UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

JUN 29 1999

MEMORANDUM

SUBJECT: Review of Request for Emergency Exemption for Use of Ethalfluralin on Crambe to Control kochia and ALS-resistant kochia (99-ND-28) [DP Barcodes D256353, D256355]

FROM: Virginia Dietrich, Biologist
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We have reviewed the request from North Dakota for an emergency exemption to use ethalfluralin (Sonalan®) herbicides for 21,000 acres of crambe to control kochia and ALS-resistant kochia *(Kochia scoparia)*. This is the first time that BEAD has reviewed this request. The situation as described does not meet the criteria for urgent, non-routine conditions because 1) no evidence was presented to suggest that control of kochia with ethalfluralin is any better than with the registered alternative (trifluralin), and 2) no evidence was presented to suggest that the situation has recently become non-routine (no data submitted to support the extent of infestation of ALS-resistant kochia in crambe-growing areas).

(1)

CONCURRENCES								
SYMBOL	7503C	7503C	BEAD	7503C	7503C			
SURNAME	Dietrich	Hernandez	K Davis	Hephart	Sellers			
DATE	6-24-99	6/24/99	6/28/99	6/28/99	6/29/99			

The applicant did not submit any information on the background of herbicide resistance developing in kochia. However, resistance of kochia to the class of herbicides called aceto-lactate synthase inhibitors was documented as early as 1987[1]. This resistance developed as a result of application of sulfonyl urea herbicides to wheat starting in the early 1980's. Kochia is a very adaptable weed due to its apparent large genetic diversity and so it develops herbicide resistance quite easily.

The applicant states that "Research data suggests that Treflan (trifluralin) only provides suppression of kochia and results in three times more kochia weed pressure than Sonalan (ethalfluralin)". However, these data were not submitted in the application. In fact, Manthey and Nalewaja[1] from North Dakota University state that "Even with the use of new herbicides, the average density of kochia in an infested field has not changed since 1978, the first year state wide kochia densities were determined." Therefore, in the absence of data to support the assertion that weed pressure has increased as a result of herbicide resistant kochia and considering that researchers state the opposite observation (Manthey and Nalewaja), that weed pressure from kochia has not increased since 1978, we find this situation to be a troublesome but routine condition.

Economic Considerations.

As discussed above, from the documentation submitted by the state it cannot be determined the magnitude of yield losses that growers of crambe in North Dakota are likely to experience in 1999 without the requested herbicides. Sufficient evidence has not been provided to conclude that significant economic losses are to be expected using currently available controls.

Without the exemption in place for 1999, the income of growers of crambe could still remain within its range of fluctuation over the last five years. In the absence of the requested herbicides to control the weeds, expected yields with registered alternative controls might also remain higher than the break-even point. The information presented does not conclusively support the claim that resulting income losses would indeed create a significant economic impact for growers of crambe in North Dakota this year.

Conclusion.

BEAD does not find a non-routine condition in the information presented in this application for emergency exemption for the use of ethalfluralin on crambe in North Dakota to control kochia and ALS-resistant kochia.

[1] Manthey and Nalewaja. Status of kochia *Kochia scoparia (l.) Schrad.* in North Dakota ten years after resistance to sulfonylurea herbicides.