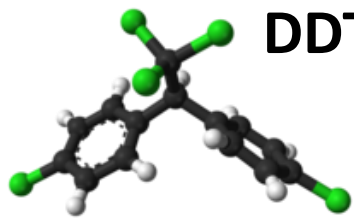


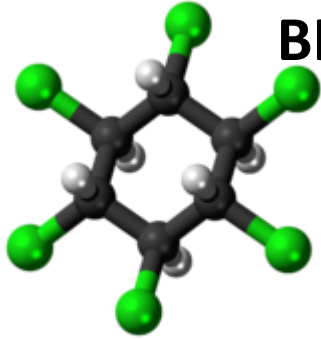


1. Bt hybrid cotton is an aging pest control technology

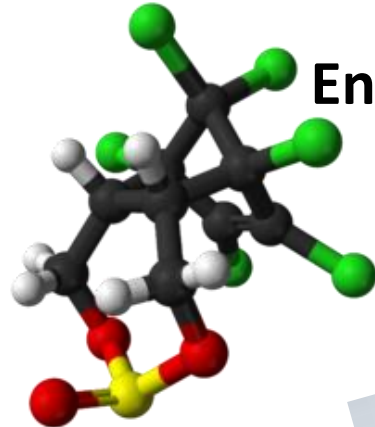
Dr. Peter Kenmore
Asian Rice Ecologist
Former FAO Representative to India



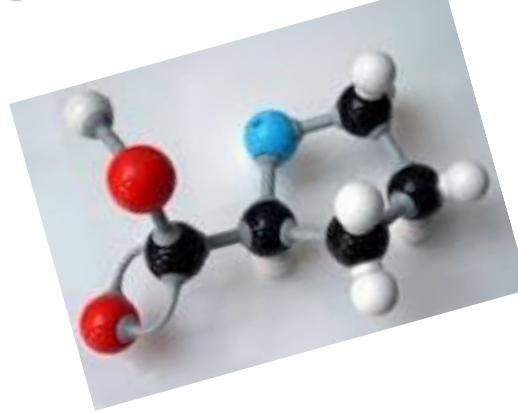
DDT – (354 Daltons)



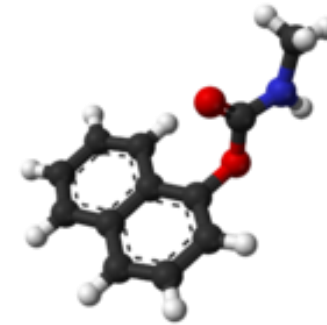
BHC –(291 Daltons)



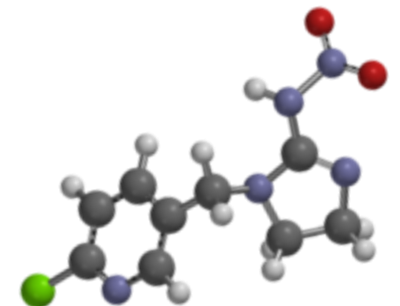
Endosulfan – (407 Daltons)



Monocrotophos – (223 Daltons)



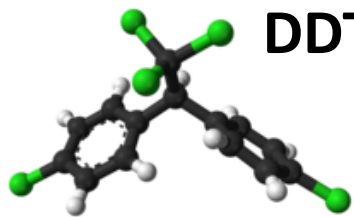
Carbaryl - (201 Daltons)



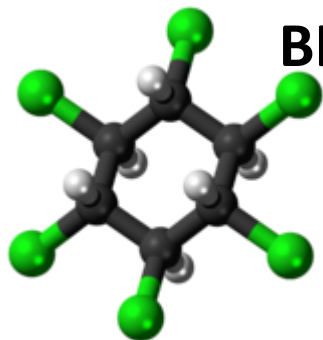
**Imidacloprid -
(256 Daltons)**



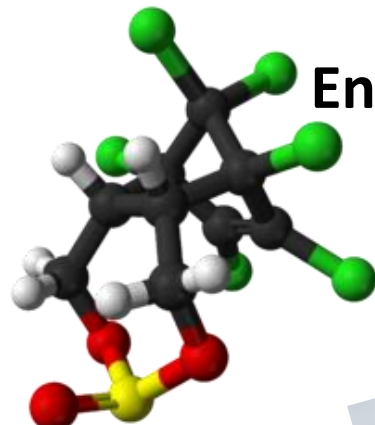
*2. Bt hybrid cotton follows the same path
beaten down by generations of
insecticide molecules*



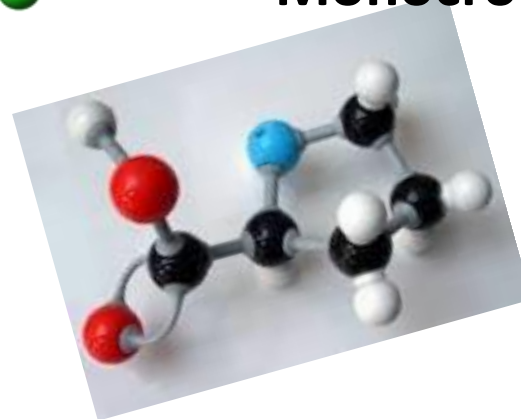
DDT – 354 Daltons



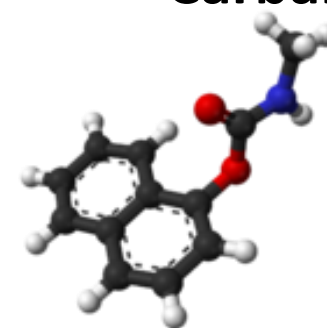
BHC – 291 Daltons



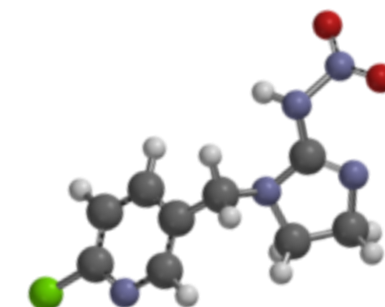
Endosulfan – 407 Daltons



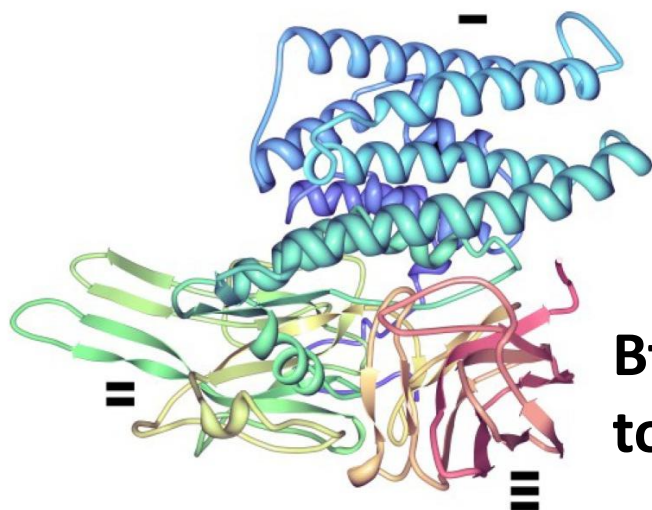
Monocrotophos – 223 Daltons



Carbaryl - 201 Daltons



**Imidacloprid -
256 Daltons**



**Bt Cry 2Aa toxin -- 55,000
to 60,000 Daltons**





3. In-house research aims not for ecological field optimization, but for each molecule to be proprietary

- Each new molecule must be **packaged**
 - biochemically
 - legally
 - commercially
- released
- promoted



**Pesticide Shop in Patnam Bazaar,
Guntur District AP**



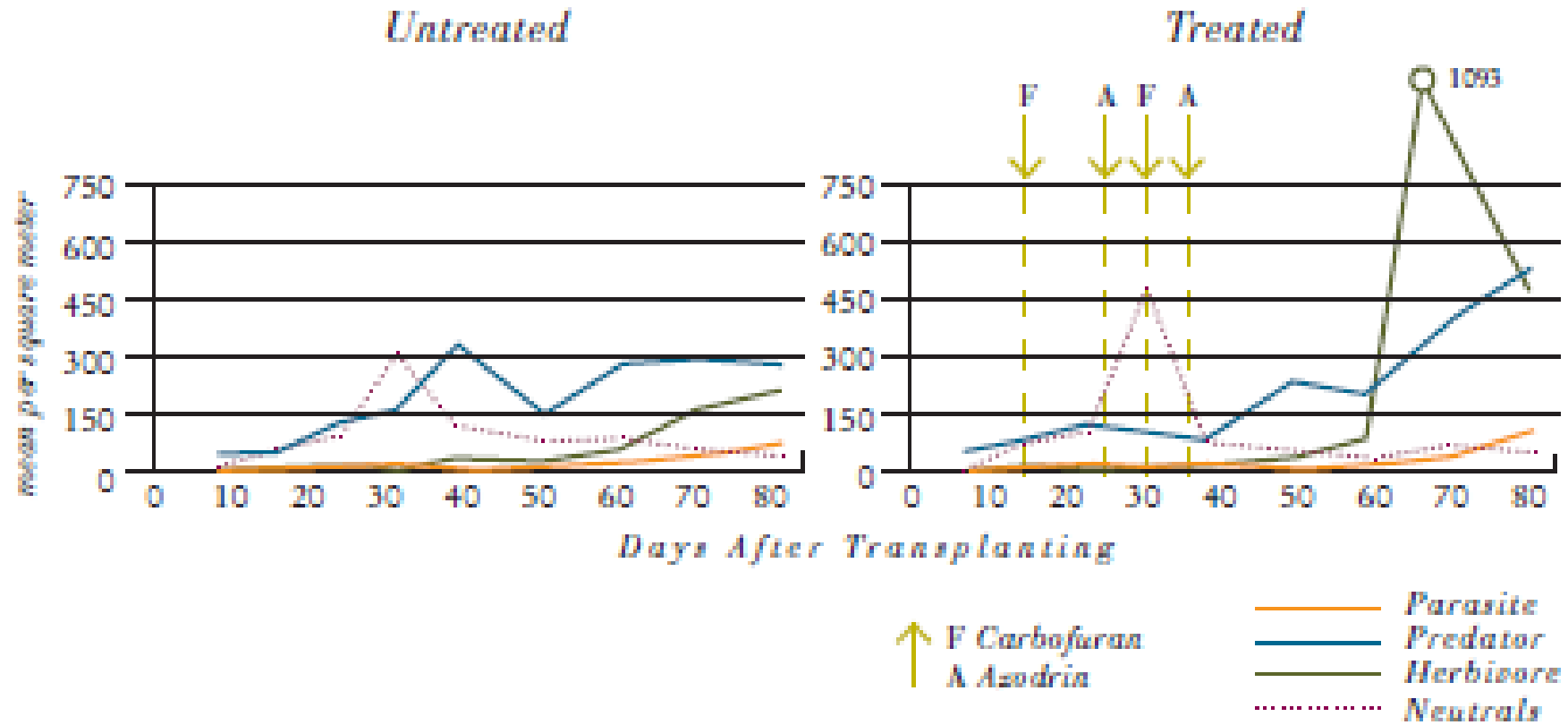
4. Corporate (marketing) and public policy (Agric. Ministries and Depts) actors then

- Claim yield increases,
- but deliver no more than
- temporary pest suppression,
- secondary pest release and
- pest resistance

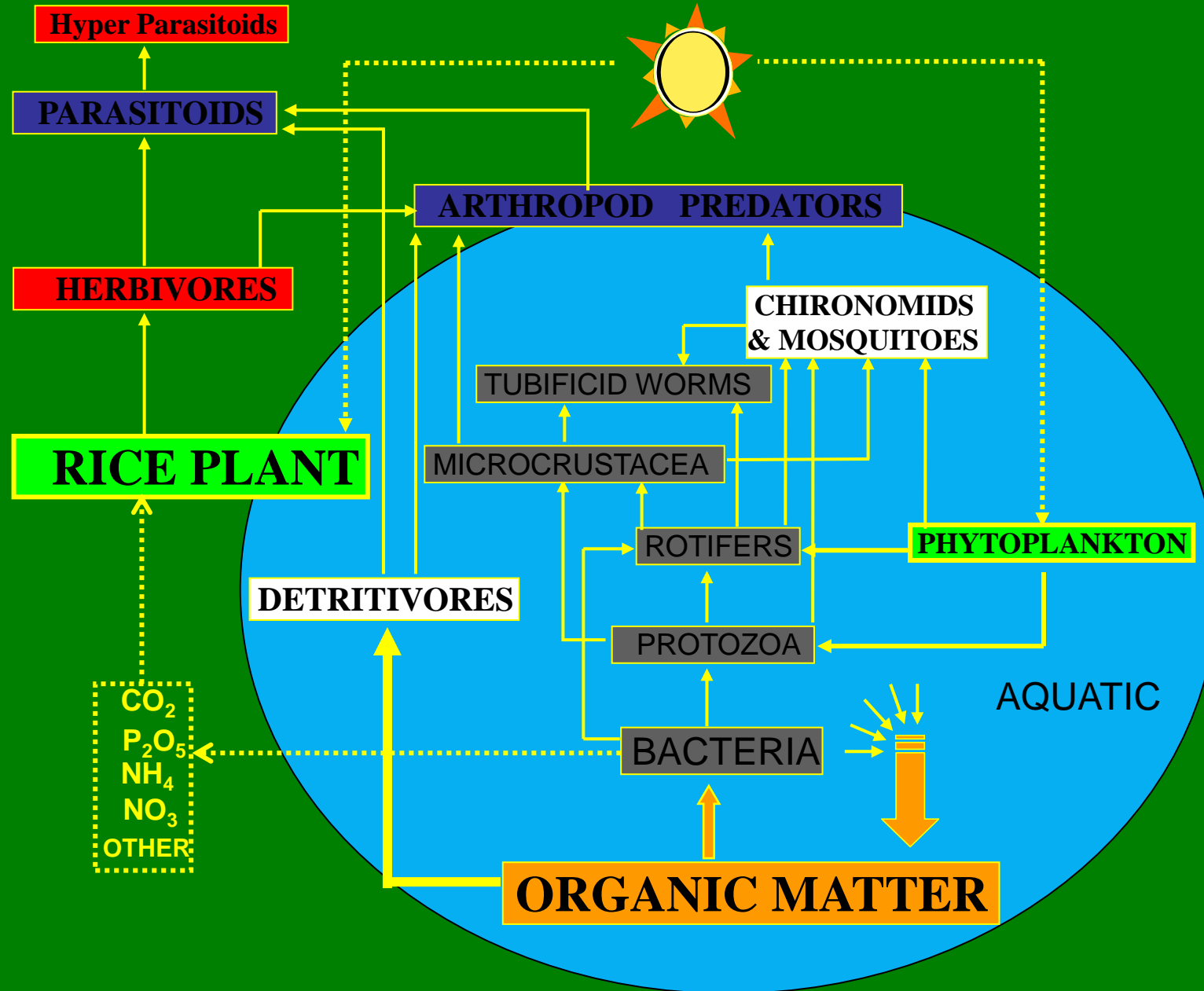
Insecticide-Triggered Secondary Pest Outbreaks Asian Rice

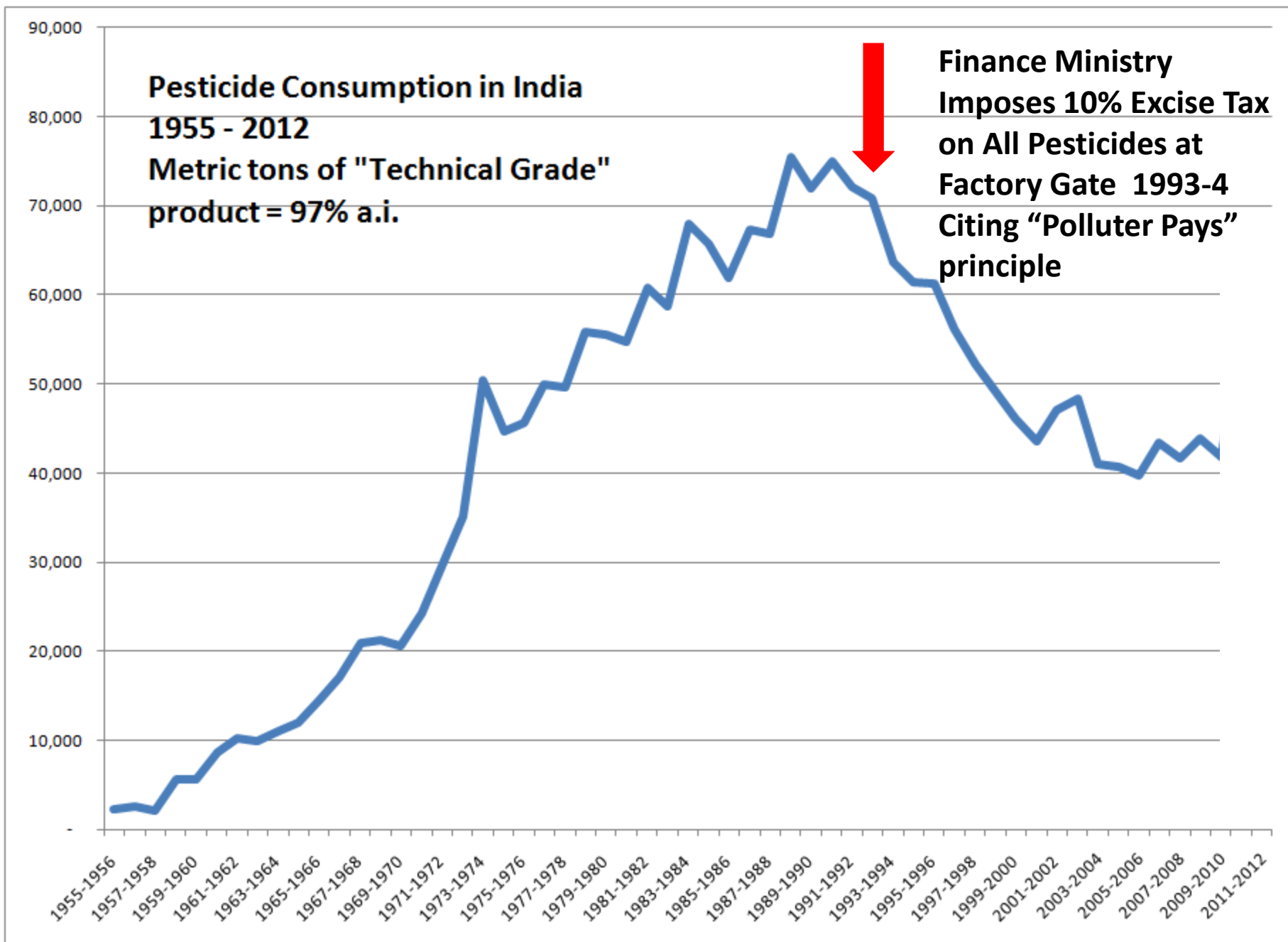


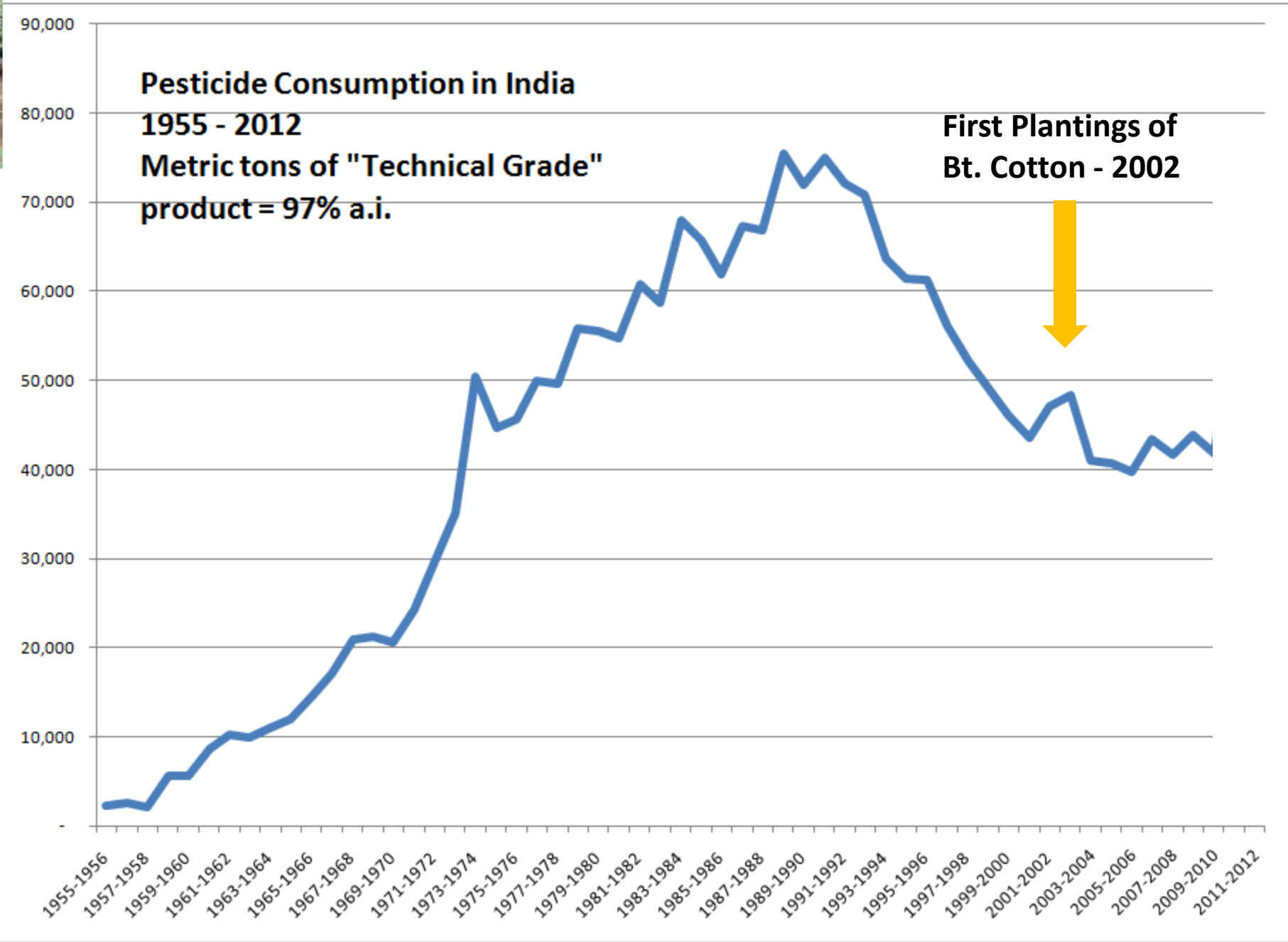
NORTHWEST JAVA SEASON 2



Irrigated Rice Food Web (Settle *et al.* 1996)









5. Recurrent cycles of crises

(a) Sparked citizens' public action and

(b) Sprouted ecological field research by committed scientists





6. When this research is taken on by farmers' groups, they create locally-adapted agroecological strategies.

i.ZBNF

ii.FFS

iii.SHGs





7. Their agroecology now gathers global support from citizens' groups, governments, and UN-FAO.



Their robust local solutions in Indian cotton do not require any new molecules.