4. While Table I gives the adsorption data for 0·1 g. of carbon only, similar data have been obtained for weights up to 0·5 g. and also for solutions of different concentrations. Plotting[1] log x/m against log c (x = weight of solute in g. adsorbed by m g. of carbon, and c = concentration of adsorbate at equilibrium), a straight line graph is obtained in accordance with Freundlich's isotherm, with a slight deviation at low concentrations.

5. The active carbons produced in this series of experiments were found suitable for decolorising solutions of molasses, palm-gur, and cane jaggery. 50 ml. of an 8% solution of molasses[5] in a buffer of pH = 6·5 was shaken with 0·5 g. of active carbon and the percentage decolorisation measured with a photo-electric colorimeter.[4] Similar experiments were conducted with palm-gur and cane-jaggery solutions taking 500 ml. of a 13% solution for each determination. Results are shown in Table II.

TABLE II

	Type of activation	Percentage colour removed		
		Molasses (i)	Palm-gur (ii)	Cane jaggery (iii)
1	None 650° C. char	26	4	2
2	$CaCl_2$–(*b*)	71	15	9
3	Steam at 650° C.	73	22	15
4	$ZnCl_2$–(*b*)	90	27	20
5	H_3PO_4–(*a*)	95	35	25
6	H_3PO_4–(*b*)	92	33	23

(i) 8% solution (50 ml.) 0·5 g. of carbon; (ii) 13% solution (500 ml.) 6 g. of carbon; (iii) 13% solution (500 ml.) 6 g. of carbon.

Complete decolorisation of palm-gur solution (150 g. in 400 ml.) could be effected by using 30 g. of H_3PO_4-activated char added in 6 batches of 5 g. each, the final product being a water-white syrup. For cane-jaggery solution of the same strength as above, a total of 40 g. of carbon in 8 lots was required. These figures compare very favourably with the weights of technical grades of carbon required for complete decolorisation of these products. The spent carbon could be revived to more than 50% of the original activity, by washing and re-heating at 650° C.

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4. Hassler, J. W., *Active Carbon*, Chemical Publishing Co., 1951, 336.
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CONTROL OF NEMATODES

IN an article featuring the soil pest complex in the March issue of the *Journal of Agricultural and Food Chemistry*, a new phosphorus compound is reported to be effective for the control of the soil pests known as nematodes.

The new compound is 0-2, 4-Dichlorophenyl 0, 0-Diethyl Phosphorothioate and is available as a 75% emulsifiable concentrate.

Chemical treatment for nematode control to date, has been limited to fumigating materials, all of which are highly phytotoxic If properly applied, all plants in treated areas are killed and therefore application must be made before planting

The new phosphorus chemical, which was developed by Virginia-Carolina Chemical Corporation is an insoluble liquid and is applied as an emulsion. It is not phytotoxic and has been successfully applied without damage to growing turf and ornamental plants. In extensive field tests on golf greens and turf during the past four years, excellent nematode control has been achieved with 125-200 lb. per acre of the 75% emulsion. No root damage was found at higher rates of application.

The new chemical was first synthesized by Doctors William P. Boyer and J. Roger Mangham in the Richmond, Virginia, research laboratories of Virginia-Carolina, while extending investigation into the field of phosphorus compounds originally developed by Dr Gerhard Schrader of Leverkusen, Germany. Its effectiveness as a nemacide was discovered by Dr J. R Christie and V. G. Perry of the Bureau of Plant Industry, U.S Department of Agriculture, under screening programmes for possible solutions to the nematode threat.