

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON D.C., 20460



Office of Prevention,
Pesticides and Toxic
Substances

Date: November 2, 2009

MEMORANDUM

SUBJECT: Review of Data Package 357547 for Spirotetramat, PC Code 392201

TO: Rita Kumar, Risk Manager Reviewer
John Hebert, Risk Manager (RM 07)
Insecticide Branch
Registration Division (7505P)

FROM: Joseph DeCant, Ecologist
Environmental Risk Branch 5
Environmental Fate and Effects Division (7507P) *Joseph P. DeCant*

THRU: *AS* Mah Shamim, Branch Chief *Alton W. Vaughan*
Environmental Risk Branch 5
Environmental Fate and Effects Division (7507P) *11/03/09*

EFED has reviewed the following studies submitted for spirotetramat (PC Code 392201). The classification of each study is also presented with the respective citation. The completed DER'S for these studies are attached.

MRID 47563302 Stadler, T., Maus, C., Schnorbach, H.-J., and J. Doering. 2008. Assessment of effects of Spirotetramat OD 150 on honey bee (Apis mellifera L.) colonies under a realistic field scenario in a melon crop in 2007 (non-GLP). Unpublished study performed and sponsored by Bayer CropScience AG, Monheim, Germany. Study completed on May 19, 2008.

Classification: This field study is INVALID due to the statistically significant differences between treatment groups for average larval abundance and number of dead pupae before the first application as well as the inability to confirm exposure after the 2nd application.

MRID 47563303 Doering, J., Maus, Ch., Schnorbach, H.-J., and T. Stadler. 2008. Assessment of effects of Spirotetramat OD 150 to honey bee (Apis mellifera) colonies under a realistic field scenario in a melon crop. Unpublished study performed and sponsored by Bayer CropScience AG, Monheim, Germany. Study completed on July 4, 2008.

Classification: This study is SUPPLEMENTAL because it provides information about the effects of spirotetramat on bees in a field scenario; however, the study authors did not confirm foraging or exposure through pollen identification or pollen/nectar analysis, reduced foraging

potential after the fourth application of the test material, and a lack of quantified foraging on the crop.

MRID 47563304 Bocksch, S. 2008. Assessment of Side Effects of Spirotetramat OD 150 on the Honey Bee (Apis mellifera L.) Applied to Citrus in the Field in Spain. Unpublished study performed by eurofins-GAB GmbH, D-75223 Niefern-Oschelbronn, Germany. Study sponsored by Bayer CropScience AG, Ecotoxicology, Monheim, Germany. Study completed on September 15, 2008.

Classification: This study is SUPPLEMENTAL because it shows the effects of spirotetramat on bee brood in a field setting, but it also shows high variability in the endpoints and that little citrus pollen was foraged by bees in the treatment group suggesting limited exposure to the chemical.

MRID 47563305 Doering, J., H. J. Schnorbach, C. Maus and R. Schoening. 2008. Determination of Effects of Spirotetramat in Spiked Pollen to Honeybee Brood under Semi-Field Conditions (Trial 2008). Unpublished study performed by Bayer CropScience AG, Agronomic Development, Trial Station Hofchen, BCS-D-AD, Monheim, Germany. Study sponsored by Bayer CropScience AG, Monheim, Germany. Study completed on September 5, 2008.

Classification: This study is SUPPLEMENTAL as it illustrates the impact of spirotetramat in a food source over a range of concentrations, but it also revealed several limitations such as high variability in the endpoints in all treatment groups, a decrease in larval and pupal abundance in all treatment groups until the bees were allowed to forage, and the lack of pollen storage inside the hive.

MRID 47563306 Doering, J., Neumann, Ch., Schnorbach, H.-J., Maus, Ch. And R. Schoening. Determination of Effects of BYI 08330 in Spiked Pollen to Honeybee Brood under Semi-Field Conditions (Trial 2006). Unpublished study performed by Bayer CropScience AG, Agronomic Development, Trial Station Hofchen, BCS-D-AD, Monheim, Germany. Study sponsored by Bayer CropScience AG, Monheim, Germany. Study completed on September 14, 2007.

Classification: This study is SUPPLEMENTAL because it provides useful information about the effects of spirotetramat on bees in a tunnel design, but it also has deficiencies such as the lack of pollen collection inside the hive and the study design lacked replication.

MRID 47563307 Schnorbach, H.-J., Maus, Ch., Schoening, R., and J. Doering Residues of Spirotetramat and its metabolites in blossom samples of melons after spray application in Spain. Unpublished study performed Bayer CropScience AG, Monheim, Germany and Finca Experimental Agricola Brenes, Sevilla, Spain. Study sponsored by Bayer CropScience AG, Monheim, Germany. Study completed on March 15, 2006.

Classification: This study is SUPPLEMENTAL as it provides useful information related to the accumulation of spirotetramat in melon blossoms, but it was not conducted according to any established guideline.

MRID 47563308 Schnorbach, H.-J., Maus, Ch., Schoening, R., and J. Doering. Residues of Spirotetramat and its metabolites in nectar and pollen samples of melons after spray application (tunnel test) in Spain. Unpublished study performed Bayer CropScience AG, Monheim, Germany and Finca Experimental Agricola Brenes, Sevilla, Spain. Study sponsored by Bayer CropScience AG, Monheim, Germany. Study completed on March 15, 2006.

Classification: This study is SUPPLEMENTAL as it provides useful information related to the

accumulation of spirotetramat in honey bee nectar and pollen after foraging on melon blossoms, but it was not conducted according to any established guideline.

MRID 47563309 Schnorbach, H.-J., Maus, Ch., Schoening, R., and S. Kaiser. Residues of Spirotetramat and its metabolites in citrus blossoms after spray application in Spain. Unpublished study performed Bayer CropScience AG, Monheim, Germany and Finca Experimental Agricola Brenes, Sevilla, Spain. Study sponsored by Bayer CropScience AG, Monheim, Germany. Study completed on November 29, 2007.

Classification: This study is SUPPLEMENTAL as it provides useful information related to the accumulation of spirotetramat in citrus blossoms, but it was not conducted according to any established guideline.

MRID 47563310 Schnorbach, H.-J., Maus, Ch., Schoening, R., and S. Kaiser. Residues of Spirotetramat and its metabolites in nectar and pollen of phacelia after spray application in Germany. Unpublished study performed Bayer CropScience AG, Monheim, Germany and Billiger Wald (plots rented by Bayer CropScience AG), Euskirchen-Billig, Germany. Study sponsored by Bayer CropScience AG, Monheim, Germany. Study completed on November 29, 2007.

Classification: This study is SUPPLEMENTAL as it provides useful information related to the accumulation of spirotetramat in phacelia nectar and pollen collected from inside bee hives, but it was not conducted according any established guideline, they did not describe their methods for analyzing the honeybee toxicity endpoints or condition of the bees, and the study did not have a control treatment.

MRID 47563311 Schnorbach, H.-J., Maus, Ch., Schoening, R., and S. Kaiser. Residues of Spirotetramat and its metabolites in nectar and pollen of summer oilseed rape after spray application in Germany. Unpublished study performed Bayer CropScience AG, Monheim, Germany and Billiger Wald (plots rented by Bayer CropScience AG), Euskirchen-Billig, Germany. Study sponsored by Bayer CropScience AG, Monheim, Germany. Study completed on November 29, 2007.

Classification: This study is SUPPLEMENTAL as it provides useful information related to the accumulation of spirotetramat in nectar and pollen from summer oilseed rape collected from inside bee hives, but it was not conducted according to any established guideline, they did not describe their methods for analyzing the honeybee toxicity endpoints or condition of the bees, and the study did not have a control treatment.

MRID 47563312 Schnorbach, H.-J., Maus, Ch., Schoening, R., and S. Kaiser. Residues of Spirotetramat and its metabolites in nectar and pollen of citrus after spray application in Spain. Unpublished study performed Bayer CropScience AG, Monheim, Germany and Finca Experimental Agricola Brenes, Sevilla, Spain. Study sponsored by Bayer CropScience AG, Monheim, Germany. Study completed on November 29, 2007.

Classification: This study is SUPPLEMENTAL as it provides useful information related to the accumulation of spirotetramat in citrus nectar and pollen collected from inside bee hives, but it was not conducted according to any established guideline nor did it assess the accumulation of spirotetramat in pollen stores in the hive.