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Canning and Preserving

Fruits and Vegetables

AND

Preparing Fruit-Pastes and Syrups

By ERMENTINE YOUNG.

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CANNING AND PRESERVING FRUITS AND VEGETABLES.

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Canning and Preserving Fruits and Vegetables.

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IN GENERAL.



ON LOOKING over her well-filled preserve-closet every good housekeeper feels a sense of satisfaction, for she knows what a resource it will prove to be when winter and early spring come and fresh fruit is not easily procured. This is especially true if she lives in the country, where markets have not the variety found in those of cities. Not only may she supply the needs of her own family by canning and preserving fruits in their season, but there is also an opportunity for making an addition to her income in this way. There is a growing demand for pure home-made preserves, syrups, jellies and dried fruit, at profitable prices, which has not yet been supplied. The fruit canned at factories does not supply this need, nor does evaporated fruit take the place of that dried in the sun. With suitable utensils and good rules this work, done at the right time, may be a pleasant task.

The utensils necessary for canning and preserving are : a porcelain kettle, a wooden spoon and a can-filler, all of which should be kept exclusively for this purpose. The

Tools and Utensils kettle should be large, and never filled more than one-third full of fruit ; this allows of more rapid evaporation, and causes the fruit to retain its color and flavor.

Be sure that every can used is air-tight. Test by filling the jar with water and sealing as for fruit ; turn the top of the can downward and shake vigorously. If the slightest moisture escapes, reject the can. Experience has shown that at least one out of every dozen of new cans will prove defective ; thus, if the jars were used without testing, all other conditions being perfect, one among every dozen jars of fruit would spoil. It is economy to buy new rubbers for the jars each year ; the cost is but trifling.

Many people have the idea that fruit in the first stages of decay is as good for preserving as that in perfect condition.

Use only Good Fruit This is a mistake, for fruit that is unfit for use raw will be unwholesome when cooked, and will probably ferment. As "a little leaven leaveneth the whole lump," so a speck of decay in a jar of fruit may develop fermentation and spoil the whole. Those who grow their own fruit have an advantage over their less fortunate sisters who must buy it, as it will be fresher and require less handling. Sound, firm fruit should be used for all preserves.

If small fruits must be washed, dip them, a few at a time, into cold water, and quickly place in a colander to drain. If care be taken the fruit will lose little of its

Getting Ready original freshness. Never pour water over the fruit in a colander, as this will not free it from grit. Fruit loses its freshness and shrinks rapidly if kept in a warm room long before using. For paring fruit use

a silver or silver-plated knife ; steel discolors and gives a disagreeable taste to all kinds of fruits. After paring, place gently in a dish of fresh water to keep the air from discoloring it until ready for use.

Before filling the jars with fruit rinse them carefully in hot water, and place them in vessels containing water which will keep them hot until ready for filling ; this will prevent the jars from cracking when filled with boiling fruit, for all fruit must be boiling hot when canned.

Fill each jar to overflowing to exclude air and prevent fermentation ; seal instantly. Then let the jar stand upside down until cold. If air-tight, no moisture will escape ; if not, the fruit may be reheated and put in another jar. Before placing in the dark fruit-closet—and all preserves and canned fruits should be kept in a cool dark place—see that each jar is firmly sealed. After they are placed in the preserve-closet, move the jars as little as possible. In storing away canned fruits place those of the same kind together, and fasten dated label on each jar ; this will save much time and trouble in handling afterward.

General Rules Few general rules are needful for jelly-making. The fruit from which the juice is expressed should not be over-ripe. Strain the juice carefully, measure and heat before adding the sugar. The sugar (common granulated) should be heated in the oven before it is put into the boiling juice. Boil gently and skim frequently.

Of Jellies in Particular Rinse the jelly-glasses in warm water before pouring the the jelly into them. When filled, place the glasses uncovered in the sunshine, and let them be undisturbed for 24 hours. Then cut rounds of paper, wet them with brandy, and place over the top of the jelly. Now cut rounds an inch larger, dip them in the white of egg, and cover the tops of the glasses, pressing the edges down outside and sealing, thus making them air-tight.

Amateur efforts in canning the coarser vegetables are almost universally unsuccessful. The process requires more than ordinary household conveniences, and on a small scale would not prove satisfactory or profitable; therefore **Concerning Vegetables** rules and methods for this work have no place in this book. Of vegetable pickles, catsups, etc., we speak further on. Tomato, melon, citron and rhubarb preserves and syrups are all fully described under their proper headings. The evaporation of potatoes, sweet-corn, etc., is treated of under the head of "Fruit-Drying for Farmers," pages 27 to 31.

PRESERVES, JAMS, MARMALADES, JELLIES.

Apples.

APPLE-BUTTER.—There is no better relish made for meats than the old-fashioned apple-butter ; the great wonder is that we so seldom find it for sale. Pare russet apples as for sauce, and cook slowly three or four hours. Then to every gallon of fruit add one-half pint of molasses and one pint of boiled cider. Let the mixture cook slowly until reduced to about one-fifth of the original bulk of apples. Apple-butter may be kept without air-tight sealing in any convenient receptacle, closely covered, and set in a cool dark place.

APPLE-GINGER PRESERVE.—Peel, core and cut or chop the apples coarse. To every pound of fruit allow an ounce of green ginger, cut into fine pieces, and three-fourths of a pound of sugar. Stew the apples in a little water until they begin to grow tender ; then drain and turn into the syrup in which the ginger has been steeped. Let them come to a boil and the preserve is made.

APPLE JELLY.—Apple jelly is made in the same way as crab-apple jelly. Wild apples are much to be preferred to the cultivated. Those who like a milder jelly than that made from wild apples, will find the jelly made from Porter apples to be fine, mild and amber-colored.

APPLE JELLY (CRAB).—Remove stems from the crab-apples, wash the fruit, cut it into halves, place in the preserving-kettle and cover well with water. Cook the fruit until very soft, then pour it into a colander to drain. Into the liquid put as much uncooked fruit as it will cover, and boil again until the whole forms a soft, pulp-like mass. Drain again, carefully strain and measure the juice, adding to each pound of it one pound of sugar. Boil for twenty minutes. For general rules on jelly-making, see page 3.

PRESERVED APPLES (CRAB).—Rub the fruit clean and take off the remains of the flower, but leave the stem. Prick the apples with a needle. Make a syrup by allowing a pound of sugar to a pound of fruit, and a gill of water to a pound of sugar. Let the syrup boil a few minutes, skim it well, add the fruit, and cook until tender. Can and seal.

Apricots.

APRICOT JAM.—Wash the fruit thoroughly, and heat it slowly, then stew until tender. When perfectly tender, rub it through a colander. Allow a pound of sugar to a pound of fruit, stir the sugar in thoroughly, and cook the whole until very clear. Put up in glasses like jelly.

APRICOT JELLY.—Stone the fruit and cut it into small pieces. Add the juice of one lemon and two or three well-pounded cloves to every four quarts of apricots. Put the fruit into the preserving-kettle, cover it with water; set on a moderate fire, and boil slowly until well cooked. Strain and allow three-fourths of a pound of sugar to every pound of juice; boil until thick and turn into jelly-glasses.

APRICOT MARMALADE.—Remove the stones and hard portions of the skin from ripe apricots. Cut the fruit in pieces and put it into the preserving-kettle with its weight in sugar. Boil for 15 minutes, stirring constantly until the mass thickens. Keep in jelly-glasses or sealed jars.

PRESERVED APRICOTS.—Select large, sound fruit, and push out the stones from the stem end. Weigh the fruit, cover it with half its weight in powdered sugar, and let it stand for 24 hours. Then boil the fruit gently until it looks clear and bright. Now take out the apricots and pour over them a thick syrup previously made with water and half their weight in granulated sugar. Boil them in this syrup for five minutes, put into jars, pour the syrup over the fruit, and seal the jars.

Barberries.

BARBERRY JELLY.—Wash, stew, mash and drain the berries. Boil the juice for half an hour and then add by measure two-thirds its bulk of sugar to the juice. Boil for ten minutes after adding the heated sugar, or until the liquid drops in jelly from the spoon.

PRESERVED BARBERRIES.—Pick the barberries free from stems; wash them and for every quart allow a little more than a pint of good molasses. Let the molasses come to a boil, drop in the berries and cook them three-fourths of an hour. When done they will be clear and should be sealed up in jars

Blackberries.

CANNED BLACKBERRIES (1).—The wild, high-bush berries are the best for canning and preserving. Measure a half-pound of sugar for every quart of fruit. Spread the sugar over the berries and let them stand long enough to extract sufficient juice in which to cook them without adding water. Boil five minutes and can.

CANNED BLACKBERRIES (2).—Make a syrup of one cupful of water and one cupful of sugar for each quart of berries. Heat it to the boiling-point and skim well. Drop the fruit into this syrup and let it boil eight minutes, then pour it into hot cans and seal them. If the berries are to be heated in the jars, fill a large kettle with boiling water, put into it a wooden rack and stand the jars filled with berries upon this; heat gradually. Prepare a syrup as above, and when just below the boiling-point, pour it over the berries in the jars. Boil the fruit five minutes, take out the jars one by one and seal.

BLACKBERRY JAM.—Boil the fruit for about half an hour, mashing it well, then add three-fourths of a pound of sugar to every pound of fruit, and cook fifteen minutes longer. Put in glasses or small jars and seal.

BLACKBERRY JELLY.—Put the fruit into a stone jar, cover and place it in a kettle of hot water. Allow it to cook until the berries will mash easily, then pour them out of the jar and strain them through a piece of cheese-cloth. Boil the juice twenty minutes, then add to it one pint of heated sugar for every pint of juice. After adding the sugar, heat the juice to the boiling-point, then turn it out into glasses.

Blueberries and Huckleberries.

CANNED BLUEBERRIES AND HUCKLEBERRIES.—Blueberries and huckleberries canned without sugar hold their flavor better than when sugar is used; add water enough to start the berries cooking, boil them for five minutes and seal up in cans.

BLUEBERRY JAM.—Add three-quarters of a pound of sugar to every quart of fruit. Boil thoroughly and stir constantly until the jam thickens.

CASCALHO.—A delicious sweetmeat known by the name of cascalho is made of our common pumpkin. Slice ten pounds of pumpkin and six lemons in very thin slices; weigh ten pounds of sugar, place it in alternate layers with the pumpkin and let it stand in a cool place for 48 hours. Then boil it slowly in a preserving-kettle until the pumpkin looks clear and almost transparent. If well sealed in jars cascalho will keep for two years.

Cranberries.

CANNED CRANBERRIES.—When cranberries are plentiful and cheap they may be canned for future use by simply stewing as for sauce, and sealing hot.

CRANBERRY JELLY.—Stew the berries, strain, and to every pint of juice add one pound of sugar. Cook for twenty minutes.

Cherries.

CANNED CHERRIES.—Select the cherries carefully and remove their stems. The stone may be removed or left in the fruit as preferred. Make a syrup, allowing a half pound of sugar to a pound of cherries, and just enough water to cover the sugar. Boil for ten minutes, add the fruit, allow it to boil up once, then can.

CHERRY JELLY.—Wash and stone the fruit and heat it, without the addition of water, in a stone jar or porcelain kettle; then squeeze out all the juice and measure. Boil the juice twenty minutes, then add to it heated sugar, a pound for every pint of juice. Let the juice boil up again, after which pour it out into glasses.

PRESERVED CHERRIES (1).—Stone the fruit, weigh, and add to it an equal weight of sugar. Sprinkle half the sugar over the fruit and let it stand an hour or two, then boil it slowly in the preserving-kettle for ten minutes. Skim out the cherries, add the rest of the sugar, boil the syrup until it thickens, turn it over the fruit. Cover, and keep in a cool place until next day, when the syrup should be drained off, boiled again, and skimmed carefully. After this, put the fruit into the syrup, let it boil for ten minutes, can, and seal.

PRESERVED CHERRIES (2).—Stone the cherries, reserving every drop of juice. Weigh the fruit and add to it an equal weight of sugar, covering a layer of fruit with a layer of sugar, until all the fruit is used. The fruit stands thus for several hours, after which the juice is poured over it, and boiled gently until it begins to thicken.

Preserved Citron.

Pare a large citron and cut it into inch squares. Weigh equal quantities of fruit and sugar, and mix them well together. Let this mixture stand over night to melt the sugar and harden the citron. In the morning put it into a preserving-kettle and boil for two or three hours, or until the syrup is of the consistency of honey. About fifteen minutes before taking from the stove, add, for every quart of preserves, one sliced lemon, one small sprig of green ginger-root and a half-dozen whole cloves.

Currants.

Secure the fruit before it is dead-ripe, while yet firm if you desire to have good jelly, for the over-ripe fruits will not make it so firm or so rich-colored as fruit just matured.

CANNED CURRANTS.—Add a large cup of water to every two quarts of fruit and simmer until the currants are soft—it is impossible to keep them whole—then add one cupful of sugar to each quart of fruit, simmer again

and seal. The flavor of the jelly is milder and more agreeable if one-fourth or even more of the fruit used be raspberries.

CURRANT JELLY.—Free the fruit from stems, mash, and squeeze through a piece of cheese-cloth or coarse linen, extracting all the juice. For every pint of juice measure a pint of sugar. Boil the juice for twenty minutes, then add the heated sugar. Cook for ten minutes, skimming often, then try a few drops of the currant-juice in a glass of water; if it hardens, remove the jelly from over the fire and turn it into jelly-glasses or glass cans.

SPICED CURRANTS.—Four pounds of currants, two pounds of sugar, a pint of vinegar, an ounce of cinnamon, half an ounce of cloves, a tablespoonful of mace, all unground. Tie the spices up in a bag and boil with the currants and the sugar until they form a thick jam; then stir in the vinegar and put up in jelly-glasses or glass cans.

Figs.

PRESERVED FIGS.—Take ripe figs, leaving the stems on, cover with cold water and let them stand over night. In the morning simmer them until tender, then spread on a sieve to cool. For every pound of figs used put into your preserving-kettle a pound of sugar and a teacupful of water. Boil and skim this syrup until no more scum rises, put in the figs and let them simmer for ten minutes. Now lift out the figs carefully and spread them on a dish to cool. To the syrup add for every three pounds of figs the juice of two lemons and the peel of one; add also a little ginger. Boil the syrup until it thickens, put into it the figs again, boil fifteen minutes longer, fill jars with the figs, pour the syrup over them, and when cold seal.

FIG PASTE.—Allow three pounds of sugar and one pint of water to a pound of figs. Chop the figs coarse and boil them in the water until reduced to a pulp. Strain, add the sugar and evaporate over boiling water until the paste becomes stiff. Pour it while warm into square molds, divide into slices with a sharp knife, roll in fine sugar, and pack in boxes.

Gooseberries.

GOOSEBERRY JAM.—Use fruit that is nearly ripe and make in the same way that blackberry jam is made, using a pound of sugar to a pound of fruit.

GOOSEBERRY JELLY.—Use fruit that is ripe, but not overripe. Allow one and a half pints of water for every quart of fruit, and cook until all becomes like jam; then strain. For every pint of juice add a pound of sugar. Boil for twenty minutes and pour into jelly-glasses.

PRESERVED GOOSEBERRIES.—Put the berries in the preserving-kettle with water enough to keep them from burning, and when they are hot add sugar, one pound for every pound of fruit. Cook for three or four hours. Half-ripe berries make the best preserve.

SPICED GOOSEBERRIES.—Cut off the blossom end of the fruit, and to every six pounds allow two quarts of sugar and about two-thirds of a pint of vinegar. Put the sugar and vinegar over the fire, and when scalding hot pour in the berries. Tie up in a muslin bag a teaspoonful of whole cloves and allspice mixed, a few pieces of stick cinnamon and a bit of green ginger-root, and drop them into the syrup. Cover the kettle closely and let its contents simmer until the berries are tender. Skim out the fruit into jars standing in hot water, pour the syrup over the fruit and seal.

Grapes.

From earliest times the grape, used in different ways, has formed part of the diet of the Eastern and Continental nations. The juice sealed and kept without fermentation is a cooling and delightful drink. The honey, made by boiling down the juice, without sugar, to the proper constituency, is eaten with bread or diluted to drink. These two ways of using the grape are not so common among Americans as they should be.

GRAPE JELLY.—Select ripe grapes, free them from stems, and mash them thoroughly. Cook them slowly in a closely covered kettle for twenty minutes, without adding water. Squeeze out the juice, add a pound of sugar to each pint of juice, and boil for twenty minutes. Green grape jelly is made in the same way.

PRESERVED GRAPES.—Free the fruit from stems and skins, put it into the preserving-kettle, and cook until the seeds are loose. Strain the grapes, weigh with their skins, and to every pound allow a pound of sugar. Put the fruit again into the preserving-kettle and when it begins to boil add the sugar and cook slowly for half an hour or longer.

SPICED GRAPES.—To five pounds of grapes allow three pounds of sugar, one pint of vinegar, one tablespoonful of cloves and one of cinnamon. Boil the pulps of the grape and strain, then add skins, vinegar, sugar and spices and boil for an hour.

Lemon Marmalade.

See Orange Marmalade. Allow $1\frac{1}{4}$ pounds of sugar to a pound of fruit.

Oranges.

ORANGE MARMALADE.—Sour oranges are best for marmalade. Allow twelve pounds of sugar to twelve pounds of fruit. Pare the fruit, cover the parings twice their depth in cold water, and boil until tender; then drain. Cut the fruit crosswise into halves and press out all the pulp and juice. Cover the white skins with three quarts of water and boil for half an hour. Strain the water from these skins into the orange-juice, and press the skins through a colander, adding enough of them to the orange-pulp to amount to

two and one-fourth pounds of pulp. Cut the yellow rinds into shreds, add the orange-juice, boil for ten minutes, then add the sugar and boil till the mass thickens.

PRESERVED ORANGES.—Slightly grate the oranges and score them round with a knife, but do not cut deep. Let them stand in cold water for three days, changing the water two or three times a day. Tie them up in a cloth and boil them until soft enough for a pin easily to penetrate their skin. Make a syrup of rather more than the weight of the oranges in sugar, and as many half pints of water as you have pounds of fruit. Let it boil for a few moments, strain through muslin, put in the oranges, and cook until the syrup jellies and is of a clear yellow color. It must not be too stiff. The syrup need not cover the oranges when boiling, but they must be turned so that they may cook thoroughly. Seal as for other preserves. For Orange and Rhubarb Preserves, see page 15.

PRESERVED ORANGE-PEEL.—Weigh the orange whole, and an equal weight of sugar. Peel the oranges neatly, and cut the rinds into narrow shreds. Boil these until tender, changing the water twice, and replenishing with hot water from the kettle. Squeeze the strained juice of the oranges over the sugar, heat the syrup to boiling point, put in the shreds and boil for twenty minutes.

Peaches.

BRANDIED PEACHES.—Choose firm, ripe fruit and wash it. Make a syrup by allowing three-fourths of a pound of sugar to every pound of fruit, add as little water as will serve. When it reaches the boiling-point, drop in the peaches and let them boil for ten minutes. When the peaches are tender, measure a pint of white brandy for every quart of syrup. Lay the peaches, while yet hot, in the cold brandy, and when they are cold put them into a jar. Strain the syrup into the brandy, pour the whole over the peaches and cover tightly.

CANNED PEACHES.—Peel the fruit and place it in cold water. Make a syrup of a pint of sugar and a quart of water for every four pounds of fruit and let it boil fast. Meantime cook the peaches until they are tender, in water enough to cover them. Skim them out carefully and drop them into the boiling syrup. Let them come to the boiling-point, then seal up in jars.

PEACH JELLY.—Pear, stone and slice the peaches and put them, with a few of their kernels, in a stone jar. Place the jar in a kettle of boiling water upon the stove and let the peaches cook until they break easily, stirring often. Strain the juice, to every pint add the juice of a lemon, and boil it for twenty minutes. Then put in the heated sugar, allowing a pound to a pound of fruit. Turn into glasses as soon as it boils up once.

PRESERVED PEACHES.—Pare the fruit, cut it in halves and drop it into cold water. Allow a pint of sugar to a pound of fruit. Make a syrup by adding one cup of water to every pint of sugar. When it boils drop in the fruit, simmer it until tender and seal. Half a dozen peach-kernels cooked with the fruit improve its flavor. If preferred, keep the fruit whole instead of cutting it in halves.

SPICED PEACHES.—After peeling, weigh the peaches, allow three-fourths of a pound of sugar to a pound of fruit, and a pint of vinegar to every five quarts of fruit. If the vinegar is very strong use less, adding water to fill the pint measure. Boil the sugar, vinegar, and eight or ten cloves together for twenty minutes. Put the peaches into the boiling syrup and cook until tender.

Pears.

CANNED PEARS.—Make a syrup allowing a pound of sugar to a pint of water, boiling for ten minutes. Peel the fruit, keeping it whole or cutting it in quarters, and drop it into cold water—if left whole do not remove the stems. Put the fruit into the boiling syrup and cook it until it may be easily pierced with a straw, then can quickly.

PRESERVED PEARS.—If a rich preserve is desired make a syrup, allowing three-fourths of a pound of sugar to every pound of fruit, and proceed as in canning.

PEARS PRESERVED WITH GINGER.—Pare, quarter, core and cut crosswise the fruit. To eight pounds of fruit allow six pounds of sugar, six lemons, and one-half-ounce of white ginger-root. Pare and cut the fruit at night and let it stand until morning with the sugar over it. In the morning put it over the fire in the preserving-kettle and add the juice, the ginger-root, and grated rind of the lemons. Let it boil then simmer for five hours; this will keep without being sealed.

SPICED PEARS.—To seven pounds of pears, peeled, cored and quartered, add three pounds of brown sugar, one pint of vinegar and one heaping spoonful of whole cloves, the latter tied up in a muslin cloth. Make a syrup of the sugar, vinegar and cloves, and when it boils put in the fruit. Boil until tender or until a straw will pierce them easily, and can.

Pineapple.

PINEAPPLE PRESERVE.—Peel the fruit, take out the eyes and shred it down to the core. Put it in an earthen dish in layers of sugar and fruit, allowing three-fourths of a pound of sugar to a pound of fruit, and let it stand over night. Next morning drain the juice into a preserving-kettle, let it boil, and skim thoroughly. Then add the pineapple and let it reach the boiling point and can immediately. This makes a delicious preserve.

PINEAPPLE AND PEACH-BUTTER.—Take seven pounds of peaches (peeled and stoned), seven pounds of sugar, and a quart of preserved pineapple. Cook slowly for four and one-half hours, then turn into jelly-glasses. It should be hard like jelly when cold.

Plums.

PRESERVED PLUMS.—There is no fruit that is more universally liked than plums if properly preserved. The following rule is equally good for either damson or green-gage plums, the damsons being particularly nice to eat with meats. Make the syrup for all the plums to be preserved at one time, allowing a pound of sugar to a pound of fruit, and a gill of water to a pound of sugar. Boil for ten minutes, then put in the syrup only enough plums to fill two or three jars. Cook until they can easily be pierced with a straw, then can, and put fresh fruit into the boiling syrup. If there is any syrup left over from preserving the plums put in enough sugar to make it jell, and cook a little longer ; this makes a delicious jelly.

Quinces.

An experienced dealer, when called upon to name the most profitable fruit for preserving, named first the quince, and second the grape. Quince preserve and marmalade disappear from the market in a very short time; the supply has never yet equaled the demand. The fruit requires careful handling to insure a satisfactory appearance. As soon as it is pared, cut it in quarters or halves and put it into cold water. Save the skins and cores for jelly.

QUINCE-HONEY.—Make a syrup of three pounds of sugar and one pint of water, into which stir two large peeled and grated quinces. Boil for fifteen minutes, and can for winter use. This honey is delicious when spread upon pan-cakes or fritters.

QUINCE JELLY.—When preparing quinces for preserves and marmalade, save the peelings, cores and seed. Cover them with water and cook until very soft. Strain, add to the liquid as much sugar as you have of juice, and boil until thick enough to jell.

QUINCE MARMALADE.—Pare, quarter and core the quinces. Cut them into small pieces and measure an equal quantity of sugar. Place the fruit in the preserving-kettle with just enough water to cover it, and let it simmer until the fruit is tender ; then skim it out, add the sugar to the water and let it boil. Skim the syrup thoroughly, as its clearness depends upon this. After skimming drop the fruit into the syrup and boil it gently for fifteen minutes, then turn it into jelly-glasses.

PRESERVED QUINCE.—Pare, quarter and core the quinces and steam them until a stiff straw will go through them easily. Have ready a syrup made of as many pounds of sugar as you have of fruit and a gill of water for every pound of sugar. Boil the syrup fifteen minutes, then add the fruit and let it boil up once. Can like other fruit.

Raspberries.

Raspberries require careful handling and great attention in picking over. The red berry makes a richer preserve than the blackcap.

CANNED RASPBERRIES.—Make a syrup, allowing a half pound of sugar to every quart of fruit, and water enough to moisten the sugar. Boil the syrup for ten minutes, and then put into it a few berries at a time—about enough to fill a jar—and allow them to come to a boil. Can and put fresh fruit into the syrup. All the syrup should be made at once, but the berries are much nicer when cooked in small quantities than when cooked all at one time.

RASPBERRY JAM.—Boil the fruit for half an hour, stirring and mashing it well; then add three-fourths of a pound of sugar to every pound of fruit, and cook 15 minutes. A little currant-juice added while the jam is cooking improves its flavor.

RASPBERRY AND CURRANT JELLY.—Two-thirds of the fruit used should be raspberries, and one-third currants. Press out the juice, and to every quart allow a quart of sugar. Boil for twenty minutes, skimming often; then pour the jelly into glasses.

PRESERVED RASPBERRIES.—The rule for preserving strawberries is equally good for raspberries. See page 15.

Rhubarb.

Rhubarb comes to us early in the season, and while generally appreciated for immediate uses, few people are aware that it is excellent when canned for later consumption.

CANNED RHUBARB.—Select firm fresh stalks, peel and cut in two-inch pieces; cook in boiling water for five minutes, and can immediately, putting as little juice as possible into the jars. Sweeten the rhubarb when used. Pies made of this canned rhubarb are as good as those made from fresh stalks.

RHUBARB JELLY.—Cut the stalks into pieces two inches long, put them into a preserving-kettle with enough water to cover them, and boil to a soft pulp. Strain the juice through a piece of muslin, and to each pint of it add a pound of sugar. Boil again, skimming often, and when the juice jellies on the skimmer remove it from the fire and pour it into glasses. This jelly is nice with meats.

RHUBARB AND ORANGE PRESERVE.—Peel six large, nice, thin-skinned oranges; take off all the white rinds, and slice them into the preserving-kettle. Remove all seeds from the oranges. Cut half of the yellow rind into small pieces, and put with the orange pulp into the kettle. Add two pounds of rhubarb-stalks cut into small pieces, a teacupful of water and $3\frac{1}{2}$ cupfuls of sugar. Boil until the rhubarb is soft, and seal.

Strawberries.

The best time for canning strawberries is in the middle of the season. Not only are they cheapest then, but they have a richer flavor than the early or late berries.

CANNED STRAWBERRIES (1).—Make a syrup, allowing a half pound of sugar for each quart of berries, and just enough water to moisten the sugar. Boil the syrup for ten minutes, add the berries, let them boil up once, and can quickly. Canned in this way they keep well, and make a nice, not too rich sauce.

CANNED STRAWBERRIES (2).—Place a layer of fruit in a stone jar, and sprinkle it with sugar. Over this place other layers of berries and sugar—just enough sugar to make them fit for table use. Do not mash or stir the berries. At the end of 24 hours the sugar will have drawn the juice from the fruit. Pour the juice into the preserving-kettle, adding one-fourth of a cupful of water to every quart of juice, and let it come to a boil. Drop the drained berries into this syrup, and scald them for two minutes; then gently lift them out with a strainer into cans standing in hot water. The jars should be only two-thirds full of fruit, and must be immediately filled with the hot syrup and sealed. If the syrup seems thin, cook it for ten minutes before pouring it over the berries, which must be kept hot.

STRAWBERRY JAM.—Boil the fruit for half an hour, mashing and stirring it well. To every pound of fruit add three-quarters of a pound of sugar, and cook twenty minutes longer. Put up in small jars and seal. The flavor of this jam is much improved by adding a gill of currant-juice to each pound of berries. Cook the berries in the juice for half an hour, then add the sugar and cook as above directed.

STRAWBERRY JELLY.—Squeeze the juice from the fruit, and add a table-spoonful of lemon-juice to each quart. To each pint of juice allow a pound of sugar. Put the juice on and boil for twenty minutes, then add the heated sugar. Stir rapidly, withdrawing the spoon as soon as the sugar is dissolved. Let the jelly come to a boil, then turn into the tumblers.

PRESERVED STRAWBERRIES.—Allow four quarts of sugar to eight quarts of berries. Put two quarts of fruit and a gill of water into the preserving-kettle, and while they are slowly heating mash them thoroughly. Then pour the

berries into a piece of cheese-cloth, and squeeze out all the juice. Put the juice and four quarts of sugar into the preserving-kettle, and bring slowly to the boiling-point, stirring frequently. Add the remaining six quarts of whole fruit, and cook for 15 minutes, skimming often. When cooked, put the fruit into jars, filling all space with syrup. If any syrup is left over, boil down with more sugar ; it makes a delicious filling for cakes.

Tomatoes.

CANNED TOMATOES.—Select smooth, firm tomatoes ; scald them and remove their skins. Fill the preserving-kettle with them, let them cook until soft, and can them immediately. The tomatoes must be ripe and firm ; if over-ripe, they will not keep.

PRESERVED TOMATOES.—Take smooth, firm tomatoes ; scald them, and remove their skins. Allow a pound of sugar and one lemon to every pound of tomatoes. Put them, with sugar, the grated peel of one lemon and a little ginger-root, into the preserving-kettle and cook for three hours, skimming often. Add the lemon-juice, cook slowly for another hour, can and seal.

SPICED TOMATOES.—Twenty pounds of tomatoes (scalded and peeled), two quarts of vinegar, eight pounds of sugar, four tablespoonfuls each of cinnamon, cloves and allspice. Boil until thick, stirring often.

CATSUP.

CUCUMBER CATSUP.—To three dozen large cucumbers add six large white onions, three-fourths of a pound of salt, one teacupful of white mustard-seed, and half a teacupful of ground pepper. Peel and chop fine the cucumber and onions, and sprinkle them with the salt. Allow them to drain through a sieve for twelve hours, then add the other ingredients, mixing them well. Put the catsup in small jars and cover it well with pure cider-vinegar; close tightly. In a week it will be ready for use.

GRAPE CATSUP.—Simmer three quarts of grapes until they are soft, then mash them through a colander. Add two pounds of brown sugar, one pint of vinegar, two even tablespoonfuls each of cinnamon, allspice and cloves, one teaspoonful of salt and one of pepper. Boil till the catsup thickens; then bottle.

GOOSEBERRY CATSUP.—To twelve pounds of stemmed and clipped berries add eight pounds of brown sugar, one tablespoonful of cinnamon, other spices to taste, and Cayenne pepper. Boil for two hours; add a quart of good vinegar; strain and bottle.

MUSHROOM CATSUP.—Place full-grown mushrooms in layers with salt between; let them remain thus for a few hours; mash them and leave them so for two days, only stirring and pressing them each day. Then pour them into a stone jar, adding $1\frac{1}{2}$ ounces of whole black pepper and half an ounce of allspice for each quart of mushrooms. Cover the jar, place it in a dish of boiling water and boil its contents for two hours. Strain off the juice without pressing the mushrooms, put it into a porcelain kettle and boil it gently for half an hour, skimming off all the scum. Pour it into a dish to cool, then strain it through a flannel bag, and bottle. Unless every particle of scum is removed the catsup will not keep.

PLUM CATSUP.—Pour one pint of hot water over seven pounds of plums, cover them closely and steam them until tender. Then add four pounds of brown sugar, one pint of good vinegar, one even tablespoonful each of cinnamon, cloves and allspice, and two-thirds of a teaspoonful of Cayenne pepper. Cover and steep the catsup for half an hour, then seal up in cans. Before serving in a pickle-dish take out the plum-seeds. This is delicious, eaten with meats.

TOMATO CATSUP.—Take a gallon of nice ripe tomatoes. Scald, peel and cut them in halves. Put them into the preserving-kettle with four even spoonfuls of salt and a pint of good vinegar. Let them simmer slowly for three or four hours, stirring them often. Strain them and add four tablespoonfuls of ground black pepper, three of mustard, one of cloves, and one scant teaspoonful of Cayenne pepper. Boil the catsup until it is reduced to two quarts; then bottle and seal.

WALNUT CATSUP.—Bruise ten dozen young and tender walnuts, add to them three-fourths of a pound of salt and a quart of vinegar. Let them stand for two weeks, stirring them each day, then strain them through a cloth. To the husks add half a pint of vinegar, allow it to stand over night, then strain it and add the liquor thus obtained to that set aside the day before. Add $1\frac{1}{4}$ ounces of whole black pepper, half an ounce of bruised nutmegs, half an ounce of ginger, one-fourth of an ounce of mace and three or four dozen cloves to the catsup. After boiling the mixture for half an hour strain and bottle it.

PICKLES.

The pickles usually sold are not healthful, as in many cases sulphate of copper or bluestone is added to them to give them a fine green color. Often, too, a copper or brass vessel is used, which is equally harmful. Acids dissolve the lead contained in the lining of sauce-pans and also corrode copper and brass. Unglazed stone jars are the proper vessels to use in pickle-making. Scalding the article to be pickled in salt and water will cause it to absorb vinegar more quickly, but will render it less crisp. Pickles, if scalded, should be allowed to dry before they are put into the vinegar. Use strong, pure vinegar, as the preservation of the pickles depends upon this. The vinegar should always be scalding hot when used, unless otherwise stated. Handle pickles as little as possible, and never with anything but a wooden spoon or ladle. The least quantity of water, even a wet spoon, put into the pickle-jar will spoil its contents. Glass bottles or jars are the best in which to keep pickles.

PICKLED BEANS.—Pick the beans while green and tender, and leave them whole. Let them lie for two weeks in a brine made of two pounds of salt to a gallon of water, stirring them from the bottom each day. After removing them from the brine let them lie in fresh water for one day. Line a kettle with green vine-leaves, put in the beans and add for every gallon of water used half a teaspoonful of powdered alum. Put leaves over the beans and cover the vessel closely. Simmer without boiling, for four or five hours. When the pickles are a bright green, remove the leaves and put the beans into very cold water, leaving them there for a short time. Prepare the following pickle: To a gallon of vinegar add a teacupful of sugar, three dozen pepper-corns, three dozen cloves, half as much allspice and one-third as much mace. Boil for five minutes, then put the beans into glass jars, pouring the scalding pickle over them. Cover and set away the pickles and two days afterward scald the vinegar and pour it over them again; repeat this process three times. Finally, cover the pickles closely and set them in a cool place.

CAULIFLOWER PICKLE.—The cauliflower must be hard and white; pull it into small pieces and cook in salt and water for a short time until tender. Then take out and dry it carefully. Pour over it spiced vinegar made as

follows : To one gallon of vinegar add a teacupful of white sugar, a tablespoonful of celery-seed, a dozen blades of mace, two dozen white peppercorns, a tablespoonful of coriander-seed, a tablespoonful of whole mustard and some bits of red pepper. Boil for five minutes.

CHERRY PICKLE.—Take large cherries before they are ripe enough to be soft, and put them, without stemming, into stone or glass jars. Heat the jars in hot water and pour into them, over the cherries, a syrup made by adding a pint of vinegar to every three pounds of sugar used. Tie up in a bag a teaspoonful each of cinnamon, cloves and allspice and cook in the syrup. Every morning for a week drain off the liquid and heat to the boiling-point. Pour it while hot over the cherries. This pickle must be kept in a cool dark cellar or sealed in cans.

CUCUMBER PICKLE.—Cucumbers should be pickled when only three inches long ; they should also be perfectly sound. Pickle them in the same way as beans are pickled. The cucumbers may be kept for either a week or a month in the brine. When taken from it throw away the soft ones.

FRENCH PICKLE.—Take one peck of green tomatoes, six green peppers, six onions, one-half pint of salt, one pint of brown sugar, one-half pint of grated horse-radish, one tablespoonful each of ground cinnamon, cloves and allspice, two tablespoonfuls each of mustard-seed and celery-seed, and one-half gill of peppercorns. Slice the onions, peppers and tomatoes, sprinkle them with salt and let them stand over night. Then pour off the water and add the other ingredients, mixing thoroughly. Put the pickle in a porcelain kettle, cover with vinegar, and boil slowly for several hours until well cooked. Keep it in glass jars.

GRAPE PICKLE.—Press the grape-pulp from the skins, put a little water with it, set upon the stove and stir constantly for half an hour. Strain and add the skins. To one quart of grapes add one pint of sugar, half a pint of vinegar ; cinnamon and cloves to taste. Boil until the skins are tender, and cover air-tight when cold.

MELON PICKLE.—Use young muskmelons or nutmeg-melons. Cut holes in the sides of the melons and take out the seeds, saving the pieces cut out. Put the melons in a strong brine, which should completely cover them for three days. Take them from the brine, rinse, and keep in cold water for one night. Make a filling of chopped cabbage seasoned with horse-radish, mustard-seed, ginger, celery-seed, a few small cucumbers, and a little sugar. Fill the melons, sew in the piece taken out for removing the seed, put in large jar and pour hot vinegar over them ; in three or four months they will be ready for use.

MIXED PICKLE.—A nice mixed pickle may be made of beans, small onions, radish-pods, broken cauliflower, a few long green peppers, some small green tomatoes and a red pepper cut fine. Scald these ingredients in salt and water and let them stand for about twenty-four hours. Then drain, put them into a large jar and pour boiling spiced vinegar—such as is used for cauliflower—over them. When cool put away in small jars and seal.

PICKLED PEACHES.—Take fair large peaches, just ripe, and wipe the down from them. In each peach stick several cloves. Add two pounds of brown sugar to a gallon of vinegar, skim the mixture and let it boil up twice; pour it while hot over the peaches and cover them closely. In a week or two pour off the vinegar and scald again.

PICKLED PEARS.—Pears are pickled like peaches, using three times the number of cloves and some cinnamon. Before sticking the cloves in the pears, steam them until tender.

PICKLED ONIONS.—Choose rather small white onions, peel them and allow them to stand in salt and water for three days, changing the brine the second day. Heat more brine to boiling-point and drop the onions into it, allowing them to boil for two or three minutes; then drain off the brine and put the onions into cold water; after standing in this for three or four hours, pack the onions in jars and season them with cloves, mace and whole peppers. Fill up the jars with boiling vinegar in which sugar in the proportion of a cupful to a gallon has been dissolved. Seal the jars while hot.

SWEET PICKLE FOR PLUMS, PEACHES OR TOMATOES.—Four quarts of cider-vinegar, five pounds of sugar, quarter of a pound of cinnamon, two ounces of cloves and seven pounds of fruit. Scald the vinegar and sugar together and skim; add spices, boil up once and pour it over the fruit. Pour off and scald the vinegar twice again at intervals of three days, and then cover all closely.

WATERMELON PICKLE.—Pare the rinds and put them in weak brine for one night. In the morning put them in fresh water and scald until tender; then take out and drain. Allow three pounds of sugar and one pint of vinegar to seven pounds of rinds. Tie up in a muslin bag one tablespoonful of cloves and one of cinnamon, and boil them with the melon and vinegar. Take out the pickle, pour it into jars; let it stand for two days. Pour off the syrup and boil it again; pour it over the melon rinds while hot, and when cold the pickle is ready for use.

FRUIT JUICES AND SYRUPS.

Fruit juices and syrups are becoming more popular every year, as their excellence for use both in sickness and health becomes more widely known. They are easily prepared, they keep well, and will always find a ready sale. As in many of them no sugar is used, the cost of making is but a trifle. Fruit syrups of any kind are made by boiling down pure juices until they thicken, not like jelly, but like maple-syrup. All fruit juices, with the exception of lemons, may be converted into syrups by continued boiling. They may be used in many ways. What a cooling and refreshing drink a spoonful of grape or raspberry syrup, stirred into a glass of water, makes when we are tired and heated! Blackberry syrup and blackberry cordial have long been favorite drinks with sick people. All these syrups are delicious in creams, ices, etc.

Observe the same care in selecting the fruit for syrups that you do for preserves and jellies. The exact time it will require to reduce the juice to the proper consistency cannot be given, as they evaporate faster under certain atmospheric conditions than under others.

Apple or Pear Syrup.

Dissolve sugar in water and boil until it begins to thicken, then put in an equal weight of apples or pears, cut in squares, and cook them until they become soft, taking care not to break them. Remove the fruit and allow the syrup to boil until it becomes as thick as desired, then pour off and can or bottle. The fruit that has been cooked in the syrup may be used as preserves.

Blackberry Cordial.

Simmer the berries until they break, then strain them through a bag, and to each pint of juice add a pound of white sugar, one-half ounce of cinnamon, one-fourth ounce of mace and two teaspoonfuls extract of cloves. Boil for fifteen minutes and when cool add brandy enough to make the cordial as strong as desired, though brandy is not essential. Seal the bottles with wax. Other fruit cordials may be made in the same way.

Blackberry Syrup.

Blackberry syrup is made in the same way as grape syrup.

Currant Syrup.

Extract the juice from some rich, ripe currants and let it stand in an earthen dish in a cool place for twenty-four hours, or longer should it not then appear to be perfectly curdled. Pour it into a fine hair-sieve, and let the clear juice run through without pressing. Then pass the clear juice through a fine piece of cheese-cloth and add to it its own weight in sugar. When this is dissolved boil the juice gently for five minutes, skimming carefully. Twelve hours afterward the syrup may be put into bottles and sealed. Raspberry-juice may be added to that of the currants if desired.

Grape-Juice Canned.

After squeezing out all the juice from the grapes, cook it for almost an hour, skimming it often; then add a cupful of sugar to a quart of juice, cook for fifteen minutes, and can while hot.

Grape Syrup.

Boil the juice down to one-fourth its original bulk, and when it is cold put it in bottles or cans, and seal. Grape-honey is made in the same way, boiling until it is thick as ordinary honey.

Lemon Syrup.

Lemonade is a favorite drink with nearly every one, and is both refreshing and healthful. In the summer, when most appreciated, the fruit is most expensive. When lemons are plentiful and cheap, syrup that will keep for an indefinite time, made of the fresh fruit, takes its place. Take fair fruit, extract the juice, and to every pint of it add one-half pound of sugar; boil, skim and seal in a can.

Orange Syrup.

Take one-fourth as much lemon-juice as orange-juice, and make in the same way that lemon syrup is made.

Pineapple Syrup

is made in the same way as apple or pear syrup.

Raspberry Shrub.

To twelve pounds of berries allow five ounces tartaric acid, dissolved in one gallon of water, and pour it over the fruit. Let the berries remain in it for forty-eight hours. Then strain the juice and add one pound of sugar to each pint of juice. It is better to melt the sugar before mixing it with the juice. Bottle the juice at once, using bottles with air-tight stopples.

Raspberry Syrup.

Wash and press with a spoon some ripe, red berries, and let them stand for a few hours in a cool place. Drain, and to the juice add one-half a pound of sugar for every pint of juice. Let this boil slowly for half an hour, skimming off all the scum. When quite cold pour the syrup into small, dry bottles and cork well, using only new corks.

Strawberry Syrup.

Make a syrup of one pound of sugar and one pint of water and boil until it will draw out in threads. Skim before it begins to boil. Add a pint of strawberry-juice and boil for three-fourths of an hour. Seal while hot.

Watermelon Syrup.

A syrup may be made from watermelons which will be found as fine as the best sugar-house syrup. Procure ripe melons, scrape their pulp into a colander, strain out the water, or juice, and boil until it is of the right consistency.

CANDIED FRUITS.

Candied fruits are easily prepared, and are delicious for candies, creams, etc. Select the fruit with care, using only that which is fair, ripe and firm. Never put more than one layer into the preserving-kettle at one time. For peaches, plums and cherries, the syrup is made in the same way—a pound of sugar to a gill of water, heated thoroughly until the sugar is dissolved. Pare the peaches and cut them in halves. Put the syrup in a shallow vessel, and into this a single layer of peaches. Cook slowly until they look clear, then remove them from the syrup, place them on plates and dry them in a moderately hot oven for twenty-four hours, and pack away in jars. Plums and cherries are candied in the same way, after their stones have been removed. For candied pears, allow a pound of sugar to a half-pint of water.

DRIED AND EVAPORATED FRUITS.

For those who grow fruits there is no cheaper or more satisfactory way of preparing them for home or market use than by drying. Evaporated fruit may be bought in nearly every city and town, but the home sun-dried article is hard to find. When fruit is cheap and there is little or no profit to be made by selling it fresh, this is the time to sell it in another form. That fruit dried in the sun retains its flavor better than evaporated fruit we all know; why then should we not use more of the better article? All fruits used for this purpose should be fair and sound. Wipe apples, peaches, etc., clean, pare and cut them with a silver knife, and as soon as a small quantity of fruit is ready place it in the sun to dry. One of the most convenient arrangements for sun-drying fruit is cheese-cloth stretched across frames outdoors, with mosquito-netting over them to keep out dust and insects. The air is thus allowed to reach both sides of the fruit at once. Spread but one layer at a time on the cloth. Turn the fruit occasionally and never allow it to get wet.

When preparing apples for drying, pare, core, and cut them in eighths. Peaches should have the down removed and then be cut in halves or quarters as preferred. To remove peach-down dip the fruit carefully into a kettle of weak boiling lye, and wipe it with a rough towel. The skins give the fruit a richer flavor, but if objectionable, peel as for preserving.

To dry apricots follow the rule for preserving them. Instead of putting them into jars after cooking them in the syrup, spread them on wire drainers and put them into a slow oven to dry. When they cease to be sticky, put them away in boxes.

Cherries may either be dried whole or pitted. Plums are richest dried with their stones in. Rich dried plums are prepared in the following way: Remove the stones and fill the space left with sugar, spread upon plates and dry in the sun, sifting sugar on them as long as the fruit soaks it up. When half dry, press between two plates with a weight upon the upper one for two or three hours, then let them finish drying. They may be dried either in the sun or in an oven after being pressed. Cherries may be dried in the same way. Blueberries are nice dried, without sugar, if picked at the right time; if picked late in the season they are apt to be wormy. Pears are nice dried, if lemon-juice be added when the dried fruit is cooked, otherwise they are rather tasteless.

When fruit is thoroughly dry pack it in layers in boxes with manila paper between the layers, or put it in bags and keep them in a dry place.

FRUIT-DRYING FOR FARMERS.

A Plain Business Talk.

T. D. SNYDER.

THE BUSINESS—ITS PROSPECTS.—The evaporating of fruits is one of the many industries that have grown prodigiously in the past few years. About one hundred car-loads of evaporated apples were shipped from one station in Wayne County, New York, in 1887. When it is known that a car-load of evaporated apples (about twelve tons) requires over 4,000 bushels of fresh fruit, some idea of the extent of the business may be formed. In 1880 hardly any of the apple product known as "chops" was produced. In 1887 and 1888 thousands of tons of dried fruit were exported. This product is made largely from cider-apples—waste product but for the evaporator.

WILL THE MARKETS BE GLUTTED WITH EVAPORATED FRUITS?—Possibly—when fresh fruit is very cheap. Many manufacturers thought this would be the case three years ago, but some shrewd buyers in New York and Rochester thought differently and bought up large quantities of dried fruit at low prices. They made no mistake, for the short fruit crop of '89 cleared the market at an advanced price, and the second season's failure ('90) brought about extremely high prices. The price of any fruit crop rarely remains depressed in price more than one or two years, at most, without reaction. Evaporated fruit may be carried over one or even two years, in cold-storage, with little loss. The evaporator creates wealth from products that would otherwise be wasted.

AS TO PROFITS.—They depend not only on the locality and means employed, but on the men. As a rule, a small machine run with hired help does not pay, but such a business may often be carried on profitably by members of a family, thus utilizing the products of their own orchards and gardens. I know one man—a well-to-do farmer in Tompkins County, New York, who cleared \$300, \$650 and \$200 in 1886, '87 and '88. This was clear of all expenses except his own time. He bought his apples and used a home-made dryer, costing about \$100 all told. This dryer was on the hop-

dryer style, with a capacity for drying about 25 bushels of fresh fruit per day. In 1887 most of the produce was sold for less than 8c. per pound, in boxes, to a neighboring merchant. A large evaporator must be located where an abundance of fruit may be had at a reasonable price, or it will not pay. The man who runs it must understand his business, look after every detail on time, and be capable of managing cheap labor. He should watch the markets closely and usually sell as soon as a fair profit can be realized. The business requires skill all the way through. A 50-pound bushel of fair to choice paring apples will make from five to seven pounds of finished product; a bushel of "chop" apples, will make about eight pounds; of unpared peaches, five to six pounds; of blackcap raspberries ten pounds; and of sweet-corn, 500 to 1,000 pounds an acre. No exact cost for evaporating can be given, as some dryers will use twice the amount of fuel that others will for doing the same work in similar furnaces; the cost of labor will vary in the same way. Manufacturers of evaporators usually estimate running expenses at from \$8 to \$10 for drying 100 bushels of fresh apples; unpared peaches, \$15, for pared, \$30. My estimate would be \$10 to \$15 for apples (2 to 3 cents a pound, finished product), and for raspberries $\frac{1}{3}$ to 2-3 of a cent a pound, dried fruit. Apples can usually be bought during a good apple season for from 10 to 25 cents a bushel. One pound of coal should dry one pound of evaporated apples. There is a limited market for evaporated pears and also for red raspberries.

WHAT EVAPORATORS?—Both steam and hot air are used in evaporating fruits. Steam is less liable to burn fruit if neglected than hot air; there is less danger from fires, and it dries an even grade of fruit. If one uses steam for other purposes, it might be best to use it for evaporating fruit, but for one hundred bushels or less a day, hot air is cheaper and more practicable. Steam driers have a series of inch horizontal steam-pipes side by side, connecting at each end by heat pipes, with the nest tier above and room for three lines of trays between each series of pipes. Steam is forced into the pipes at the bottom from the boiler by a pressure of from 80 to 100 pounds. In a hot-air evaporator there is a furnace at bottom in basement, usually connected with an upright or inclined trunk above, with various devices for elevating the trays to the cooler air. Hot air dries fruit more rapidly than steam, and leaves the product in a more natural and healthful condition; it retains, too, the fresh-fruit flavor. If it were not for danger from fire, wood might be the best material for a hot air drier-trunk. This might be lined for some distance from the furnace with zinc or some fire-proof preparation. Brick and iron are also used for the trunk of evaporators. Fruit to evaporate properly must have currents of hot air passing *quickly* through and about it. It is not so much the air's high degree of heat as its

rapid motion that evaporates quickly. Every evaporator should have a good ventilator at the roof of building; this may be bought or made at home. There are many good evaporators for sale—no best one. A good machine could be constructed by any carpenter; only the furnace need be bought.

Don't get too small a machine. A farmer should have one of 30 or even 50 bushels capacity, unless it be a cook-stove size which will do nicely for drying apples for family use, or the surplus from a small patch of berries. Use No. 5 galvanized iron wire cloth for trays. See that there are few elbows and a good draft to the chimney from the furnace-fire. To estimate the capacity of an evaporator when building, allow from six to ten feet of tray surface to a bushel of apples a day. If the evaporator is properly set up these figures will be found correct in most cases, though nothing like exact figures can be given, for differently constructed machines.

The bleacher or color-setter is a necessity in the drying-house. There are both upright and horizontal, or railroad bleachers, and they may be built of any size to suit the capacity of any evaporator. In upright bleachers, trays may be entered near the bottom through a small door, elevated and removed at top from the same or opposite side. A pot of brimstone is kept burning at the bottom of the bleacher, and a tin or galvanized pipe, about three inches in diameter, connects the top with a pipe from the evaporator turnace, or some hot-air flue; this is important. I have been in buildings where the room was blue with sulphur-fumes, because the pipe went through the roof instead of into a hot-flue. Railroad bleachers are made of a proper height and width to use on the work-table, by bolting legs to their corners. A certain number of trays should exactly fill the bleacher, fitting at each end so that fumes cannot escape. When one tray is entered it pushes another out at the opposite end. Attach the sulphur-pot at the bottom near the end where the fruit is entered and attach the escape-pipe on top near the opposite end. Trays should all be of wood, at least four inches deep, with slat bottom.

There seems to be a prevalent idea among consumers of evaporated fruit, that it is sulphured *after* drying, leaving it in an unhealthy condition. I never knew fruit to be treated to sulphur *after* drying. It would be more than useless. Oxidation discolors the fruit and destroys the natural flavor; sulphur-fumes almost perfectly preserve these, if applied as soon as the fruit is pared. In the process of evaporation the sulphur-fumes are all, or nearly all, driven from the fruit. Some manufacturers say that their evaporators are arranged for bleaching fruit while it is in the evaporator. This is impracticable, as all operators know, if a first-class article is wanted.

PREPARING THE FRUIT.—Some driers pare, core and slice apples at one operation, then trim and bleach; but most of them pare and core at one

operation, then trim and bleach, and afterward slice with separate slicing-machine; this breaks fewer slices. Fruit must be trimmed and bleached immediately after paring; this is very important if a first-class article is desired. It should remain in the bleacher from ten to twenty minutes. Have extra bleacher-trays, so that fruit need not be emptied if the machine is full.

When bleached, apples should be sliced and placed on the evaporator-trays in single layers—they may lap about half an inch. Keep an even temperature, and do not rush the fruit too fast. When the fruit is taken from the trays it should feel soft and pliable, but not damp. If left on the trays too long, or exposed to too great heat, applied when nearly dry, the flavor is diminished, the weight reduced, and much of the sugar that has been thrown to the surface during the process of evaporation is destroyed.

Peaches are halved and stoned and then bleached (either pared or unpared), and placed in the evaporator-trays flat side down. Pears are peeled, halved, cored and treated in the same way. Some driers evaporate apples whole—not sliced at all. There is a limited demand for a strictly choice article of this kind; it is usually exported. The yield is greater and the work less, but only those with experience will be likely to succeed. "Chops" are apples chopped and sliced—skins, cores and all—with machines made especially for this work. Skins and cores are also dried, and they reduce the expense account greatly where the capacity of the evaporator is large; they are bleached before drying.

A good workman will pare from 25 to 50 bushels of apples a day—even more of sound apples with suitable machines. Two girls are needed to trim for each parer, unless the fruit is very fair and free from worms.

Pack apples in new bright, nicely-papered boxes. Place a "false box" on top, put into it full 50 pounds net of apples, press down tightly with lever-press, nail on the bottom and mark. Peaches are faced and packed in 25 or 50-pound boxes; pears the same. The dimensions of a 50-pound box are 11x11x22 inches inside. Make the boxes of $\frac{1}{2}$ -inch pine, except the ends, which should be $\frac{3}{8}$ inches. Plane the material on both sides, unless it has been smoothly re-sawed, when the inside need not be planed.

There are four grades of evaporated apples, known in the market as fancy, choice, prime and common to good. Choice and prime apples form most of the product. "Chops" and "waste" (skins and cores) are packed in clean sugar-barrels. They must be heavily packed to bring full price.

Raspberries are usually packed in clean barrels, though some driers pack in boxes. New York city is the largest market for evaporated fruits. Only the best fruit is wanted at Boston; Philadelphia and Chicago are not quite so particular as to quality. There are reliable commission-firms in all large cities who will sell a single box, a barrel or a car-load at the market price.

The usual commission is five per cent. Avoid commission-men who send out "catchy" or long-winded circulars.

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It is no more work to grow raspberries than other cultivated crops, and the cost for marketing them is less than any common farm-product, unless it be butter or wool. Where there is no market for strawberries or other small fruits, beans would make a good crop to go with raspberries. They could be grown between the rows for the first two years, and harvesting would come after berry-picking was over. Sweet corn might also be grown for evaporating. This is first steamed or partly cooked, cut from cob and evaporated. It is mostly sold direct to canning-factories. The price for evaporated corn averages about nine or ten cents a pound for a good article in large quantities. In an apple section the evaporator could be kept at work on apples in their season. Poultry, sheep or bees would also go well with berries where they are distant from markets. The crops that clash with raspberry-growing are hay, wheat, rye, barley, etc., as they require attention at the same time. Before packing evaporated raspberries for market, screen them through a fanning-mill. The best time to sell them is in the fall, as buyers are in the market then. Evaporated raspberries are as merchantable as any farm-crop. Ohio raspberries are largely set for evaporating. Their yield a bushel is better than that of the Gregg raspberry. Blackberries will not pay for evaporating. Potatoes are pared, sliced by machine, bleached, steamed and evaporated. Or they may be steamed sufficiently to remove their skins, and then sliced, bleached and run through the evaporator. A salt-water bath may be used for bleaching them, as the salt-water flavor is not objectionable with potatoes as with fruit.

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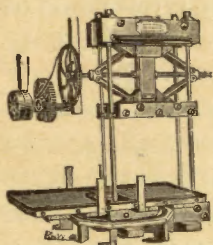
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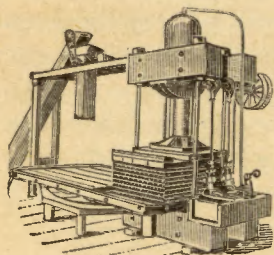
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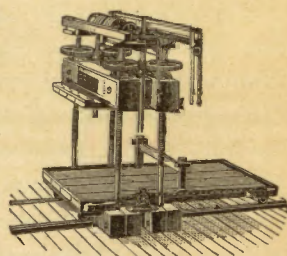


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