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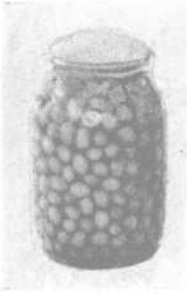

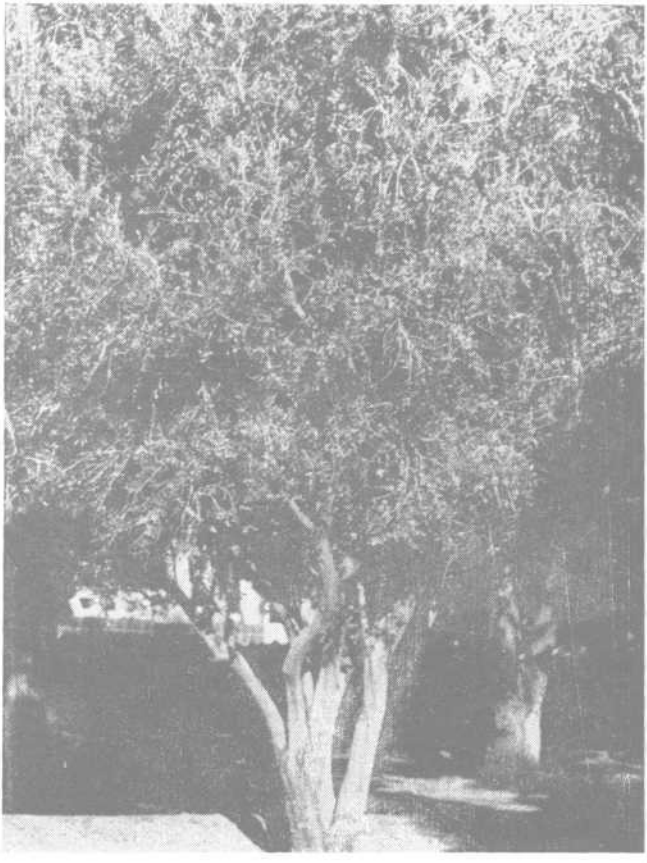

CIRCULAR 233

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This Circular Tells You To

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How to Process Your Home-Grown Olives

By
Harvey F. Tate
Extension Horticulturist

The olive tree thrives in the warmer valleys of Southern Arizona. It is at home to such an extent in this area that several commercial orchards are being successfully operated in the Salt River Valley. The olive tree is also used widely in Maricopa, Yuma, Pima, and Pinal counties as a dooryard ornamental, and for beautification along avenues, roadways, and irrigation ditches. Mission is the variety that has been planted most commonly.

The method by which the fruit can be preserved for home use described in this circular was developed by Dr. Robert H. Forbes, Dean Emeritus of the College of Agriculture, University of Arizona, who has made an intensive study of the home process of curing olives. It produces a product of excellent quality. This method is offered as a tried home-curing process and not as a recommendation for commercial processing of the fruit.

Be Careful When Picking Fruit

The final result of curing olives is determined to a great extent by the method of picking. Take care to protect the fruit during the picking process. Bruised or skinned olives will not be satisfactory as a cured product.

To avoid bruising, gather the fruit into a pail containing water. Or you may use pockets of a coat worn for the purpose. Fruit should be picked when it is beginning to color, but while still firm.

Very ripe fruit bruises and spoils easily. If the fruit is too ripe it often is soft and is not

preferred by consumers, who also may object to dead ripe olives because of the flat or poor taste.

Grade and Sort Your Product

As in all food processing, the initial step is careful grading and sorting as to size, color, and ripeness. Only in this way can a uniformity of product, which is highly desirable, be secured,

Use Glass Jars

The matter of containers is important. It is recommended that earthenware or glass be used. Glass jars, because of their cleanliness and convenient size for the small quantities which homemakers may desire to cure and store, make an ideal processing container for home curing.

Wide-mouthed glass jars of gallon size are convenient. These jars are often obtainable at second-hand stores, or at soda fountains, restaurants, and grocery stores.

Preserve the Color

Preservation of color usually is secured in commercial processing by the addition of iron sulphate to the lye bath by which the bitterness is removed from the olives. In the home process, a coil of iron wire (stove pipe or baling wire is good) in the lye bath preserves color satisfactorily. If iron containers are available, the coloring of the product will automatically take place.

Follow These Steps For Curing

Step I Lye Bath

There are many different recommendations for the lye-bath period of treatment. Dr. Forbes suggests the following procedure:

Wash the fruit and pack lightly into crocks or wide-mouth jars. The containers are not filled more than two-thirds full in order to permit the addition of the lye solution.

Make a Lye Bath

Make a lye bath by dissolving 2 ounces by weight or 3 tablespoonfuls of any good commercial flaked lye to 1 gallon of cold water. Do not add too much lye at the beginning.

If the olives are fully ripe, it is recommended that they be hardened by adding 2 ounces of salt per 1 gallon of this lye bath, and, if available, 1 ounce of hydrated lime. The hardening process is not absolutely necessary if the fruit is still in the firm, green-ripe stage.

Pour the solution over the fruit in the containers; cover lightly with a cloth or lid which is not screwed down.

Test for Bitterness

The olives should remain in the lye bath for a period of from three to five days, according to the time required to remove bitterness. To test for bitterness, it is suggested that the olive be sliced to the pit, washed, and tasted, or tested with litmus paper. If the fruit is still bitter after 3 days, let it remain 2 additional days, or until free from bitterness.

Step II Rinsing Out The Lye

After soaking in lye, wash the fruit at least daily in changes of clean water over a period of about a week in order to remove any trace of lye. If litmus paper is used (obtainable at drugstores), lay a strip of the red paper on the cut surface of an olive. If it turns blue, lye is still present and washing should be continued. When the fruit is free from lye, it is ready to be brined or pickled.

Step III Brining Olives

Brining, or pickling olives, is the final step. There are three stages of brining. In order to secure plump olives of good texture, brining should be gradual. A strong solution of brine, plus a short period of brining, wrinkles the fruit and hardens it. Commercial salt is sufficient for brining.

Brine 1

Make a solution of 4 ounces by weight of salt to 1 gallon of water. Allow the fruit to stand 3 days in this first brine in a cool place, or refrigerator if space is available, to prevent fermentation.

Brine 2

Remove the fruit to a second brine containing 8 ounces of salt to 1 gallon of water. At this stage of brining the fruit may float. Weight it down with a saucer or top to the container. Let olives set in this brine 5 or 6 days.

Brine 3

Remove the fruit to a final brine made by adding 14 ounces of salt to 1 gallon of water. If it is desired to store olives without further processing, this last solution serves as a permanent brine, preferably in cold storage.

Step IV Freshening for Table

Olives may be taken from this final storage brine, put into cold water and freshened for 24 hours for table use. Freshening is a matter of taste. If the 24-hour period still leaves fruit too salty, continue the period of freshening until the product suits individual taste.

Try Spanish-Style Green Olives

Because Spanish-style green olives are popular in many parts of Arizona, the following directions for their processing are printed herewith with permission from "Home Pickling of Olives," by W. V. Cruess and Reese H. Vaughn, a publication of the University of California College of Agriculture, Berkeley, California.

The Spanish-style green olive is identified by its green skin, light flesh, and light brownish-buff pit. It has a characteristic flavor and aroma imparted by lactic acid fermentation; these in common with the inherent qualities of the fruit make it sought as an appetizing pickled olive in

the United States, where it has found favor for many years. Fruit from any variety picked while immature and specially processed comes under this category; the Sevillano and Manzanillo varieties, however, are most often used.

Follow These Steps

The essential steps in the preparation are as follows:

Pick Green

1. The olives to be used in this process are picked when green to straw yellow in color. Take care to avoid bruising, for all such marks are accentuated in the pickled fruit.

Sort by Size

2. Sort the olives according to size. Or they may be prepared for pickling from "orchard run" fruit which has not been size-graded. It is important to discard all defective fruit.

Use Lye Solution

3. Place the sorted fruit at once in a lye solution to destroy the bitterness. Queen olives (the Sevillano variety) are treated in a solution made with 1¾ to 2 ounces (3½ to 4 level tablespoons) of lye per gallon, as they frequently blister and peel when treated with too strong a solution.

The Manzanillo and Mission varieties, which are more bitter than other varieties—but are not subject to peeling—are treated in a stronger solution made with 2¼ to 2¾ ounces (4½ to 5½ level tablespoons) of lye per gallon.

Check Penetration

4. The lye is allowed to penetrate, on the average, about three-fourths of the way to the pit of the olives. Penetration is judged by cutting olives to the pit with a knife and observing the extent of the discolored flesh.

Remove Lye

5. When lye penetration is completed, the lye solution is removed and quickly replaced with cold water. The water used for leaching out the excess lye is changed at 4 to 6 hour intervals during a 24 to 32 hour period. Avoid too prolonged washing and undue exposure of the fruit to the air as undesirable darkening of the olives may result.

Pack in Salt Solution

6. After leaching has removed the excess lye, the olives are packed in suitable containers as rapidly as possible and are covered with a salt solution containing 1 pound (about 26 level tablespoons or 1 2/3 measuring cups) of salt per gallon. The number and size of the containers chosen will depend upon the quantity of olives. One gallon of olives in brine contains about 5.5 pounds of fruit.

Store in Glass Jars

7. After the olives have been placed in suitable containers and covered with salt brine, they should be stored where the average temperature does not exceed 100° F. Fermentation will be most rapid at temperatures between about 70° and 90°. Glass-top fruit jars (not smaller than 1 quart) may be used. Or, for

larger quantities of olives, 5-gallon kegs or larger-sized oak barrels may be used as containers.

Replace Brine as Needed

8. The containers of olives must be kept full of brine at all times. During the period of active fermentation, when gas formation causes excessive foaming and frothing, care must be taken to replace the brine lost. Later, when gas production is not so violent, the closures should be tightened firmly enough to exclude air and thus keep film yeast and mold growth at a minimum.

All brine lost must be constantly replaced. This brine should contain about 9½ ounces (about 15¼ level tablespoons or a scant measuring cup) of salt per gallon of water.

Add Sugar When Needed

9. If Manzanillo or Mission varieties are being pickled, supplementary sugar may have to be added to the brine. Corn sugar, corn sirup, cane, or beet sugar or sirup may be used. The sugar should be added at the rate of 1½ level teaspoons per gallon. The sirup should be added at the rate of 2 level teaspoons per gallon.

Sugar or sirup should not be added until the fermentation has been under way for at least 4 days. The desired acidity depends upon the conversion of sugar to lactic acid. Additional sugar may be necessary to attain this desired acidity.

Use "Starter"

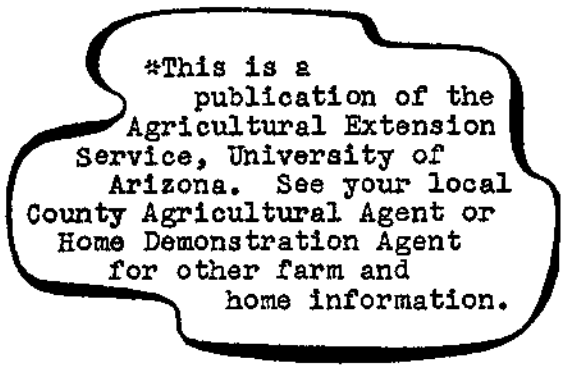
10. Since the development of the desired degree of acidity of the fermented olives depends upon the presence of lactic-acid bacteria, it may be necessary to add "starters" of these bacteria which are contained in bulk (unheated) dill pickle or sauerkraut brine. This brine should be added at the rate of 6 fluid ounces (about ¾ measuring cup) per gallon of olives and brine. The addition of this "starter" is particularly recommended for the Mission and Manzanillo varieties, and is sometimes required for the fermentation of the Sevillano.

Store in Cool Place

11. On completion of fermentation, as determined by development of the desired acidity and taste characteristic of Spanish-style green olives (note precaution below), the containers should be completely filled with brine, closed tightly, and stored in a cool place until the olives are used.

Caution!

Any fermenting olives which develop a rancid, foul odor should be discarded. **When any doubt whatsoever is felt concerning the edibility of the olives they should be discarded.** This is a cardinal rule which should apply for all home-pickled or canned foods.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