

16.13.07**AOAC Official Method 973.61
Foreign Matter in Corn
(Canned, Whole and Cream-Style)****Flotation and Macroscopic Methods
First Action 1973
Final Action 1988**

Place 200 g well-mixed test portion in 1.5 L beaker and add 1 L 40% isopropanol. Bring to bp, stirring magnetically, **970.66B(c)** (*see* 16.1.02), add 50 mL mineral oil, **945.75C(p)** (*see* 16.1.01), and boil and stir 3 min more. Transfer immediately to percolator, **945.75B(h)(3)** (*see* 16.1.01), containing ca 100 mL 40% isopropanol and glass or metal rod for forcing corn through spout. Retain stirring bar in beaker. Rinse bar with undiluted isopropanol. Add ca 900 mL 40% isopropanol to beaker, stir, and add to percolator. Reserve beaker. After ca 5 min standing, drain percolator to within 8 cm of bottom onto 8 in. (20 cm) No. 20 sieve nested in large white enamel tray of ca 2 L capacity. Use rod to force corn through percolator drain spout. Withdraw rod after removing corn from percolator and wash with small amount of undiluted

isopropanol into reserved beaker. Discard isopropanol collected in tray. Leave sieve in place with retained corn material. Using reserved beaker, add ca 1.5 L hot tap water (50 –70°C) to percolator. Let phases separate ca 3 min and make final drain. Discard all but last 5 cm oil-aqueous phase. Drain into 600 mL beaker. Wash sides of percolator with alternate isopropanol and water rinses, and collect in same beaker. Add rest of corn from can to corn retained on sieve, sieve portionwise if necessary, and wash with tap water to remove starch and fine particles. Reverse sieve into white enamel tray. Wash corn into tray with forceful spray of water (ca 22°C) to 3 cm depth in tray. Let corn settle and examine under H₂O for worm-eaten or rotten kernels and whole worms, heads, or large fragments. Add these to trappings previously obtained from percolator. Tip tray and slowly decant H₂O while carefully observing flowing water for insect fragments. Refill tray with 3 cm H₂O (ca 22°C) and repeat decantation, examining closely for objectionable material. Discard pan contents. Filter beaker contents through ruled filter paper and examine microscopically. If filtration is impeded by excessive starch material, proceed as in **970.66B(d)** (*see* 16.1.02).

Reference: *JAOAC* **56**, 634(1973).