

Geer, B. W. Knox College. A new synthetic medium for Drosophila.

Sang's (1956) Medium C or modifications of Medium C have been used extensively in nutritional and genetic studies of Drosophila with excellent results. However, it is sometimes

necessary or desirable to replace casein with an amino acid mixture. Many amino-acid mixtures have been tested by this laboratory to determine their adequacy for the diet of D. melanogaster and the following medium was found to be the best.

<u>Amino Acids</u>	<u>mg</u>		<u>mg</u>
L-Arginine.HCl	80	RNA	100
L-Cystine	30	Cholesterol	30
L-Glutamic acid	840	Thiamine.HCl	0.2
Glycine	40	Nicotinic acid	1.2
L-Histidine.HCl	100	Riboflavin-5'-phosphate, Na	1.0
DL-Isoleucine	300	Calcium pantothenate	1.6
L-Leucine	200	Pyridoxine.HCl	0.25
L-Lysine.HCl	190	Biotin	0.03
DL-Methionine	80	Folic Acid	1.0
DL-Phenylalanine	130	Choline chloride	8.0
DL-Threonine	200	FeSO ₄	1.0
L-Tryptophan	50	CaCl ₂	1.29
L-Tyrosine	80	MgSO ₄ ·7 H ₂ O	24.6
DL-Valine	280	MnSO ₄ ·H ₂ O	1.29
<u>Other Components</u>		NaHCO ₃	100
Agar	1500	KH ₂ PO ₄	183
Sucrose	1000	Na ₂ HPO ₄	189
		Water to	100 ml

Flies have been cultured on this medium by serial transfer under germ-free conditions for several generations.

Preparation of the medium is as follows: Dissolve the RNA in an amount of phosphate buffer solution equivalent to 0.4 of the final volume. Mix the buffer-RNA solution and all of the amino acids except cystine and dissolve the amino acids by gentle heating. After neutralization with dilute NaOH, add the B-vitamins, salts, and choline. Add cholesterol as a suspension prepared by dissolving cholesterol in warm 95% ethanol, adding water, and removing the ethanol by autoclaving for ten minutes. Dissolve the cystine in a minimal amount of 1 N HCl and add. After a final neutralization, add sucrose and agar. Adjust the final volume to 100 ml by adding water. Sterilize the medium by autoclaving at 15 pounds of pressure for 15 minutes.

The reports of Hinton, Noyes, and Ellis (1951), Sang (1956), and Salmon (1964) were especially useful during the development of this medium

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References: Hinton, T., D. T. Noyes, J. Ellis, *Physiol. Zool.*, 24, 335 (1951).
Salmon, W. D., *J. Nutrition*, 82, 76 (1964).
Sang, J. H., *J. Exp. Biol.*, 33, 45 (1956).

Mazar-Barnett, Beatriz K. de. Comisión Nacional de Energía Atómica, Argentina. A dark medium appropriate for egg counts.

When a dark colored background is needed for counting eggs, caramelized dextrose has proved to be very convenient. It is non-toxic, and one spoonful per Kg of standard cornmeal-molasses-agar medium is enough to obtain a dark

even color.