenly saturated with brine. Uniform in size. Small to medium size cucumbers can be used whole; large ones sliced into uniform size slices, strips or chunks. Cucumber not too old and seedy. No oil is to be used. Free of defective spots on peel.
Dill Pickles	Pieces are firm, crisp, and plump. Small to medium size cucumbers can be used whole; larger ones halved or quartered. Dill weed and spices visible. Cloves of garlic should be bright and not discolored. Fermented dills might have slightly cloudy liquid with a tiny bit of sediment on bottom. Slice (1/16th inch) should be removed from blossom end of cucumbers.
Sweet Cucumber Pickles	Pieces are firm, yet tender, plump and well saturated with the syrup. Neatly cut edges that hold their shape. Small cucumbers (gherkins) may be left whole. Other sweet pickles may be slices, spears or chunks. Liquid may be thin to a thick syrup. Any visible spices in pleasant proportion.

Judging Criteria for Individual Pickled or Fermented Products

Other Pickles (Not Cucumber)	Vegetables are bright with color characteristic of the product. Pieces are uniform in size. Pieces not torn, broken, or with ragged edges. All pieces are saturated with the brine. Differently shaped garnishes (onion ring, red pepper strip, etc.) may be used. Any visible spices in pleasant proportion.
Relishes	Small pieces of vegetable or fruit, but large enough to be recognizable. Pieces are uniform in size and shape, cut or chopped neatly. Appear tender but not mushy. Food is semi-transparent in appearance, thoroughly saturated with pickling solution. Clear and bright in color. Visible spices not overwhelming.
Fruit Pickles (Spiced Fruits)	Small fruits may be pickled whole; larger ones are cut into uniformly sized pieces with sharp edges. Fruit is translucent or whole fruit (such as peaches) looks cooked with good penetration of syrup. Texture is firm. Color is uniform, bright, and glossy. Syrup is thinner than in preserves but not watery.
Chow-Chow	This mixture of finely chopped vegetables usually has cabbage as one ingredient. Criteria are similar to those of relish. Color is often bright, yellowish-green due to cabbage.
Chutney	Chutneys are chopped fruit pieces or fruit pulp mixed with raisins and chopped vegetables, such as onions and peppers. Chutneys are cooked with sugar and vinegar until thickened. Texture of vegetable pieces is similar to that of relish, but the liquid is thicker. Color is often dark but depends on ingredients and spices used. Free from any signs of scorching (burned flecks).
Sauerkraut	Color is off-white to light straw. Pieces should be translucent, clear and bright. Free from pink, brown, or other discoloration. Shredded pieces should be uniform in thickness. Texture should be firm, not mushy. Clear liquid sufficient to cover all solids. No air bubbles or trapped air.

Judging Specialty Foods

Many fairs or competitions have categories for sauces and specialty-type products such as flavored vinegars. It is difficult to group general characteristics for foods other than those described previously in this publication. Information is provided below for chili or chili con carne, barbecue sauces and flavored vinegars due to their popularity in fairs. For other miscellaneous canned foods, judges will need to consult the USDA *Complete Guide to Home Canning* or their state Extension publications. An experienced and trained judge, familiar with preserved foods, should be able to exercise adequate judgment. At the least, many of the general characteristics for container, pack, appearance of contents and attractiveness discussed previously under “Basics of Acceptable Entries” should apply.

Judging Criteria for Chili

Size and Shape	Pieces of tomato and vegetables are uniform. Added meat is bite- or spoon-size pieces
Pack	Only hot pack pressure canning is recommended. Good proportion of solids to liquids. Headspace should be 1 inch. If meat has been added, very minimal fat or grease should be present. No separation or layering of liquid and solids.
Texture/Consistency	Thick, but movable consistency, uniform throughout jar. Added meat appears tender. Beans are completely hydrated and tender. No peels, cores or stems of tomatoes or other vegetables.
Color	Natural coloring of cooked product. No signs of darkening or burning from overcooking.
Container	Properly labeled. Clean, clear standard canning jar. No cracks, chips, or rust on jar. Recommended lid with good vacuum seal. Band free of rust and dents or other damage; clean and easily removed.

Judging Criteria for Barbecue Sauces

Pack	No trapped air or bubbles. No seeds, peel, stems, cores or other foreign matter. No dark flecks as from scorching.
Texture/Consistency	Smooth. Flows but not watery. May round up at edges like a fruit butter. No separation into layers. No layer of fat.
Color	Bright, attractive coloring; no artificial coloring; uniform. No darkening at surface.
Container	Properly labeled. Clean, clear standard canning jar. No cracks, chips, or rust on jar. Recommended lid with good vacuum seal. Band free of rust and dents or other damage; clean and easily removed.

Judging Criteria for Flavored Vinegars

Size and Shape	Use fruits or herb sprigs of similar size and shape.
Pack	Attractive; neat; space well used. Good proportion of liquid and flavoring ingredients. Liquid covers all ingredients with appropriate headspace left empty. No floating of ingredients.
Color	Natural coloring; attractive for serving. No artificial coloring. Uniform throughout.
Texture	Herbs and fruits appear fresh. They may be slightly crushed ("bruised") for better flavor.
Liquid	Clear, bright. Characteristic of base vinegar used; no artificial coloring. Free from cloudiness or excess sediment. No signs of spoilage such as mold or bubbling. No foreign material.
Container	Properly labeled. <i>If canning jar used:</i> Clean, clear standard canning jar with no cracks, chips, or rust. Recommended lid with good vacuum seal. Band free of rust and dents or other damage; clean and easily removed. <i>If decorative bottle used:</i> Clean, clear. No cracks, chips, haze or rust on jar. Caps or corks appear clean and new. Caps are of non-corrodible metal or plastic.
Flavor	Pleasant, fresh, "sharp" vinegar odor. No mustiness or yeasty odor. Subtle blend of seasonings and flavors.

Judging Home Dried Foods

Drying is a process of food preservation involving the removal of moisture from foods in order to stop microbial growth and prevent spoilage. The appropriate amount of moisture removed during drying depends on the product, but it must be enough to prevent spoilage and maintain the safety of the product.

Since fruits have a high acid content that aids in preservation, less moisture needs to be removed to preserve these products compared to vegetables and meats. Fruits are usually dried until they are leathery, yet pliable.

Vegetables are lower in acidity and, consequently, need more water removed to safely preserve the product. Vegetables are adequately dried when they are brittle or crisp. Many would shatter if hit with a hammer.

Meat jerky is adequately dried when a piece that is bent will crack without breaking. The highest quality jerky is made from lean meat with little connective tissue.

Packaging for dried foods is important. Moisture should not be reabsorbed during storage. Most fairs require that dried foods be exhibited in glass jars since this is the best way to see the product. However, jars containing dried foods do not have to be vacuum sealed. Lids with rubber or plastisol gaskets provide better seals than ungasketed screw-on lids. Even though it is not helpful in a judging situation, dark glass preserves color better than clear glass. Heavy-weight plastic bags are also sometimes permitted, and the zippered kind make judging easier.

Desirable General Characteristics for Dried Foods

Color	Characteristic of product and uniform throughout container. No excessive discoloration.* *Light-colored fruits and vegetables will brown when exposed to air. Pretreatments can minimize this browning during drying and storage but should not be required. Discoloration can also result from drying at too high temperatures or for too long, and pieces will almost appear toasted or burned.
Size and Shape	Pieces in exhibit are uniform in size and shape. No ragged edges.
Texture	Pieces are uniformly dry throughout. See descriptions for individual classes of food.

Desirable General Characteristics for Dried Foods

Container	No foreign matter. No visible moisture. Properly labeled. Appropriate size for amount of food being exhibited (too much empty space represents poor storage practice for moisture control). If in a jar: No cracks, chips, or rust on jar. Band or lid free of rust and dents or other damage; clean and easily removed.
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Judging Dried Fruits and Leathers

Judging Criteria for Dried Fruits

Color	Similar to fresh product and uniform throughout container. No excessive discoloration. Do not penalize for fruit that has darkened because sulfur was not used. Take note of whether the discoloration is excessive as a result of poor drying techniques. No signs of mold.
Size and Shape	Uniform and neatly cut. Suitable in size for later use.
Texture	Leathery and pliable. If the piece of fruit is folded over itself, it springs back. Not sticky or brittle. Free from cores and objectionable seeds or peel.
Container	No foreign matter. No visible moisture. Properly labeled. Appropriate size for amount of food being exhibited (too much empty space represents poor storage practice for moisture control). If in a jar: No cracks, chips, or rust on jar. Band or lid free of rust and dents or other damage; clean and easily removed.
Flavor	Should be similar to natural fruit. May be more tart or sweet after water removal. Free from scorched or burned taste. After soaking and cooking, should taste like fresh product.

Judging Criteria for Fruit Leathers

Color	Similar to fresh product and uniform. Spices (e.g., cinnamon) may result in darkening or dark flecks. No signs of mold.
Size and Shape	Rolls or strips of uniform size.
Texture	Leathery, yet pliable. Not sticky, crisp, or brittle. Rolls without tearing or breaking.
Container	Fruit leathers are often wrapped as serving size pieces in plastic or parchment wrap. No foreign matter. No visible moisture. Properly labeled. Appropriate size for amount of food being exhibited (too much empty space represents poor storage practice for moisture control). If in a jar: No cracks, chips, or rust on jar. Band or lid free of rust and dents or other damage; clean and easily removed.
Flavor	Should be characteristic of fruit used. May be more tart or sweet after water removal. Free from scorched or burned taste.

Judging Dried Vegetables and Herbs

Judging Criteria for Dried Vegetables and Herbs

Color	Similar to fresh product and uniform throughout container. No excessive discoloration. No signs of mold.
Size and Shape	Uniform. Vegetables neatly cut. Suitable in size for later use.
Texture	Vegetables should be brittle and crisp; dry enough to rattle. Herbs should pulverize or become like dust when rubbed between fingers.
Container	No foreign matter. No visible moisture. Properly labeled. Appropriate size for amount of food being exhibited (too much empty space represents poor storage practice for moisture control). If in a jar: No cracks, chips, or rust on jar. Band or lid free of rust and dents or other damage; clean and easily removed.
Flavor	Pleasant odor. Vegetables would not be tasted without rehydrating. (After soaking, should taste like fresh product.)

Judging Dried Meats and Jerky

Judging Criteria for Jerky

Color	Characteristic of meat used. Beef and wild game are dark brown or red. Only lean meat is used; free from fat spots. No signs of mold.
Size and Shape	Strips or pieces of uniform size throughout container.
Texture	Leathery, drier than fruit, but not brittle. Piece cracks but does not break when bent.
Container	No foreign matter. No visible moisture. Properly labeled. Appropriate size for amount of food being exhibited (too much empty space represents poor storage practice for moisture control). If in a jar: No cracks, chips, or rust on jar. Band or lid free of rust and dents or other damage; clean and easily removed.
Flavor	Pleasant odor and flavor. Not overly salty, smoky or spiced. Free from rancid flavor.

Summary

Competitive events lend excitement to community activities and provide opportunities to educate people about standards of safety and quality in home food preservation. Judging is a way to recognize quality work on the part of those who enter exhibits and requires application of basic rules and standards from the sponsor, as well as established standards of quality based on the science of food preservation. Exhibitors should not have to gamble on meeting someone's personal preferences. Applying uniform standards is the only way to defend placing decisions and avoid the pitfalls of personal bias.

The guidance provided in this manual is intended to help sponsors develop standards for competitions and select qualified judges. The information can also be used to educate and prepare judges, as well as assist them with summaries of key points during the judging experience. The described criteria are based on canning procedures in the *USDA Complete Guide to Home Canning* as well as food drying recommendations from recognized resources in the Cooperative Extension System.