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Synthesis and Inhibitory Effect on Photosynthetic Electron Transport of 1,3,5-Triazinylcarboxylic Acid Derivatives

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Abstract:

This study relates to the modification of 2-benzylamino-4-methyl-6-trifluoromethyl-1,3,5-triazine. New 1,3,5-triazine compounds with an electron-withdrawing carboxyl group, *e.g.* ester group, substituted for the trifluoromethyl group, were synthesized and assayed for activity to inhibit photosynthetic electron transport (PET) in thylakoids of spinach as well as both atrazine-resistant and wild-type *Chenopodium album*. Among the compounds with an alkylamino group, 2-ethoxycarbonyl-4-isopropylamino-6-methyl-1,3,5-triazine was the most potent PET-inhibitor, exhibiting a pI_{50} of 6.11. The inhibitory activity was generally more potent with 2-alkoxycarbonyl-4-(branched alkyl)amino-6-methyl-1,3,5-triazines than amino-analogues with straight chain alkyl groups or unsaturated alkyl groups. © Pesticide Science Society of Japan

Keywords:

2-ethoxycarbonyl-4-isopropylamino-6-methyl-1,3,5-triazine, PET inhibition, atrazine-resistant and wild-type *Chenopodium album*

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