the cheese without increasing the fat-loss, whereas raw-milk cheese made from high-testing milk often contains visible pockets of fat: these are largely avoided in the same milk when it is pasteurized; (*g*) the pasteurization of milk slightly increases cheese-yield to the extent, on the average of 0·02 lb. of cheese per pound of butterfat. Further studies of effect of salt on cheese-quality have shown that the addition to curd ot large quantities of salt results in cheese with a distinctly gritty body, which is not wanted by the cheese trade. Analyses of a number of export cheeses have been made for salt content, and it has been shown that high salting is one of the factors responsible for grittiness in our export cheeses. It also has been shown that other factors—for example, high acidity and excessive sweetness—are responsible for gritty body.

In regard to openness in cheese-texture, it has been shown that the common types of openness are not due to only one cause. Whilst much remains to be understood regarding openness, it has been demonstrated that, firstly, the manufacture of cheese containing an excessive amount of moisture results in accentuated openness. Secondly, the lack of development of sufficient acidity in curd at the time of salting is another cause. In some cases this is practised in order that the process of manufacture may be hastened: the results are injurious to quality. Thirdly, when care is taken to add curd to cheese-hoops in small quantities, and thoroughly pack the curd into position, a much closer cheese results than when the curd is simply thrown in without proper packing. Fourthly, slit openness tends to disappear, or, at least, become much less accentuated, as the cheese matures. Thus one method of effecting an improvement in the texture of export cheese is to mature it more thoroughly before exporting it for sale. Fifthly, a mature cheese does not crack so badly on the exposure of the cut surfaces as does an immature cheese. Sixthly, the use of active, pure starters is essential in the production of good-quality cheese. Seventhly, efficient control of the purity of milk-supply is essential to the reduction of difficulties in the manufacture of good-quality cheese in the Dominion. Extensive studies have been made of (*a*) the effect of milk of high fat content on the quality of cheese; (*b*) different methods of keeping starter mother cultures; and (*c*) factors affecting the maturity of cheese. Results are not yet available, as some of the cheese in these studies remain to be examined.

With a view to developing rather more flavour in export butter, experiments on the use of starter have been tried out. It has been shown that the discriminate addition of starter to cream for butter-making results in butter with an attractive flavour if finest-quality fresh cream is used. The addition of starter, however, to cream of lesser quality than finest does not materially improve the flavour and endangers the keeping-quality of the butter.

Important developments have taken place in chemical analysis of cheese to indicate the break-down of the casein or protein as an indication of the extent of development of the maturation process. The aim is to develop a chemical method to indicate the degree of ripeness, so that the optimum conditions may be worked out for storage and transport of cheese with a view to delivering a mature product on the London market. These chemical methods have been developed at the University of British Columbia, and as a result of the Secretary's visit to this Institution close liaison with this work has been established. At the same time, the laboratory at the Dairy Research Institute is concentrating on the influence of the various types of starter organisms on cheese-maturation and the more exact effect of renneting.

WOOL RESEARCH AND WOOL CONFERENCE.

These are dealt with fully in Bulletin No. 30, just issued, and entitled "Wool Research," by D. J. Sidey; and a full treatise on the influence of various contributory factors on wool quality, and the technique of their measurement, is under issue by the Empire Marketing Board. It would appear that we are at last getting down to the fundamental factors in fibres in wool which are of importance in manufacturing, and their significance to the breeder.

GEOPHYSICAL SURVEYING.

One of the subjects investigated by the Research Subcommittee of the Imperial Conference was the application of geophysical methods of surveying for minerals, geological structures indicating oil, &c. The results of the recent Imperial geophysical survey were discussed, and the Committee were fortunate in having witnesses with practical experience of the various methods. As a result of the deliberations the Committee passed the following resolution: "That geophysical methods of prospecting have been developed to a point of definite usefulness, and that their employment in the search for minerals and oil deposits is justified, provided that the work is carried out under proper scientific supervision and in close association with the geological survey of the area concerned." It is unnecessary to discuss here in detail the various methods and their application, as the results of the survey now have been published in detail—"The Principles and Practice of Geophysical Prospecting," reviewed in the *New Zealand Journal of Science and Technology*, October, 1931.

STANDARDS AND STANDARDIZATION.

One of the most important conferences attended was that on standardization. Representatives of all of the Dominions were present, as well as of the colonies, the Board of Trade, British Department of Scientific and Industrial Research, British Standards Association, and Federation of British Industries. The resolutions passed are contained in your report to Parliament (A.–6, 1931, p. 31).

The questions were discussed under two main divisions—(1) Fundamental standards of length, weight, light, electricity, &c.; (2) industrial standardization. With regard to the first question, satisfactory agreement was obtained and steps taken for the removal of the significant differences between fundamental measurement units in different parts of the Empire with a view to the adoption of uniform standards, and periodic reverification of local standards. Advantage was taken of the presence in London of the Law Draftsman, and conferences were held with officers of the Board of Trade with a view to bringing legislation on standards in New Zealand into conformity with that in Great Britain. The second, wider question of industrial standardization, with a view to reasonable uniformity within the Empire, led to a valuable exchange of opinion, and highly satisfactory progress was made towards intra-Imperial unity.