SUPPLEMENTAL MATERIAL

The Greening of Pesticide-Environment Interactions: Some Personal Observations

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A. PROFENOFOS

sulfoxidation activates (-) and detoxifies (+)

B. ACEPHATE AND METHAMIDOPHOS

activated by amidase deacetylation and possibly S- or N- oxidation
Supplemental Material, Figure 7. Photostabilization of a pyrethroid (A) and a neonicotinoid (B) by replacing photolabile substituents.
Supplemental Material, Figure 8. Photoactivation of oxime ether pyrethroid.
A. UMBELLIFERAE FOODS

myristicin

\[
\begin{array}{c}
\text{parsnip} \\
\end{array}
\]

apioles

\[
\begin{array}{c}
\text{dill} \\
\end{array}
\]

benzodioxole insecticides and synergists

\[
\begin{array}{c}
\text{parsley} \\
\end{array}
\]

B. MEDICINAL PLANTS

known botanicals

\[
\begin{array}{c}
\text{paeonol} \\
\end{array}
\]

jacaranone

insecticide contaminant

\[
\begin{array}{c}
\text{terbufos} \\
\end{array}
\]

C\text{\textsubscript{2}}H\text{\textsubscript{5}}O\text{\textsubscript{2}}PS

C\text{\textsubscript{2}}H\text{\textsubscript{5}}O\text{\textsubscript{2}}SCH\text{\textsubscript{2}}SC(CH\text{\textsubscript{3}})\text{\textsubscript{3}}

Supplemental Material, Figure 9. Botanical insecticides in umbelliferae foods (A) and along with a toxic contaminant in Chinese medicinal plants (B)
A. DELAYED NEUROPATHY (OPIDN)
mipafox inhibits lysophosphatidylcholine hydrolase

B. AVIAN TERATOGENESIS
diazoxon inhibits kynurenine formamidase

C. CANNABINOID SYNDROME
chlorpyrifos oxon inhibits monoacylglycerol lipase

Supplemental Material, Figure 10. Secondary targets of organophosphorus insecticides.
A. ENDOSULFAN

in Rhine river
gave massive
gave major
ecological
changes

B. METAM SODIUM

in Sacramento River

As piscicide
(multicomponent
anticancer and
Parkinson’s model)

C. DERRIS PISCICIDE

Supplemental Material, Figure 11. Causal agents in three cases of massive fish kills by accident [endosulfan (A) and metam sodium (B)] and intent (derris containing rotenone) (C).
Supplemental Material, Figure 12. Fenvalerate and two non-ester analogs of reduced fish toxicity