frontal and sagittal sutures, and it is indicated on Krieg's atlas of millimetric sections of the rat's brain (*7*). Hence, it can be used as a reference point for the coordinates needed to reach any structure within the rat's brain.

References and Notes

* Present address: Institute of Neurological Sciences, University of Pennsylvania Medical School.
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New Method of Presentation of Food Samples to the Hunter Color and Color Difference Meter

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In our attempts to establish the relationship between the color of processed fruit and vegetable products, as determined by the Hunter Color and Color Difference Meter (*1*) and the score given for color by the Agricultural Marketing Service inspectors, certain difficulties have arisen. The Hunter instrument only permits the use of products in discrete forms through multiple spot readings on the sample food product. These multiple readings are time consuming. To surmount this difficulty, some investigators (*2*) have presented a homogenized sample to the meter. This does eliminate the variation induced by the various angles and interstices of the product, but it also presents to the meter a product totally unlike that which is viewed by the Agricultural Marketing Service inspector or other observers.

We are reporting a new approach to the problem

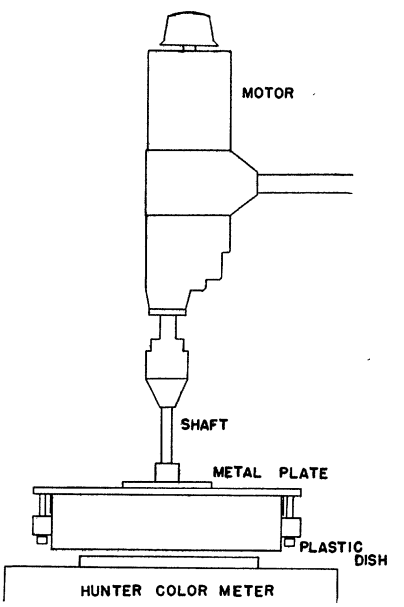

Fig. 1. Apparatus for the presentation of food samples to the Hunter Color and Color Difference Meter.

Table 1. A comparison of Hunter* "L," $+a_L$, and $+b_L$ readings taken by three methods of sample presentation.

	Sliced Marshall strawberries				Whole Canby raspberries			
	Homogenized sample	Rotated in dish	Five multiple spot readings	Average of spot readings	Homogenized sample	Rotated in dish	Five multiple spot readings	Average of spot readings
Hunter "L"	24.6	29.2	29.4 28.5 28.4 31.7 30.0	29.6	21.7	17.9	16.0 19.2 18.8 20.1 19.0	18.6
Hunter $+a_L$	27.0	31.6	32.7 **32.9** 28.7 32.3 30.3	31.4	30.2	27.3	26.9 26.0 28.8 28.1 28.4	27.6
Hunter $+b_L$	12.0	16.8	16.4 **15.7** 14.2 16.7 16.2	15.8	10.0	7.9	7.1 8.1 8.3 9.2 8.5	8.2

* L (visual lightness) and ordinates "a" and "b" are used to describe color by the Hunter system.

of securing a closer relationship between Hunter color difference measurements and Agricultural Marketing Service grades for color. It involves the use of a clear plastic dish (Fig. 1) fitted with a tight cover, the latter being coupled to a ¼-in. shaft located vertically at the center of the cover. The bottom and top of the dish are tightly connected by means of thumbscrews mounted on the outside perimeter of the sides of the dish and extending through an aluminum plate mounted to the cover of the dish. The shaft is connected to a laboratory-type variable-speed electric motor located above the meter. This motor may, in turn, be connected to the power source through a variable-speed transformer. By proper manipulations of the transformer, a speed may be selected, which reduces the oscillations of the galvanometer of the meter to a minimum and thus averages and "integrates" the color values of the product. The speed of turning of the dish is variable depending upon the nature of the product.

The entire assembly is mounted off-center to the source of light from the meter and may be either directly behind or to one side of the meter to take advantage of the area relationships of the light from the meter.

Products to be viewed by the meter are placed in the dish, the cover clamped on, and the assembly connected to the motor. To prevent scratching of the meter "viewing" plate, the assembly is raised approximately 3/16 in. above the plate. This causes no change in the readings.

Typical results by the three methods of sample presentation are shown in Table 1. This method is readily adaptable to use with other types of reflection meters.

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Improved Homogenizer for Plant Tissues

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An improved homogenizer suitable for rapid homogenization of small samples of plant tissue has been designed. This apparatus combines the advantages of the conical form used by Takahashi (*1*) and the plastic pestle described by Brendler (*2*). The conical form of pestle and mortar is advantageous because the pestle continues to fit tightly in the mortar after wear. The plastic pestle has been found to be more satisfactory than glass since the former is essentially unbreakable and very easily made in any laboratory.

The mortar is a 12-ml heavy-walled, conical centrifuge tube. This tube should be carefully selected for uniformity of taper and absence of irregularities and defects in the conical tip. If desired, a pouring lip may be added by the usual glassworking techniques.

The pestle was made by pouring about 1.8 ml of a mixture of monomeric methyl methacrylate and a catalyst into the centrifuge tube; the pestle shaft was suspended in this mixture and polymerization allowed to take place. The liquid methyl methacrylate (*3*) contained an inhibitor, 0.006 percent hydroquinone, which was removed by three extractions with approximately 0.5*N* NaOH and three extractions with distilled water The water remaining in the methyl methacrylate was removed with $CaCl_2$.

Luperco CDB (*4*) was used to catalyze the polymerization of methacrylate. This catalyst, which is a mixture of equal parts of 2,4-dichlorobenzoyl peroxide and dibutyl phthalate, was used at a concentration of approximately 250 mg/25 ml of methyl methacrylate. To prevent the plastic from adhering to the centrifuge tube, the inside of the tube had previously been coated with a soap film and dried thoroughly. The shaft portion of the pestle was a 15-cm length of steel piano wire 3/32 in. in diameter. The portion of the shaft to be embedded in plastic was deeply notched by means of a file to provide a slip-proof union with the plastic.

The shaft was pushed through the exact center of a No. 4 tapered cork stopper. The stopper supporting the shaft was inserted in the centrifuge tube, and the shaft pushed down about ½ in. into the liquid plastic. The shaft was then centered in the plastic by carefully manipulating the cork, and the entire unit was put in an oven at 40 to 45°C and left 3 days for polymerization.

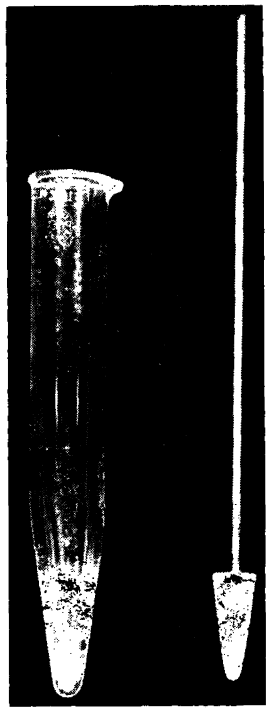

Fig. 1. Glass mortar (left) and plastic pestle with steel shaft (right).