New South Wales

REPORT OF THE GOVERNMENT ANALYST FOR THE YEAR 1939

THE Government Analyst (Mr. S. G. Walton) reports that 33,972 samples were examined in the Chemical Laboratory—an increase of 300 in comparison with 1938.

MILK REGULATIONS.—It has been recommended by the Health Department that milk in New South Wales should be pasteurised only by the "holder" process.

It was also decided to recommend the incorporation of a methylene blue reductase test as an amendment to Regulation 24 of the Pure Food Act. A minimum reduction period of 4 hours for raw milk and 5½ hours for special raw milk was also recommended, both tests to be made by the exact procedure described in the English Ministry of Health Memo. No. 139/Food, 1937. Work carried out in the Laboratory showed that the times recommended would correspond approximately with those prescribed under the Milk Act.

DIRT IN MILK.—Some of the milk delivered to customers in both the metropolitan and country districts was in a dirty condition, and tests showed that much of the dirt came from the dairies and that some of the samples had been produced in unhygienic conditions and had not been adequately strained. Prosecutions were instituted and convictions obtained in a large number of cases. In one instance, after the magistrate had convicted, the case was dismissed on appeal, the judge holding that there was a possibility of the sediment being introduced into the milk during collection by the inspector. In systematic tests to determine this question, sample bottles and milk were exposed for periods up to half-an-hour in main thoroughfares carrying heavy traffic, but in no instance did the amount of sediment thus obtained exceed 0·3 mg. per pint. As the sample subject to appeal contained approx. 4 mg. (per pint) of dry sediment similar to stable dirt, it is very improbable that the sediment found could have been introduced in the process of sampling. The question of the division of samples in a manner that will satisfy legal requirements is under consideration.

WASTE BEER.—Inspection revealed that in many hotels it was the practice to salvage waste beer from the drip taps and to bottle it for sale or to supply to customers at the bar. In some instances the waste pipe from the drip trays, apparently leading to the sewer, had been connected by means of another pipe with a cask in the cellar. Much of this beer was found to contain large quantities of yeast and dirt and, in some instances, house flies and fruit flies and their pupae. Successful prosecutions were instituted against several hotel keepers for the sale of such waste beer. To prevent the practice, a regulation was framed under the Food Act providing that every receptacle for waste beer must at all times contain sufficient methyl violet

to impart to its contents a distinct violet colour. Although complaints have been made of the inconvenience of adding this dyestuff, the regulation has proved effective, and successful prosecutions have been instituted in cases in which hotel keepers failed to comply with it. About one-third of a grain of methyl violet per gallon of beer is required to impart the necessary colour, but it is recommended that more than this minimum quantity should be used.

CAKE DECORATION.—A sample purchased from one of the largest retail stores in Sydney was found to consist of lead glass coated with silver. As decorations of this type constitute a potential danger, steps were taken to have them withdrawn from sale.

CASHEW BUTTER.—A sample of alleged cashew butter contained 40 per cent. of coconut oil. Analysis of a sample of genuine cashew nuts gave:—Moisture, 5·0; fat, 36·8 per cent.; iodine value of fat, 84·9; saponif. value, 195·4; n_D^{40}, 1·4628. The fat constants agree closely with those recorded by Needs (ANALYST, 1937, **62**, 665), but the percentage of fat is considerably higher (Needs, 30 per cent.).

FRUIT DRINKS.—The amount of fruit juice in 36 samples of fruit drinks sold in Sydney ranged from 0 to 50 per cent. (4 samples). Most of the samples contained artificial colouring and flavouring. It is proposed to recommend the formulation of standards for these beverages.

JAMS.—The sucrose content of 150 samples, representative of the whole of the jams sold in New South Wales, ranged from about 55 to 70 per cent. The variations in the principal jams were:—Apricot, 59–69; peach, 59–69; plum, 61–67; raspberry, 63–69 per cent.

DIETHYLENE GLYCOL AS A VEHICLE FOR ESSENCES.—Advice was received from the Commonwealth authorities that, having regard to the fact that a number of fatalities occurred in America after the oral administration of diethylene glycol, consideration was being given to the amendment of the Customs (Prohibited Imports) Regulation with a view to prohibiting the importation of foods, drink, or preparations used in the manufacture of foods or drinks, containing glycol or glycol derivatives. It was decided by the Health Department that the use of diethylene glycol as a vehicle for essences could not be permitted.

MOULD IN TOMATO SAUCE.—In most of the samples examined in the Laboratory the mould content exceeded the maximum amount allowed, *viz.* 50 per cent. of fields positive. As this was probably due to adverse weather conditions no legal action was taken, but the manufacturers were warned to discontinue the use of deteriorated stock.

BLEACHED TRIPE.—Of 204 samples of tripe examined, 113 were found to be adulterated, owing to failure to comply with the limits of *p*H value imposed. These limits were fixed with the intention of prohibiting the peroxide bleaching of tripe, but the practice still continues, the efforts of the manufacturer now being directed to keeping the article within the standard limits.

ARSENICAL SPRAY ON CABBAGE.—A number of cabbages were found to be heavily coated with lead arsenate. Although most of the arsenic was on the outer leaves and stalks, a certain amount was also present on the inner leaves or that part used for cooking. Amounts of 18 grains and 14 grains of lead arsenate per lb. were present on the outer leaves and stalks of two cabbages.

SELENIUM AND CADMIUM IN LIPSTICK.—An expensive brand of lipstick was found to contain 1·2 per cent. of selenium and 5·5 per cent. of cadmium, both of which are recognised as toxic substances. The sale of this article in New South Wales has been prohibited.

ARSON DEVICE.—Investigation of a case of attempted arson in a shopping arcade in Sydney showed that an elaborate device for causing a fire had been placed underneath a shop floor. Celluloid balls containing glycerin were suspended in such a manner that when a candle had burned for a considerable time they would have become ignited, causing the glycerin to come in contact with potassium permanganate, this in turn igniting paper and other inflammable material impregnated with oil. Sufficient evidence was obtained to convict the accused person, who received a sentence of three years.

PICROTOXIN POISONING.—A mental patient was treated at a Sydney hospital with picrotoxin as a substitute for cardiazol to produce convulsions. The patient received 48 mg. in two injections. Five minutes later convulsions ensued; shortly afterwards respiration became feeble and the pulse imperceptible and the patient died. The analysis of exhibits established that death was due to picrotoxin.

POISONING BY CARBON DIOXIDE FROM ENSILAGE.—The body of a man was found in an ensilage pit. As the possibility of asphyxiation was recognised, samples of air from the pit were sent to the Laboratory. The average results were: carbon dioxide, 38·1; oxygen, 10·5; nitrogen, 51·4 per cent. It is stated that the maximum evolution of carbon dioxide takes place when immature silage, finely chopped, is placed in a pit or silo with daily fillings and nightly intervals. Precautions should therefore be taken before entering the pit.

CYANIDE POISONING.—An unusual case of recovery from cyanide poisoning came under notice. After he had swallowed a considerable amount of cyanide dissolved in beer a would-be suicide was rapidly driven to a hospital and given prompt treatment. The stomach washings (93 fl. oz.) contained 1·1 grains of cyanide as potassium cyanide. The patient completely recovered.