

low color is found, which re-dissolved in water is without action to the naked sight.

3rd. 50 grammes of pure Alsatian honey dissolved in 150 grammes of water and decolorized. The polarization is 11° ; after 16 hours of dialysis, the solution deviates no longer after dialysis, the extract found on the dialyser has evaporated, it is without result on polarized light.

4th. 50 grammes of Alsatian honey, of which the polarization (solution, one part of honey and two of water) is 26° , dissolved in 250 grammes of water, decolorized and dialyzed after $5\frac{1}{2}$ hours only of dialysis, the deviation is no longer found. One hour after the honey is withdrawn from the action of the dialysis, and then evaporated. The polarization is still 0° .

5th. 30 grammes of natural honey dissolved in 150 grammes of water decolorized and polarized. The polarization is 10° . It is then dialysed.

2 hours after the polarization is -5°

3 " " " " -4°

4 " " " " -2°

5 " " " " -0°

For more certainty we again dialysed for three hours; the extract has evaporated to 20 cubic centimeters, the polarization is again 0° .

6th. 50 grammes of Alsatian honey - the production of the forest and meadow - dissolved in 250 grammes of water, decolorized by means of animal charcoal and polarized. The polarization is -5° . After 16 hours of dialysis the deviation is 0° . Evaporated to 20 cubic centimetres the solution remains without any rotary power. After fermentation with yeast the fermentation is again 0° .

EXPERIMENTS WITH GLUCOSE.

(Under the form of glucose syrup.)

7th. A solution of glucose 10% strong, which deviates 1.0° to the right, decolorized and submitted to the dialysis for 16 hours, deviates still $+5^{\circ}$. The dry extract of 10 grammes of syrup weighs still one gramme, 682 milligrammes.

8th. 40 grammes of pure honey (a solution of 1 part honey to 2 parts water, deviation to the left 35°) are mixed with 10 grammes of glucose. A solution of this preparation 10% strong, shows after dialysis a deviation to the right of 4° .

9th. 30 grammes of pure honey are carefully mixed with 20 grammes of glucose, dissolved in 250 grammes of water and decolorized by means of animal charcoal. The polarization ascends to $+65^{\circ}$. After 14 hours of dialysis the deviation is permanently fixed at 14° . After evaporation to 50 grammes of the extract taken in the dialyser, the polarization ascends to $+60^{\circ}$. Evaporated to dry and dried by means of sulphuric acid dessicator an extract of a strong yellow color

remains which, dissolved in water and treated by means of a ferment, deviated still $+48^{\circ}$.

10th. 50 grammes of an adulterated honey dissolved in 250 grammes of water. The polarization is $+95^{\circ}$. In order to observe the decrease of the deviation, the liquid found on the dialyser is at first examined every two hours, then every hour.

2 hours after, the polarization is $+45^{\circ}$

4 " " " " $+33^{\circ}$

6 " " " " $+18^{\circ}$

8 " " " " $+15^{\circ}$

9 " " " " $+12^{\circ}$

10 " " " " $+11^{\circ}$

11 " " " " $+10^{\circ}$

12 " " " " $+10^{\circ}$

The deviation remains steady after 11 hours.

11th. 50 grammes of an adulterated honey of 10 per cent. in strength dissolved in 250 cubic centimetres of water, decolorized and polarized. The polarization is $+12^{\circ}$; 12 hours later the deviation remains steady at $+6^{\circ}$.

12th. 50 grammes of an adulterated honey treated as aforesaid. The polarization ascends to $+75^{\circ}$, after 13 hours of dialysis the deviation remains $+8^{\circ}$.

13th. An adulterated honey has been treated in the same proportions as above, and it has given a fixed deviation of $+9^{\circ}$, after 12 hours of dialysis.

By the foregoing experiments it is indubitably established:

1st. That honey, which after dialysis, deviates the plane of polarization to the right is adulterated with glucose.

2nd. That honey which, after dialysis, does not deviate the plane of polarization to the right is not mixed with glucose.

After these results give me permission to express a wish that apiculture should be under the high and powerful protection of the government, and that the government should forbid the importation and sale of artificial or adulterated honey under the name honey, this word being applied only to the natural product.

In the same manner that the law distinguishes butter from oleomargarine it should distinguish between natural and artificial honey.

As I sat a-dreaming,
And thought the world a-seeming,
With nothing true
Or old or new.
A little bee flew nigh me,
"Up! up and do!
'Tis such as you
That makes the world a-seeming."