

OXYDEMETON-METHYL (166)

EXPLANATION

The 1992 JMPR carried out a complete re-evaluation of oxydemeton-methyl, and this compound and demeton-S-methyl were also the subject of a periodic review by the 1998 JMPR. At the 31st Session of the CCPR (ALINORM 99/24A, para. 98), the JMPR was asked to clarify whether demeton-S-methyl and demeton-S-methylsulphon should remain in the residue definition of oxydemeton-methyl since it was believed that registrations of these compounds would not be retained in the future.

APPRAISAL

Both demeton-S-methyl and oxydemeton-methyl are used as insecticides. Extensive information was provided for the periodic review of oxydemeton-methyl but the only information reported for demeton-S-methyl was on its metabolism in wheat. Residues were defined as the sum of demeton-S-methyl, oxydemeton-methyl and demeton-S-methylsulphon, expressed as oxydemeton-methyl, both for compliance with MRLs and for the estimation of dietary intake.

Oxydemeton-methyl is the sulfoxide of demeton-S-methyl. It is metabolised similarly in plants and mammalian systems to form demeton-S-methylsulphon, which is commonly known as oxydemeton-methyl sulfone or ODM sulfone. In studies with radiolabelled compounds ODM sulfone formed a major part of the identified radioactivity in goat kidneys, muscle and fat, and wheat straw and grain, and was a minor metabolite in cabbages and rats. ODM sulfone is considered to be significantly more toxic than demeton-S-methyl or oxydemeton-methyl.

Numerous methods of analysis were reviewed. These were similar and all determined the combined residue of demeton-S-methyl, oxydemeton-methyl and demeton-S-methylsulphon after an oxidation step that converted demeton-S-methyl and oxydemeton-methyl to the sulfone. All supervised trials were with formulations containing oxydemeton-methyl, analyses were by methods which oxidized the residues to ODM sulfone, and all residues were expressed as the sum of oxydemeton-methyl and ODM sulfone.

The Meeting concluded that if demeton-S-methyl were no longer supported, its residues should no longer contribute to the total demeton-S-methylsulphon. However, its exclusion from the defined residue could lead to difficulties in enforcement situations where the misuse of demeton-S-methyl might have occurred.

The Meeting therefore recommended that additional information should be sought from the CCPR. Member governments should be asked to comment on their national situations relating to current enforcement methods and possible difficulties which might arise as a result of amending the residue definition. Also, the registrants and national governments should be asked to comment on the registration status of demeton-S-methyl.