

lated state, hard enough to cake into sugar. This state can be ascertained by placing a thermometer in the syrup when it commences to boil, and leaving it there until it registers 242 degrees, F., or 245 degrees F. Another way is by dropping some of the boiling syrup into a cup of cold water, or on to snow, when, if it forms itself into a lump, it has boiled sufficiently. Otherwise it requires more boiling. When the granulated state has been reached, the pan of hot sugar is removed from the stove, and cooled until it begins to thicken, when it is placed into small pans for caking. If soft or tub sugar is wanted it should not be boiled so much. An imperial gallon of syrup will make about nine pounds of sugar.

The comparative profits resulting from the manufacture of sugar or syrup, depend largely upon market conditions. The producer must decide for himself, which will be the more profitable for him to make.

### Equipment for Sugar Making

In the manufacture of high-grade maple syrup and sugar, much depends upon the equipment used. The more care there is exercised in handling the sap, the better will be the article produced.



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Sap is easily discolored hence the material out of which utensils employed in handling it are made, is an important consideration. Any substance that will discolor the sap, and thus deteriorate it in point of market value, should be discarded. Galvanized iron buckets come into this class, also lead covered tin buckets, and wooden buckets to a certain extent.

The accompanying illustration shows a charcoal tin bucket, the kind generally used. Covers should be used on all buckets to exclude dirt, leaves, etc. As heat tends to sour the sap, it is well to have the cover ventilated.

The gathering tank is generally made of heavy tin, supported by an iron frame, and with a capacity of 75 to 100 gallons. The top should be concave, with double removable strainers in the centre. The sap holder is very similar in construction. One with a capacity of 300 gallons is a very convenient size for a bush of 500 to 800 trees.

An evaporator, 3 x 10, is considered large enough to meet the requirements of a 500-tree bush. This is made of a heavy grade of tin plate, and so constructed, with a corrugated bottom, as to form compartments. A regulator fitted to the pipe through which the sap flows from the sap holder to the evaporator, should be attached to the evaporator, for the purpose of automatically governing the flow of cold sap to the evaporator.

"We have enjoyed free delivery since May last, and would find it very inconvenient to do without it. The people on this route are not the only ones benefited, as those living near cross-roads have established boxes for their mail, while others have their mail come in care of someone living on the route. I think it justifies the expense, and we are well served in every way."

W. H. Knight.

Tipton, Mich.

## THE NUMBER OF FAMILIES ON RURAL DELIVERY ROUTES

The Seventh of a Series of Articles Written by an Editorial Representative of this Paper, who Recently Visited the United States, with the Object of Studying the Free Rural Mail Delivery System.

IN writing a series of articles of this kind, occasional repetitions are more or less unavoidable. In my last article reference was made to the statement of a Canadian post office official, who claimed that in the United States the post office department has been unable to live up to its rule that where a route is 20 to 25 miles, it should serve 100 families. This official claimed that the department had been forced frequently to establish routes where there were only 90 families, and in some cases where there were less than 80 families on a route. This was given as one of the reasons for the great cost of the service in the United States.

While in Washington I made a special effort to obtain information on this point. When asked if the charge was true, Mr. W. R. Spilman, superintendent of the Division of Free Postal Delivery, replied: "We do not require that there must be at least 100 families on a route 20 to 25 miles in length. All we require is that on a standard route, 24 miles or more in length, there must be a possible patronage of at least 100 families, and that three-fourths of the possible patrons shall be required to signify their intention to accept the service, and to provide boxes conforming to the department's requirements before the service is started. When the service was first started, many routes were established without proper investigation. We were deceived with some, and later found that they had even less than 70 families. Of late years we have been more exacting, and the average number of families on a route has been increased. On a considerable proportion of the routes, the number of families exceeds 100. I do not know what the average number of the routes is now."

"It often happens," continued Mr. Spilman, "that when a route is first started there are some people who oppose the inception of the service. Some of them may be friends of the local postmaster. In such cases they generally are afraid that if a rural delivery route is established the post office will be discontinued. In some cases the postmasters canvass against the starting of a route. Other people oppose rural delivery because they do not want to be put to the expense of providing a letter box. Small country merchants sometimes stir up opposition to the service through fear that they may lose trade if the farmers do not drive into town every day or so for their mail."

"This opposition, however, almost invariably dies out soon. Once a rural carrier starts driving down the road every day, at about the same hour, the people soon begin to look for his coming. Those farmers, who have not provided themselves with boxes, see their neighbors getting their mail regularly every morning, and it is generally not long before they fall into line and accept the service with the rest. Thus, if 75 families on a standard route accept the service, as we now require that they shall before we begin it, it is not long before the number has increased to 85, 90, or 100."

### ANOTHER CHECK

"We have another check on the routes beside the number of families," continued Mr. Spilman. "We expect that on each route there shall be an average of 3,000 pieces of mail handled during a month. The actual average per route for the whole of the United States, is over 4,000. When we find that the average on a route is falling below 3,000 pieces a month, we investigate the circumstances. If the case warrants, we have the route re-visited by one of our inspectors. Some routes, with 200 families, average less than 3,000 pieces of mail a month."

"Where the amount of mail being handled does not seem to warrant the service being continued, we notify the patrons along the route that unless more mail is handled, the service will be discontinued. Generally this is all that is required to bring about the needed improvement. The farmers along the route set to work and canvass any of their neighbors who are not taking the service, and try and induce them to accept



W. R. SPILMAN, Washington, D. C.

Mr. Spilman is superintendent of the Division of rural free delivery for the United States. When our representative was in Washington, Mr. Spilman was extremely obliging and courteous. He very kindly gave up over a day of his valuable time to answering the thousand and one questions about rural free delivery that our representative asked him. Part of the interview with Mr. Spilman is published in this issue. Other information that he furnished will be given later. Mr. Spilman states emphatically that free rural delivery in the United States has proved a success, and that the government has been justified in introducing the service.

It. In some cases the farmers subscribe for daily and farm papers so that the amount of mail handled on the route may be increased. Others who may be getting some of their mail through a box, at a post office, arrange to have it all handled by the carrier."

### WHAT IS DONE

"Do you," was asked, "actually cut off the service, if the amount of mail handled, does not equal the standard?"

"Yes," replied Mr. Spilman. "In some cases the service is reduced to a tri-weekly basis, and in others the former post office service is continued. In all such cases we make it a point to see that the amended service is equally as good as the patrons along the route had before the service was established."

The day following the one upon which he made the foregoing remarks, Mr. Spilman showed me a letter that he had just received. The writer stated that as a result of action that had been taken by the farmers in his vicinity, the amount of mail being handled on his route had been increased to equal the requirements set by the department. The hope was expressed that the route would not, therefore, be discontinued.

### SOME INTERESTING FIGURES

Mr. Spilman was asked if the Post Office Department had any data showing the average number of families on each route. He replied that no statistics, giving that information had been prepared for several years. The latest information was contained in a table published in the