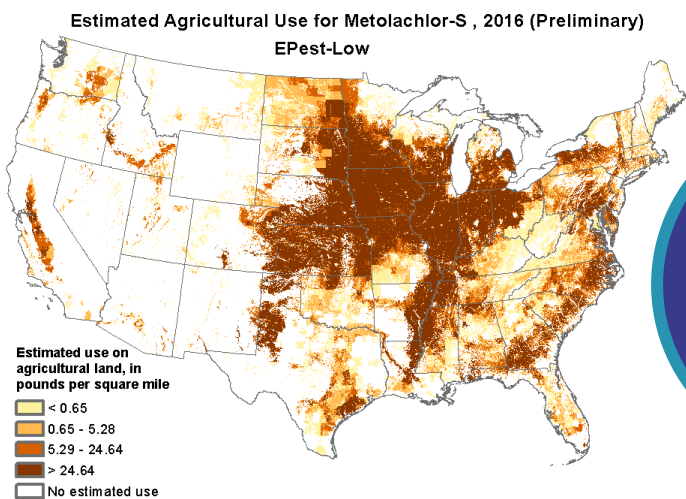


# Dichloroacetamide Application & Toxicity



35%

The increase of global herbicide use between 2008 and 2012

4

Species of dichloroacetamides applied with herbicides

2,000,000

The amount (in kg) of dichloroacetamides used in the U.S. each year

70%

Of S-metolachlor herbicide formulations contain a dichloroacetamide



## Toxicity of Dichloroacetamide Safeners



The dichloroacetamides furilazole and dichlormid are “likely human carcinogens”



The dichloroacetamide benoxacor is “highly toxic” to aquatic organisms.



In extreme doses, dichloroacetamides exert toxicity to the liver, gallbladder, kidneys, reproductive system, neurological system, and endocrine system.

Dichloroacetamide transformation products also demonstrate toxicity.

Monochloro-benoxacor reduces survival of fly larvae, larval time to emergence, and can cause neurotoxicity.

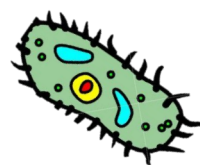
## Dichloroacetamide Transformation Processes



Photolysis



Hydrolysis



Biotransformation