Comments and Communications

Anti-Rh Pseudoagglutinins in IV-6 Human Plasma Fraction

In a recent article (*Science*, May 28, pp. 571–572) some hematologic effects from the infusion of IV-6 human plasma fraction were described. We have since encountered anti-Rh pseudoagglutinins in samples of this fraction prepared from a plasma pool of 400 presumably normal donors. The concentration of anti-Rh factor in these samples was sufficiently high to render them utilizable as Rh testing antiserums.

Although passive sensitization by Rh pseudoagglutinin in postnatal life has never been reported to our knowledge and although we have not observed such sensitization by the administration of solutions of IV-6 fraction, we nevertheless suggest that anyone contemplating the administration of this fraction test it beforehand for the presence of anti-Rh pseudoagglutinins. Should these prove to be present, it would seem advisable to remove such pseudoagglutinins prior to administration.

Anti-Rh pseudoagglutinin may be readily removed from human plasma fractions by the addition of successive portions of Rh-positive erythrocytes and the removal of the clumped masses of the latter by centrifugation.

We have found a similar blocking type anti-Rh pseudoagglutinin in glycoprotein fractions from hog parotid and hog stomach extracts.

GEORGE B. GORDON, HERBERT A. WEITZNER, and ROBERT D. BARNARD

565 1st Street, Brooklyn, New York

Recent Developments in Weed Control

This article describes a method employed in Hawaiian weed control to supplement the desirable herbicidal effect of 2,4-D and to tame or reduce the injurious effect of this hormone upon sugar cane.

Depending upon pH, physical characteristics, and concentration of organic matter, Hawaiian soils react differently to normal pre-emergence applications of 2,4-D. In a number of middle-belt soils—pH range, 6.5–7.5—an application of 2,4-D at 2½ lbs/acre of soil surface will penetrate downward 3″ or more without its suffering immediate fixation or decomposition. In such cases the hormone may reach the recently planted cane seedpieces, 3″ below the soil surface, in amounts sufficient to repress or prevent their germination, or it may abort or distort root development and growth of cane shoots.

In other soils—pH, 6.0–7.0—of the heavy adobe type, as much as 25 lbs/acre of 2,4-D may be applied under similar circumstances with no observable detrimental effects whatsoever. In the first case cited, 2½ lbs of 2,4-D/acre may be found too light an application as a satisfactory inhibitor of weed and grass seed germination and growth of tender weed seedlings.

It has been found in such cases that the application of 2,4-D may be reduced to a concentration not harmful to germinating cane—say 2 lbs/acre—and the full pre-emergence herbicide effect on the field may be sustained three months or longer *provided* its action is supplemented by including with it about 5 times its weight of H.S.P.A. Activator (pentachlorophenol, or sodium pentachlorophenate—U. S. Patent No. 2,370,349).

The activator does not injure the planted seedpiece or in any other manner adversely affect the growth and development of the crop as far as we have been able to detect. As a matter of fact, H.S.P.A. Activator alone, applied at 40 lbs/acre in pre-emergence, has been found entirely satisfactory for the purpose, although rather costly.

In a proposal which was made at the annual meeting of the Hawaiian Sugar Technologists in November 1947, it was suggested that it may be possible to discourage the downward movement of soluble 2,4-D in the soil by applying it in oil solution. A herbicide formula, based upon the amendments to 2,4-D discussed above and previously studied in the laboratory, was submitted in Honolulu to the assembled technologists at their meeting previously noted. The formula follows:

2,4-DAC[1]

66	lbs of aromatic by-product petroleum oil[2]
10	" " oil-soluble H.S.P.A. Activator[3]
2½	" " isopropyl ester of 2,4-D
2	" " oil-soluble emulsifying agent[4]
80½	lbs (about 10 gals)

The activator is dissolved in the oil by the application of gentle heat. The ester is then added, followed by the emulsifying agent. Add the 10 gals of 2,4-DAC, with moderate stirring, to 90 gals of water, the latter containing .5% by weight of a conditioner[5] consisting of an alkyl aryl sulphonate. This produces an excellent emulsion which remains stable for hours.

The 100 gals of diluted emulsion thus produced may be applied in pre-emergence to one acre of bare soil by ordinary spraying equipment. This art is currently in vogue as exclusive plantation practice on one sugar plantation on the Island of Hawaii.

Where modern spray nozzles are employed, the 10 gals of concentrated 2,4-DAC may be applied directly, without further dilution, or any convenient volume of water may be used to dilute the concentrate if so preferred.

[1] Indicating a combination of 2,4-D and oil-soluble H.S.P.A. Activator.

[2] Any highly aromatic, low-density, by-product oil, such as Union Oil Company's 4060-0, General Petroleum Company's 1408, Magnolia Petroleum Company's Sovacide 544-C, Pan American Refining Company's A-383, etc.

[3] Pentachlorophenol.

[4] Any suitable emulsifier of the alkylated aryl polyether alcohol group.

[5] Santomerse 3, or 2-7-R Wetting Agent.