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New Carbamoyl Organophosphorus Compounds

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NEW CARBAMOYL ORGANOPHOSPHORUS COMPOUNDS

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The syntheses of various organophosphorus compounds, which contain a function with potentially agropharmaceutical properties (acylureas [1], acylsemicarbazides [2] or imidazolidinetriones [3]) are described.

Phosphorus acylureas and acylsemicarbazides were prepared by condensation between various phosphorus starting materials (dithiophosphate, phosphine, phosphite and phosphinite) and two chlorinated precursors (N-chloroacetyl N'-phenylurea and 4chloroacetyl (2,4-dinitro 1-phenyl)semicarbazide):

Phosphorus 2,4,5-imidazolidinetriones were obtained in two different ways: the syntheses of the dithiophosphate and phosphonium salt derivatives involved the reaction between a common N-chloromethyl heterocycle and corresponding phosphorus partners, while the preparation of phosphonylmethyl and phosphine oxide imidazolidinetriones was realized using a multi-step synthesis strategy starting from different phosphorus phthalimides:

[1] E. KUHLE, E. KLAUKE, Angew. Chem. Int. Ed., 16, 735 (1977).

[2] K.A. NURIDZHANYAN, N.P. BULANOVA, L.M. NESTEROVA, L.D. STONOV, L.A. BAKUMENKO, U.S.S.R. 189,421 (1966), Chem. Abstr. 68, 21721e (1968).

[3] T. BALOCHER, E. EBERT, (Ciba-Geigy), U.S. 3,937, 626 (1976), Chem. Abstr. 84, 175162r (1976)