

## A NEW MEDIUM FOR DROSOPHILA CULTURES

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The most commonly used media for *Drosophila* cultures are banana agar<sup>1</sup>, corn meal agar<sup>2</sup> and a few kinds of synthetic media, especially those of Pearl.<sup>3</sup>

Naturally these have their advantages and disadvantages. Banana agar produces large vigorous flies and does not dry out badly, but it is expensive and has a tendency to become contaminated with molds. Corn meal agar, on the other hand, is slightly less expensive but dries out badly and produces smaller, less vigorous flies. The synthetic media are uniformly expensive.

The new medium here described is cheaper than the others, produces flies fully as large and vigorous as any, does not dry out badly and is not unduly susceptible to contamination. If prepared correctly it may be kept for several days without danger of contamination and without requiring the addition of any water.

It is composed of the following materials in the proportion given by weight:

|                              |            |
|------------------------------|------------|
| Banana pulp .....            | 25%        |
| Water .....                  | 66%        |
| Corn Meal .....              | 4%         |
| "Black Strap" Molasses ..... | 3.9% to 4% |
| Agar .....                   | 1% to 1.1% |
| <hr/>                        |            |
| Total .....                  | 100%       |

The bananas should be ripe but not rotten. They are to be peeled and pressed through a "potato ricer." Tap water is ordinarily satisfactory; in fact, unless it contains excessive amounts of disinfectants, it is probably better than distilled water because of the minerals present. The corn meal may be either white or yellow: that prepared for use in cooking is good. "Black strap" is a crude New Orleans molasses sold at feed stores. It is probably better than the highly refined product, yet is much cheaper—a gallon costing about fifteen cents. The cheapest grade of agar is perfectly satisfactory but it should be torn apart in order to dissolve easily.

The medium is prepared as follows. The water, corn meal, molasses and agar are stirred up together and autoclaved at 15 lbs. pressure for

<sup>1</sup> Sturtevant, A. H. *The North American Species of Drosophila*. Carnegie Inst. Wash., publ. 301:16-17. 1921.

<sup>2</sup> Turtox Service Leaflet No. 15. *The Culture of Drosophila* . . . General Biological Supply House. Chicago, 1930.

<sup>3</sup> Pearl, R., Allen and Penniman. *A New Synthetic Medium* . . . *Am. Nat.*, 60:357-366. 1926.

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one-half to three-fourths of an hour. Next the banana pulp is added, mixed thoroughly with the other materials by means of an egg beater and immediately poured into the culture bottles. If a large batch is being made it may be necessary to supply a small amount of heat to the mixture while the pouring is being done, but the medium should not be allowed to boil, and the pouring should proceed as rapidly as possible. (Four-ounce wide mouth bottles with about 50 c.c. of medium in the bottom are very good for stock cultures.) After pouring, a piece of paper toweling is added to each bottle which is then plugged with cotton. The bottles are allowed to stand for 12 to 24 hours and then autoclaved at 15 lbs. pressure for ten minutes. As soon as cool, they are ready to use.

It is well to inoculate with yeast the day before the flies are placed in the bottles. This may be done by adding to each bottle by means of a clean medicine dropper, about four drops of a yeast suspension made by stirring one-third of a fresh cake of Fleischmann's yeast in an ounce of clean water. This yeast suspension is brought in contact with the entire surface of the medium by shaking the bottle. On the following day there will be a luxuriant growth of yeast which is very inviting to the flies and which tends to prevent the establishment of molds and bacterial contamination from the feet of the flies.