1/29/87

Whip Issues

The EEB has concluded the following:

1. Four of the six estuarine studies were supplemental and will have to be reconducted;

2. Phytotoxicity data are required;

3. Residue monitoring is not necessary; and

4. Endangered species concerns are not indicated at this time. However, results of re-doing the oyster studies will have to be evaluated before endangered species issure are completely eliminated.

Estuarine Studies

Of the estuarine studies submitted, 4 were supplemental and 2 were core. The shrimp studies were core and suggest that shrimp are most sensitive of the three species tested. The supplemental studies should be reconducted. However, the problems with the supplemental studies still allow us to draw some conclusions on acute effects to estuarine fish and mollusks. That is, new studies would probably not change our conclusions that shrimp are most sensitive and the expected levels are far below the lowest NOEL of shrimp, 50 ppb. If the results of the oyster study indicate possible effects to endangered mussel species, consultation with USFWS and possibly labeling restrictions may be required.

The registrant:

a. Knew these estuarine studies were a requirement; and
b. Should know the appropriate protocol and guideline requirements for such studies.

Phytotoxicity Data

Phytotoxicity data are needed so we can assess potential impact to nontarget plants and habitat. This includes both terrestrial and aquatic phytotoxicity studies. This is aimed at precluding an incident such as occurred with Command. Phototoxicity testing guidelines are being modified to avoid future "Command" incidents, thus the registrant would not have known that such testing would be required.

Residue Monitoring

The expected environmental concentrations (EEC) predicted by EEB indicate that at worst, concentrations in bayous adjacent to rice fields would not exceed 6.6 ppb. This EEC is based on the assumption that 0.27 lbs ai is applied and the field flooded to 3" 5 days later. The concentration would be 22 ppb.

110 ppb X 0.2 = 22 ppb
(potential conc.) (20% in water col.)

If 2" rainfall occurred at day 7, concentration in field would be 13.2 ppb.

22 ppb X 3/5 = 13.2 ppb out flow
(dilution of 3" by 2 inches of rain)

This 13.2ppb would be diluted by the receiving bayou.

13.2 ppb X 0.5 = 6.6ppb in adjacent bayou
(estimated dilution)

This concentration is the maximum that could be in the adjacent bayou, and would only occur without any dilution from the receiving water. This level is below the lowest LC50 available (shrimp) and below the shrimp NOEL of 50 ppb. Therefore, based on our criteria for requesting monitoring, no additional field monitoring is necessary. It is unlikely that the results of new, core estuarine studies (oyster and fathead minnow) would trigger monitoring requirement because of Whips short halflife (<4 days) in both water and sediment, and low use rate (0.27 lb. ai/acre).

Endangered Species

The only endangered species occurring within rice use areas is the fat pocketbook pearly mussel (Potamilus capax) which is in the St. Francis River in Arkansas. The supplemental data indicate that mussels are probably not sensitive enough to

Whip to be adversely effected by expected exposure levels. If the new, core mussel data show that mussels are more sensitive than expected, consultation with USFWS may be required. The outcome of a jeopardy opinion would likely result in the need for labeling restrictions to protect this endangered mussel species.