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DETERMINATION OF HEAVY METALS (PB, CD AND AS) IN SOME TYPES OF FUNGICIDES

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ABSTRACT

The levels of lead, cadmium and Arsenic (mg/Kg) as impurities and metallic copper were determined in some types of fungicides namely Efdal bakirox, Bromix, Galbin Ar and Moltifen before and after storage at 54°C for 21 days. The level of lead, cadmium and Arsenic (mg/kg) showed varying from fungicide to the other where Efdel bakirox (W.P) was more in its lead content and less in its content of cadmium than other tested formulation. Results also show increases the amount of lead (mg/kg) in all tested fungicides after storage but the amount of cadmium and arsenic (mg/kg) was not detected after storage in all tested fungicides. On the other hand, the data indicate that metallic copper (a.i) was constant. The percentage losses of metallic copper were 2.521, 0.914, 3.761 and 3.217 % after 21 days of storage at 54°C for Efdal bakirox, Bromix, Galbin Ar and Moltifen, respectively. Also, results indicated that all tested Copper formulation were passed successfully and comply with FAO specification.

In addition, results indicated that Cymoxanil (a.i) was relatively stable in all tested of Bromix and Gabin Ar after storage, whereas the percentage loss of cymoxanil were 6.62 and 3.98 % after 21 days from storage at 54°C for Bromix and Moltifen, respectively. The percentage loss of Benalaxyl was 32.91 % after 21 days of storage at 54°C for Galbin Ar. SO, due to indicated that all tested Copper formulation was passed successfully and comply with FAO specification. The data also show the physical properties of tested copper formulations by long time of storage, whereas the results show percentage low of pH values whereas was more decrease in Moltifen than the other tested copper formulations, where the percentage low was 6.319, 7.098, 8.727 and 13.081 % for Efdal bakirox, Bromix, Galbin Ar and Moltifen, respectively.

Key words: Cymoxanil and Benalaxyl; fungicides; Heavy Metals.