

day to day; but only the frequent use of the alkaline test will show whether the result aimed at has been attained, and any variation can be corrected by the addition of a little more cream or soda. By repeating this procedure with each section of the vat alternately an even acidity can be obtained right through.

With a single vat such correct regulation is not possible. Unless the greatest care is taken the acidity of the cream leaving the cooler may be 0.4 at one stage and 0.1 shortly afterwards; and though a sample taken from the ripening-vats may show somewhere near the right average acidity the quality of the butter will suffer. The point to remember is that practically the whole of the work performed by the soda is done while the cream is passing through the pasteurizer, and hence no averaging-up in the vats afterwards is of any use.

The use of a neutralizer has only been made possible by the adoption of pasteurization, and it depends for success upon the same conditions which make for success with the latter process—namely, the application of heat to every particle of cream passing through the machine. When installing a pasteurizer it is a good practice to allow an ample margin over the quantity the machine is required to do. A machine with a capacity of 1,000 gallons per hour will do more thorough work if only called upon to put through 750 gallons, and will do it at a less cost for steam.

The speed should be regulated so that the cream is spread over the heating-surface in a thin layer, thus ensuring the easy transfer of heat to the cream. The danger of the casein burning on and scorched flavour at high temperatures will be reduced, and a thorough utilization of the soda will result. This speed may be anything from 200 to 350 revolutions per minute, depending on the make and size of the machine, and can be judged by the amount of cream left in the pasteurizer. A slow-running pasteurizer will have a greater body of cream in the machine, and though the outside which comes into direct contact with the steam may be scorched, the inner portion is not thoroughly pasteurized, and the soda will not have been completely used, which may result in soda flavour. An intermittent delivery of cream from the pasteurizer indicates that the speed is too slow.

Better results will be obtained, and economy in fuel will result, if exhaust steam is used for pasteurizing. There is less danger of burning on, and an even temperature is more easily maintained, as the pressure of steam is not so much affected by the variation of the pressure on the boiler. The exhaust should also be used for