1. Starch solution was at one time a favorite adulterant. The sample before you contains 25 per cent. of gelatinized starch, and might easily pass as genuine so far as appearance and taste are concerned. But the iodine test serves to detect its presence. Note the blue color produced on addition of iodine to a dilution of this sample, and in contrast the effect of its addition to a genuine honey.

2. Glucose syrup is now one of the most frequently used adulterants.

Bestmann's test consists in adding iodine, which gives a red or violet color quite distinct from that afforded with genuine honey.

The alcoholic precipitation of the dextrin always largely present in glucose syrup is very satisfactory, but unfortunately it is only trustworthy when pretty large additions of glucose have been made.

The two samples before you contain respectively 10 per cent. and 50 per cent. of glucose syrup, and the precipitation in the case of the second sample is very well marked.

Other methods involve the use of the polarimeter, and are not practicable except in a well-appointed laboratory.

3. Cane sugar syrup, as already stated, is easily detected in excess of about 10 per cent. by means of the polarimeter, but the method, for reasons stated, cannot be demonstrated here.

4. Invert sugar. As already mentioned, this constitutes the chief part of true honey, hence it is the most difficult af all the adulterants to detect. It is very largely used on this continent as a honey substitute and adulterant. If it could be of itself profitably manufactured by a method not involving high temperatures, the question of detecting it in honey would be even more difficult than it is now. We may as well recognize at once the fact that the polarimeter, which is our most useful instrument in sugar work, is of no use here. Nor are the various methods which depend upon precipitation of copper from alkaline solutions of its salts, because the added sugars are identical with the sugars naturally present in honey. The only useful tests are those which depend upon the recognition of traces of substances present in the artificial invert sugar, and not in that of true honey.

(a) Ley's test. (Described and illustrated.) Does not work with honeys that have been heated.

(b) Analin acetate test.

(c) Fielie's resorcinal test.

The sample of invert sugar exhibited as No. 1 has been made at a temperature not exceeding 100° C. Its analysis is as follows:

Water, 22.3 per cent.

Reducing sugars by Fehling's method—Before inversion, 58.67 per cent.; after inversion, 86.81 per cent.

Polarization—Direct, plus 7.0°; invert, minus 25.0°; difference, 32°.

Cane sugar, 24.61 per cent.

It is evident that a temperature above 100° is necessary to effect such inversion as would enable this to pass for honey. It is quite as colorless as though kept at 100° C. for nearly an hour.

### Resolution Suggested

Recognizing the importance of legal definition in the case of honey, this Association respectfully recommends the adoption of the following description as embodying the present state of our knowledge regarding Canadian honeys:

Honey is entirely the product of the work of bees (Apis mellifica), operating upon the nectar of flowers and other saccharine exudations of plants, and contains not more than 25 per cent. of water or more than 8 per cent. of sucrose (cane sugar), nor less than 60 per cent. of invert sugar. It does not give a blue color with iodine (absence of starch syrup), nor a red color with aniline acetate (absence of artificial invert sugar), nor a dark color with Ley's reagent (ammoniacal silver), nor a marked precipitate of dextrin on adding large excess of alcohol (absence of glucose syrup).