

PERSISTENCE OF DINITRAMINE AND PENDIMETHALIN IN THE SOIL

Second Place, Crop and Soil Science Section,
Professional Category

Belen F. Berayon¹

The effects of different soil types, application rates and moisture levels on persistence of dinitramine and pendimethalin were evaluated in pot experiments under greenhouse conditions.

Higher residue carryover of the herbicides as determined by bioassays was obtained in clay loam soil over clay and fine sandy loam soils at 50 to 110 days because of the lower soil organic matter content in clay loam. Dinitramine was lost faster than pendimethalin at 50 to 80 days after application. However, both herbicides were almost undetectable after three months and could therefore not do serious injury even to sensitive species of crops in the succeeding season.

Higher rates of application consequently gave higher residues in all sampling periods than the recommended rate. Residues were very

negligible at the end of three months when the recommended rate was used. Pendimethalin was more persistent than dinitramine although both were present in very minute amounts after three months, at the lowest rate of application. Under field conditions spray overlaps could result in variation of herbicide electivity and residual phytotoxicity especially on the sensitive crops.

Dissipation of dinitramine and pendimethalin under low soil water levels was very slow. Dinitramine was more readily lost than pendimethalin in frequently wet soil. Leaching is not a principal means of dinitramine or pendimethalin loss in high soil water level with most of the residues still present in the upper 5 cm soil layer even if water was applied at 100% field capacity.

¹ Agronomist I, Visayas Experiment Station, Hamungaya, Jaro, Iloilo City.