

Aids for Judging Honey

## POLARISCOPE

## Materials for Polariscopes

## 1. Polarizing material

Best: Polaroid HN Film, Laboratory, 6" x 6". Available from Fisher Scientific Company, 585 Alpha Drive, Pittsburgh, Pa. 15283, Fisher Cat. No. 13-789A. Cost approx. \$7.50 per sheet.

Adequate: Polarizing material, Selected Seconds. Cat. No. P-70,887: 6" x 24" sheet for approx. \$4.80, Edmund Scientific Company.

## 2. Protection against heat.

The diagram shows a piece of 6 x 6 heat-absorbing glass between the polarizing material and the light source. Originally this was a 6 x 6 molded filter blank at \$3. It is now priced at \$25 and may be substituted as follows:

- a. Heat-absorbing glass, 4 x 5 inches, (102 x 127 mm), Cat. No. 4009, Price, approx. \$1.25 - Edmund Scientific Company. This requires that the dimensions of the front of the device be changed from 6 x 6 to 4 x 5, an adequate size.
- b. An alternative is the use of a ventilating fan. Edmund Scientific lists a "Cooling motor with 3½" fan blade", Cat. No. 101, approx. \$4.00. This would allow the full-size 6 x 6 screen to be used.

## 3. Ground glass.

Clear glass may be ground with wet carborundum, or a piece 7" x 7" purchased from Edmund Scientific: Cat. No. 60,120, approx. \$2.25. If the 4 x 5 heat-absorbing glass is used, order the 4 x 5 ground glass, Cat. No. 2148, approx. \$1.90. Ordering information from Edmund is attached.

Use of Device. The polarizing film is placed in the holder in the crossed position, showing minimum light transmission. The sample is placed between the polarizing plates and examined for crystals (large or small irregular bright particles) or dust (threads, specks of light). The attached photoprint shows a honey containing crystals. Pollen shows as bright points of light, and should not be considered in this examination. It will be reflected in the score for clarity if sufficient is present to affect it.

USDA Color Classifier

Available from Bee Supply Houses at about \$160. Pfund Grader is not suitable for use in judging. Extra bottles for color classifier are available from Erno Products Company, 65 N. 2nd St., Philadelphia, Pa. 19106, as "Bottles, French Square, Wide Mouth, 20 oz. Erno No. A 6724", 20 dozen/case (minimum order) at \$20.40 per case (Dec. 1977), manufactured by Owens-Illinois

Glass Container Division, Gas City, Ind. as "M&M 7071, Flint, 2 oz., A6724, 28-405". Caps from Erno are "Cap No. 28, PV lined, black plastic", 20 dozen/case, \$5.83 per case.

For correct classification of color only these bottles may be used. Other similar bottles do not have the correct inside dimensions.

Refractometer.

The hand refractometer is very useful for measuring moisture in honey. Several models are available, calibrated for sucrose, reading in percent solids (Brix), or calibrated for honey, reading in percent solids or in percent water directly. A conversion table to convert percent sucrose by refractometer to percent moisture in honey is attached. Sources and approximate prices:

Honey refractometer -- Bee Supply houses, price approx. \$170. - \$200.

Sucrose refractometer -- Standard Scientific Supply houses (Fisher, Thomas, etc.) at about \$350. - \$400.

Also 2 models from Markson Science Inc. , Markson Cat. No. JM 8736 -

Hand Refractometer, 58-90% Sucrose \$99. or

JM 8743 Heavy Duty Refractometer, 58-90% Sucrose, with temperature correction, \$195. (Markson order information is attached.)

Names of commercial companies and products are provided for your convenience only and are not recommended by the Department of Agriculture over others of a similar nature not names.

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