



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

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

Date: July 2, 2009
Chemical: Fipronil
PC Code: 129121
DP Barcodes: D365999

MEMORANDUM

SUBJECT: Review – The Movement of Fipronil from Treated Onion & Corn Seeds
(MRID 47760001)

TO: Richard Gebken
Bonaventure Akinlosotu
Registration Division (7505P)

FROM: Stephen Wente, Biologist
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Nancy Andrews, Branch Chief
Environmental Risk Branch I
Environmental Fate and Effects Division (7507P)

[Handwritten signatures: Stephen Wente, Brian Anderson, Nancy Andrews]

The registrant (BASF) has submitted a report, entitled "The Movement of Fipronil from Treated Onion & Corn Seeds" (MRID 47760001), for EFED's review in order to generate supplemental data to address ecological concerns associated with the use of fipronil on onion and corn seeds. Previous EFED modeling assumed that 100% of the fipronil on treated onion seeds is available for degradation, runoff, and erosion and found the onion use resulted in acute and chronic risk quotients that exceed levels of concern for aquatic invertebrates for fipronil and two of its degradates (MB 46136 and MB 45950).

The chemical properties of fipronil and the nature of the onion seed treatment contribute to risk. Both fipronil and its degradates of concern are persistent and accumulate over time in aquatic and terrestrial environments. The onion seed treatment use contributes to risk because onion seeds are planted very close to the soil surface. Therefore, fipronil on the seeds is placed where it is most susceptible to runoff and erosion if dissolved or bound to soil particles or organic material entrained in runoff water.



Previously, the registrant (BASF) submitted a report, entitled "Protocol for Experiments to Understand the Movement of Fipronil from Treated Onion Seeds", for EFED's review in order to generate supplemental data to address ecological concerns associated with the use of fipronil on onion seeds. After reviewing the proposed protocol, EFED concluded that the study *as proposed* would *be unlikely to* materially affect EFED's modeling assumptions and would *be unlikely to* affect EFED's conclusions concerning environmental risk. Subsequently, the registrant commented on EFED's protocol review, which were addressed in "Response to Comments on Review of Fipronil-treated Onion Seed Protocol" (D357719).

The basic problem that EFED had with the original protocol was that it is designed to measure fipronil wash-off over a very short time-period after planting. As stated in "EFED's Review of the Proposed Protocol" on page 4 of D353645:

The relevant issue is how much of the fipronil and toxic degradates could be transported to surface waters over the entire time period of concern and via all potential routes of transport. EFED's risk concerns and, therefore, standard modeling scenarios span decades. Over this larger time-frame, the integrity of onion seed coats is likely to relatively rapidly decline as well as the seed coats' ability to retain fipronil and its degradates.

The problem is not that EFED considers the study design to be scientifically invalid, but rather that the study measures the wrong *thing* and, therefore, is not useful to EFED's risk assessment process. Because the methods are not substantially changed (other than to add similar methods for corn seed use) between the originally proposed protocol and the final report (MRID 47760001), EFED's conclusions regarding the report's utility are unchanged from EFED's conclusions regarding the originally proposed protocol.

Therefore after reviewing the report (MRID 47760001), EFED concludes that the report does not materially affect EFED's modeling assumptions and does not affect EFED's conclusions concerning environmental risk. Please contact Steve Wenté at (703) 305-0001 (wente.stephen@epa.gov) with any comments or concerns.