

WHO and GHS Classification of Pesticides: Its Implications under Sri Lankan Scenario

L.S. Abeysinghe[†], L. Nugaliyadde, M.H.R. Mohamed, K.H.S. Chaminda,
M.D.P. Kanderathne, D.I. Ranaweera, T.P. Madushani, H.K.R. Sampath and
W.M.A.S. Weerakkody

Faculty of Agriculture, University of Ruhuna, Sri Lanka [†]sandika@agecon.ruh.ac.lk

Abstract: Information on the hazardous nature of chemicals is important in the production, transport, use and disposal of the chemicals in a more environmental safer manner. The UN in 2009 created the Globally Harmonized System of Classification and Labeling of Chemicals (GHS) with the aim of having a unified system for classifying chemicals (including pesticides) according to their health, environmental and physical hazards and to help replace the WHO Recommended Classification of Pesticides by Hazard and other classifications adopted region-wise. We compared the 43 insecticides, 27 fungicides and 25 herbicides, recommended for agricultural use in Sri Lanka, based on the above two scales with a view to examine the implications that may encounter once the classification is implemented. The recommended insecticides included 10 Oregano Phosphates, 8 Carbamates, 5 Pyrethroids, 4 Neo-nicotinoids, 2 Phenyl Pyrazoles, 7 Insect Growth Regulators, 3 Moulting Accelerating Compounds, and 4 bio-pesticides. The recommended fungicides included 27 different compounds with different modes of actions. The herbicides included a total of 25 pre- and post- plant herbicides with different chemistries. Based on the LD50 values, WHO system categorizes pesticides into class Ia (Extremely Hazardous), Ib (Highly Hazardous), II (Moderately Hazardous), III (Slightly Hazardous) and IV while the GHS scheme classifies pesticides into category 1 (Fatal), 2 (Fatal), 3 (Toxic), 4 (Harmful) and 5 (May be Harmful). We observed that about 25% of pesticides classified under WHO class II (moderately hazardous) will fall under GHS Category 4 (harmful). Furthermore, the proposed phasing out of WHO class II pesticides from agriculture use would not be easier as some of these products would fall into GHS Category 3 along with WHO class III pesticides. Furthermore, we also observed that some of the WHO class II products, having specific Mode of Actions would be important in integrating for the management of resistance development in some major pests to pesticides. A survey conducted among 60 Agriculture Scientists and Industry Personnel revealed that they are not well aware of the GHS Scheme and the implications that these changes would bring to the pesticide usage in agriculture.