



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

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

Memorandum

SUBJECT: EPA Clarifying Questions Regarding the USDA document “Economic Impact of the Chlorpyrifos-methyl Phase-out in U.S. Wheat Storage”

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The following is a list of clarifying economic and biological questions regarding the findings as reported in the USDA funded document titled “Economic Impact of the Chlorpyrifos-methyl Phase-out in U.S. Wheat Storage”.

Biological Questions

The Chlorpyrifos-methyl Economic Impact Report place a lot of emphasis on the dollar losses in stored wheat from insect infestations in the absence of chlorpyrifos-methyl. We assume that your estimates are based on estimates of losses to the rice weevil, in that CPM does not control the lesser grain borer. Can you elaborate on this?

Let’s assume that a grower stores his/her wheat on farm, cleans the empty grain bin thoroughly of all residual stored grain insect pests before harvest, stores the wheat without the

application of a grain protectant, and the stored wheat has a low moisture content. What are the estimated losses that this grower could expect to incur at the grain elevator?

If Storicide were not available in its present form (cyfluthrin and chlorpyrifos-methyl) and the two products were registered separately as grain protectants, can you estimate the losses in stored wheat to lesser grain borer and rice weevil when these products are used alone?

We are aware that the lesser grain borer and rice weevil do co-exist; however, it is common to find the rice weevil in greater numbers in the southern wheat production regions, and the lesser grain borer in the northern and plains wheat production regions. Assuming that good stored grain insect pests management practices are observed in all regions, can you estimate the expected losses at the grain elevators, based on pests presence in each respective region?

In the Efficacy and Cost Table of your Summary Report, you indicate that Spinosad is not effective against the weevils; however some literature do not support your claim. (Liang Fang, Bhadriraju Subramanyam and Frank H. Arthur. Effectiveness of Spinosad on Four Classes of Wheat Against Five Stored-Product Insects. *Journal of Economic Entomology*, 95(3): 640-650 (2002).) In addition, efficacy data on Spinosad against stored-product insect pests under an Experimental Use Permit is still being collected

Economic Questions

The estimated loss of \$14.64 million without chlorpyrifos-methyl available for use assumes that every bushel currently treated with chlorpyrifos-methyl (183 million bushels) will receive a \$0.10 discount in the absence of chlorpyrifos-methyl (less the cost of chlorpyrifos-methyl, \$0.02 per bushel).

A) What is the basis for the assumption that every bushel currently treated with chlorpyrifos-methyl will receive the discount if chlorpyrifos-methyl is no longer available for use on stored wheat? Page 20 of the assessment states that “Neither the presence nor the abundance of insect-damage kernels was significantly associated with a greater risk of price discount, which appeared to indicate a tolerance of live insects and their damage on the part of many elevator managers”. Why would you assume this would be different without chlorpyrifos-methyl available for use? What proportion of the treated bushels receive the discount currently? Is there any evidence to suggest that the bushels currently treated with chlorpyrifos-methyl would receive a different discount than if chlorpyrifos-methyl were not available for use, and users were applying either cyfluthrin or spinosad? Also, Table 8 suggests that no more than 30% (and as little as 6%) of wheat growers receive a discount from elevator managers for insect damage.

B) What is the basis for the assumption of a \$0.10 per bushel discount? Table 8 suggests discounts ranging from \$0.02 per bushel to \$0.08 per bushel.

C) What is the basis for the estimated cost per bushel of chemical insect control? The cost for each active ingredient listed was presented as a table during the presentation to US EPA.