A NEW AGAR MEDIUM FOR DROSOPHILA CULTURE[1]

TEACHERS and investigators who have been rearing *Drosophila melanogaster* on banana-agar medium and who are now concerned about the predicted banana shortage will be interested in the writer's experience in developing a war-time formula in which he has substituted canned tomato paste for banana. Oddly enough this substitution, mothered by necessity, produces a medium seemingly superior to either the banana or the cornmeal medium so long in use. It was Professor C. E. Myers who suggested that a tomato product might offer possibilities as a banana substitute. This suggestion came as a result of his observation that during the fermentation of tomato pulp for seed-saving great numbers of fruit-flies are attracted to the pulp barrels.

A two-month experimental period in the preparation and use of tomato-paste medium has provided time in which to test proportions of ingredients of the formula, to observe the properties of the resultant medium and to note the size and vigor of the yields obtained. The formula recommended is as follows, with the customary drop of Fleischmann's yeast suspension to be added to each culture when the flies are introduced.

1000 cc	water
100 gm	tomato paste
100 gm	white corn syrup
20 gm	granulated agar-agar
1 gm	Moldex

In the writer's opinion the advantages of the use of this medium are as follows:

(1) Tomato paste is available at grocery stores as a standardized product in six-ounce cans which may be purchased in quantity and stored in the laboratory, thereby eliminating the nuisance and uncertainty of obtaining bananas properly ripened at any or all seasons of the year.

(2) The cost of tomato paste plus corn syrup is not greater than that of bananas and the labor involved in its preparation is of shorter duration and far less "messy."

(3) The red color imparted to the medium by the tomato paste provides a background against which students may readily observe the progress of their crosses, for on the bright red agar the tiny white eggs are discernible and the movement of the first larvae easily detected.

(4) The cultures do not dry out, for there is ample moisture in the medium to support the culture over a period of three to four weeks and to keep the absorbent paper sufficiently moistened for successful pupation.

(5) The use of Moldex makes it possible to store at ordinary room temperature unautoclaved medium for two weeks or longer in plugged culture bottles which were sterilized before filling. With the addition of a drop of yeast suspension these bottles are ready for use at any time during a two-week period.

Optimism in regard to the timeliness of this formula must be tempered by the fact that at any moment its usefulness may be restricted by additional war-time shortages in agar, in syrup or in cans for processing tomato paste. However, it is strongly felt that the use of this formula will outlive the need for it.

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