

making the honey unattractive in appearance, and if stored in cells to be used by the bees during the winter, disastrous to the bee keepers; for during the cold weather the bees can not get water to dissolve the crystals, and starve. This occurred in 1917 and 1918, and considerable losses were suffered by the bee-keepers from this cause. But in the present year the weather was so moist during July that no melezitose was collected by the bees at all. Several kilograms of this rare sugar have been extracted from honey and purified in the Bureau of Chemistry, so that it is now available for thorough investigation of its properties. It can be readily distinguished from glucose by observation of the crystals in the honey with the polarizing microscope.

Milk with high apparent acidity: FRANK E. RICE. Individual cows were found giving milk with titratable acidities as high as .22 per cent. Several tests were applied to this type of milk as well as to normal milk both fresh and sour. The results were as follows: (1) Formaldehyde titration indicated that where high casein was present, high apparent acidity might be expected. On the other hand, some samples were found with high apparent acidity which were not unusually high in casein. (2) Titration by the Van Slyke oxalate procedure indicated that phosphates were always somewhat higher in this class of milk. (3) Electrometric and colorimetric methods showed the hydrogen-ion concentration to be similar to that of normal fresh milk. (4) Electrical conductivity was no higher than in normal milk. (5) Methylene blue and alcohol tests were always negative. (6) High solids and solids-not-fat usually but not always accompanied high apparent acidity. (7) This condition was always found in the early stages of lactation but occasionally also in late stages. (8) Observation did not indicate that feeds were a factor in causing high apparent acidity.

Effects of sulphur in manure-phosphate composts: W. E. TOTTINGHAM. Sulphur and rock-phosphate have been composted with manure, both separately and together. Analysis after four months of fermentation has shown the production of high titratable acidity where sulphur was present, with consequent increases of citrate-soluble P_2O_5 , where rock-phosphate was also present. Application of these composts to pure sand, together with nutrient salts, to sandy soil and to silt loam for greenhouse cultures of barley has led to increased yields of seed from the sulphur-phosphate compost, as compared with the compost of phos-

phate alone. Similar results have followed the application of sulphur and rock phosphate to field plots of barley in unmanured sandy loam. The peculiar, outstanding feature of the results has been that sulphur alone has shown as great seed producing power as the combination of sulphur with rock-phosphate, under these conditions.

The quantities of preservatives necessary to inhibit and prevent alcoholic fermentation and the growth of molds: MARGARET C. PERRY and GEORGE D. BEAL. Sterile dextrose broth, to which known quantities of preservative had been added, were inoculated with pure cultures of *Sacc. cerevisiae* and *P. glaucum*. The tubes were incubated at room temperature until positive results were obtained in check tubes. In case of no gas formation or of failure to obtain a visible growth of mold, dextrose agar plates were poured to determine the point at which complete sterilization took place.

Shark meat as an edible product: ALLEN ROGERS. This paper deals with the use of shark meat as a food product and shows that it would be possible to secure approximately 200,000 pounds of this material daily or 75,000,000 pounds annually. Assuming that the market price could be set at 10 cents it shows that at the present time we are wasting a food product with a value of \$7,300,000. The edible portion of the shark consists of about 50 per cent. of the weight of the body and resembles in its texture and flavor either the halibut or sword fish. In some markets this product is now being sold under the name of deep sea sword fish and a certain species of shark known as dog fish is being canned and labelled grey fish. Cooking experiments have shown the food to be very palatable and nourishing.

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