

## United States Department of Agriculture Page

Bulletins and Special Articles of Interest to the Northwest, Issued by the Government; Suggestions Covering a Wide Range of Activities; Results of Federal Investigations, Etc.

### Making Table Sirup from Apples

Department of Agriculture Applies for Public Service Patent; Hood River Experiment.

**F**OLLOWING extensive experiments begun last spring, the head of the fruit and vegetable utilization laboratory of the Department of Agriculture has applied for a public service patent covering the making of a new form of table sirup from apple juice. This patent will make the discovery, which the specialists believe will be of great value to all apple growers as a means of utilizing their culls and excess apples, common property of any cider mill in the United States which wishes to manufacture and sell apple cider sirup.

The new sirup, one gallon of which is made from seven gallons of ordinary cider, is a clear ruby or amber colored sirup of about the consistency of cane sirup and maple sirup. Properly sterilized and put in sealed tins or bottles, it will keep indefinitely, and when opened, will keep under household conditions as well as other sirups. It has a distinct fruity aroma and special flavor of its own which is described as being practically the same as the sirupy substance which exudes from a baked apple.

#### Used Like Other Sirups.

The sirup can be used like maple or other sirups for griddle cakes, cereals, household cookery, and as flavoring in desserts. The Government cooking experts are at present experimenting with it in cookery and expect shortly to issue recipes for use of the new sirup in old ways and for taking advantage of its special flavor in novel dishes.

The Department chemists have already produced over ten gallons of this sirup in their laboratories, using summer and other forms of apples. The success of the experiments has greatly interested some of the apple growers, and during October a large cider mill in the Hood River Valley, Oregon, will in co-operation with the Government chemists, endeavor to produce 1,000 gallons on a commercial scale and give the new product a thorough market test by making it accessible through retailers in a limited field.

#### New Commercial Field.

The interest of apple growers in the product arises from the fact that the new apple cider sirup promises to give them a commercial outlet for vast quantities of windfall and other apples, for which they hitherto could find no market either in perishable raw cider or in vinegar. Cider pro-

duction, it seems, comes largely at one season of the year during which the market is more or less flooded with this perishable product. The bulk and perishability of the raw cider, moreover, the cider makers state, often make it unprofitable for them to ship the raw cider of one district long distances to a non-apple-growing region. The market for cider, therefore, has been largely restricted in many cases to localities near the area of production. No method of sterilizing ordinary cider has been found practical for the reason that foiling cider at once interferes with its delicate flavor.

With the cider mill able to make a palatable, long-keeping table sirup out of its apple juice, growers, it is believed, will be able to use all excess juice for bottled or canned apple sirup. The new sirup, the specialists find, will keep indefinitely, so that the cider makers can market it gradually throughout the year.

#### The Process.

The process for making the sirup calls for the addition to a cider mill of a filter press and open kettles or some other concentrating apparatus. The process is described as follows: The raw cider is treated with pure milk of lime until nearly, but not quite, all of the natural malic acids are neutralized. The cider is then heated to boiling and filtered through a filter press, an essential feature of the process. The resultant liquid is then evaporated either in continuous evaporators or open kettles, just as ordinary cane or sorghum sirup is treated. It then is cooled and allowed to stand for a short time, which causes the lime and acids to form small crystals of calcium malate. The sirup is then re-filtered through the filter press, which removes the crystals of calcium malate and leaves a sirup with practically the same basic composition as ordinary cane sirup. Its flavor, however, and appearance are distinctive.

Calcium malate, the by-product, is a substance used in medicine and at present selling for \$2 per pound. It is believed that if calcium malate can be produced in this way cheaply and in large quantities, it can be made commercially useful in new ways, possibly in the manufacture of baking powder.

The cost of making this sirup on a commercial scale will be determined during the test in October.

This demonstration work which the Smith-Lever Act is designed to promote, has already met with considerable success in the States where it has been started, but the additional funds now available will greatly increase its efficiency. To avail themselves of the full of its possibilities the Department officials recommend that farm women form local clubs and then communicate with the county agent or the State agricultural college. In this way it will often be possible to secure a visit from the county agent or from the home economics expert.

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### Place for Sheep on the Farm

Government Says Small Flock May Be Maintained at Little Expense.

**A**S THE SHEEP breeding season is now opening, the United States Department of Agriculture urges the desirability of maintaining a small flock of sheep upon the farm. With proper care and attention, a flock of twenty-five or thirty ewes can be kept at very little expense, and they will prove of inestimable value in freeing the farm of weeds, and adding something to the farm income. In addition to providing a considerable supply of delicious wholesome food for the farm table, there will be a surplus for sale, and an additional item of revenue in the form of wool.

Many farmers make a practice of buying ewes in the fall, breeding them and selling the lambs the following summer. Such ewes can be carried through the winter on wheat and rye fields if not pastured too closely, or on clover hay with some roots and a little linseed meal. If the clover hay is not available, corn fodder may be used as roughage, in which case it should always be supplemented with bran or linseed meal. Lambs should come early and should be taught to eat as soon as they are old enough. Give lambs access to corn by providing a creep through which they can go without allowing the ewes to follow.

#### Purchase Prices.

Ewes can be purchased at the present time at prices ranging from \$3.00 for common, inferior sorts to \$7.00 for good fairly well-bred ewes. For farm purposes the black-faced ewes are more popular than the others, although good results can frequently be obtained from the white-faced ones. In buying ewes, be sure that they stand well on their feet, have good straight backs and good mouths. Ewes that have broken teeth, or teeth that are badly worn down, should not be bought. As a rule, a sheep has one pair of permanent incisor teeth when it is one year old; two pairs when it is two years old; and three pairs or a full mouth when it is three years old. A full mouthed ewe, if the teeth are in good condition, can be used for breeding with good results, although she may be as much as five years old. Never buy a ewe that has a broken mouth, that is, with teeth that have been broken off or lost.

None but a purebred ram should be used. It is not necessary to have a show animal, but a strong vigorous buck is essential. Shropshire, Oxford, Southdown, and Hampshire rams sire excellent mutton lambs and these breeds are recommended for the farm states. A suitable ram can be bought for \$8.00 to \$20.00.

#### Drawbacks and Remedies.

The two principal drawbacks to the sheep industry in the farm states are dogs and stomach worms. The dog nuisance can be obviated to a great extent by placing dog-proof fences around the pastures. The United States Forest Service has had excellent results in protecting sheep from coyotes and wolves by building fences constructed in the following manner: A barbed wire is first stapled to the posts right on the surface of the ground. Three inches above this is placed a panel of close woven wire, 36 inches high, and above this two strands of ordinary barbed wire. Care should be taken to see that there are no openings between the ground and the lowest barbed wire. An enclosure made in this manner, into which sheep may be turned at night, is inexpensive, and dogs will not get through it. Most of the damage by dogs is done at night.

The presence of stomach worms is a very serious drawback. The young lambs become infested with them by eating grass to which the worms have attached themselves, the eggs being deposited by the mature sheep. It is therefore desirable to keep the

lambs on land on which the mature sheep have not run, and if possible in cases of bad infestations to keep the lambs away from the mature sheep as much as possible.

In the farm states, the farmers will find it to their best advantage to regard the wool from the sheep as a by-product, and direct their principal attention to the production of lambs, and mutton for the table.

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### Smith-Lever Act Is Educational

**M**ANY letters are being received by the U. S. Department of Agriculture which indicate that farm women in various sections of the country have come to believe that the Government is about to assist them with grants of money to individuals. This unfortunate mistake which, it is feared, will be the cause of considerable disappointment, appears to have arisen through a misunderstanding of the Smith-Lever Act recently passed by Congress. Under this Act funds contributed both by the Federal and State governments are made available for practical demonstration work in agriculture and home economics. Experts from the Agricultural Colleges and county agents, both men and women, are to show farmers and farm women the value of modern methods in agriculture and housekeeping, and demonstrate the use of labor-saving devices. The purposes of the Act are thus entirely educational; and there are no provisions whatever for direct financial assistance.