

Food Quality Protection Act Update

the Year in Review

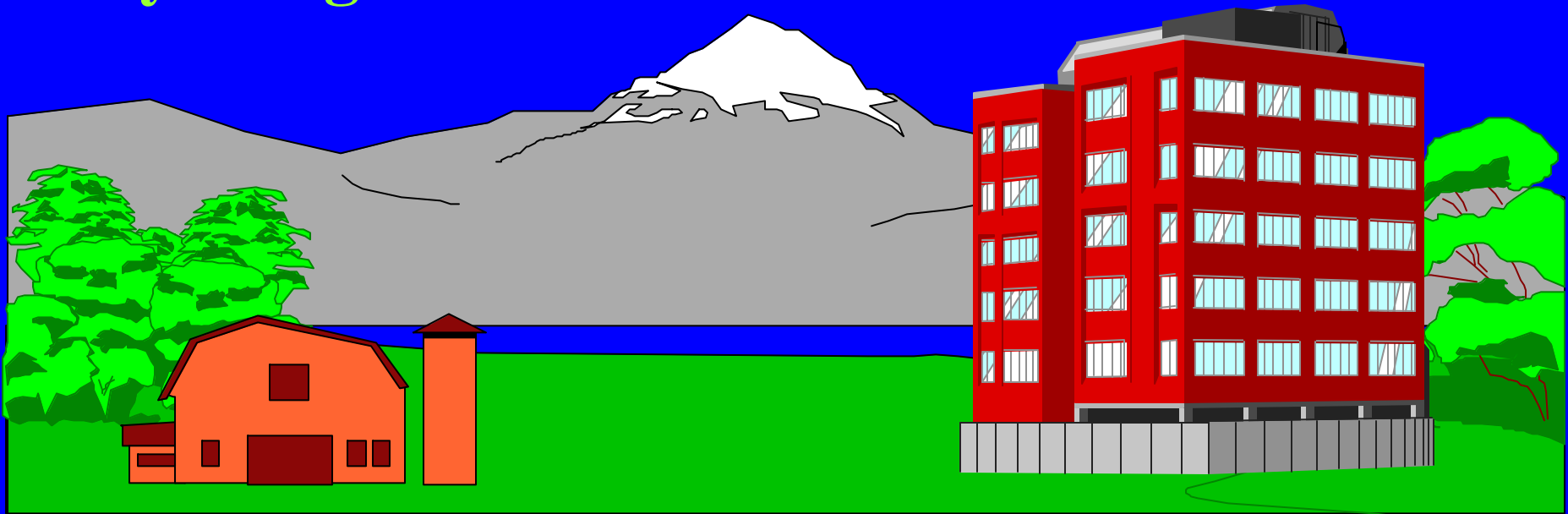
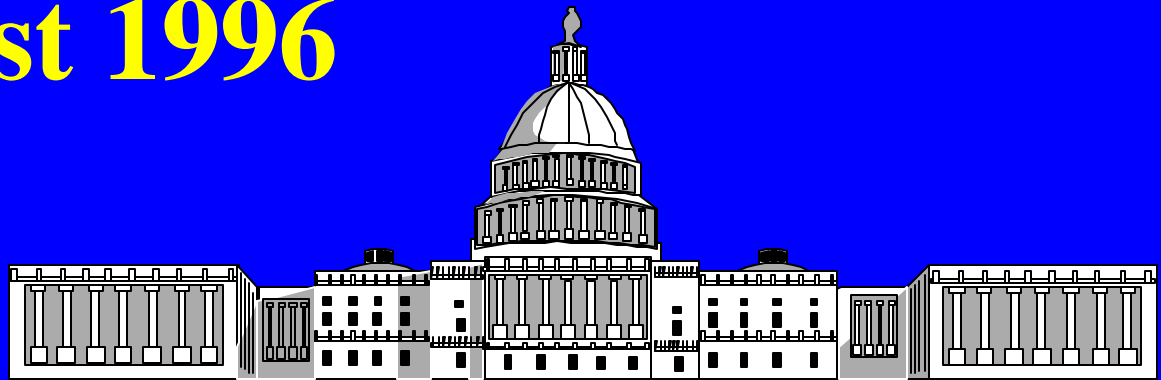


MICHIGAN STATE
UNIVERSITY
EXTENSION

*Pesticide
Education
Program*

FQPA: August 1996

* passed
unanimously
by Congress



* broad support from industry, agriculture,
and environmental interests

Food Quality Protection Act amends:

**Federal Insecticide, Fungicide, &
Rodenticide Act**

pesticide registration and use

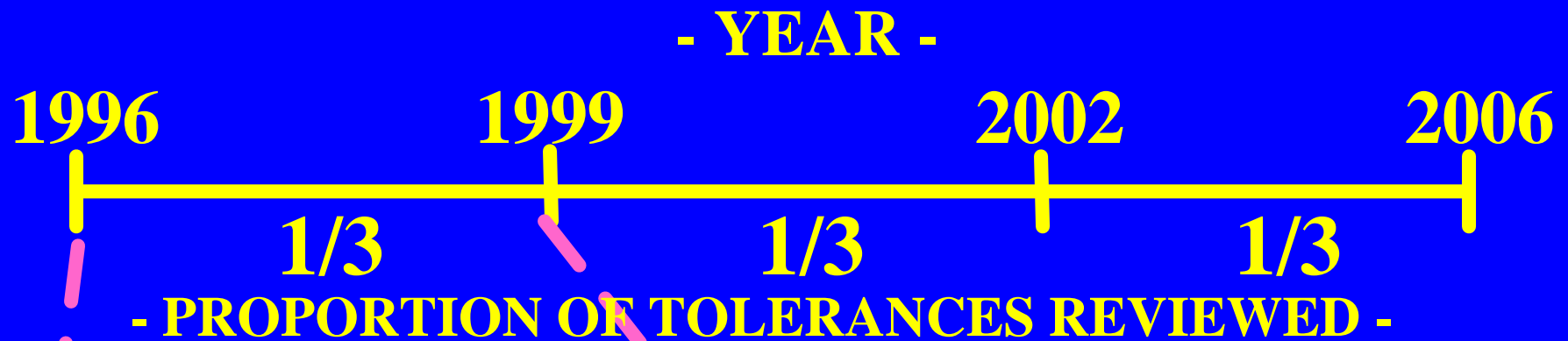
Federal Food, Drug, & Cosmetic Act

food safety and tolerances

*** the Environmental Protection Agency
was charged with interpreting and
enforcing FQPA.**

EPA's schedule for reviewing tolerances

"Worst-First" approach



organophosphates

carbamates

B2 carcinogens

Post-FQPA



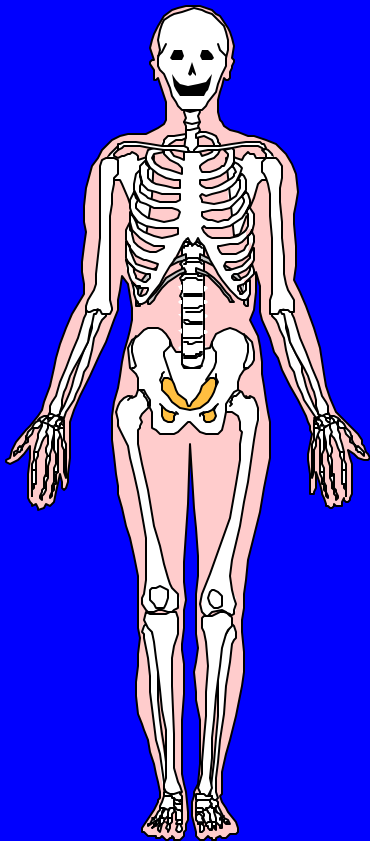
Kids safety factor
Aggregate exposure
Common mechanism

Pre-FQPA

Endocrine Disruption

FQPA mandates testing all pesticides and inert ingredients for hormone disruption

Problems attributed to endocrine disruption:



reproductive

immune

neurological

learning disabilities

attention deficit

some cancers

developmental abnormalities

EDSTAC

Endocrine Disrupter Screening & Testing Advisory Committee

40 members

industry

academic

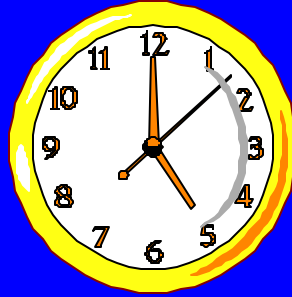
government agencies

public interest

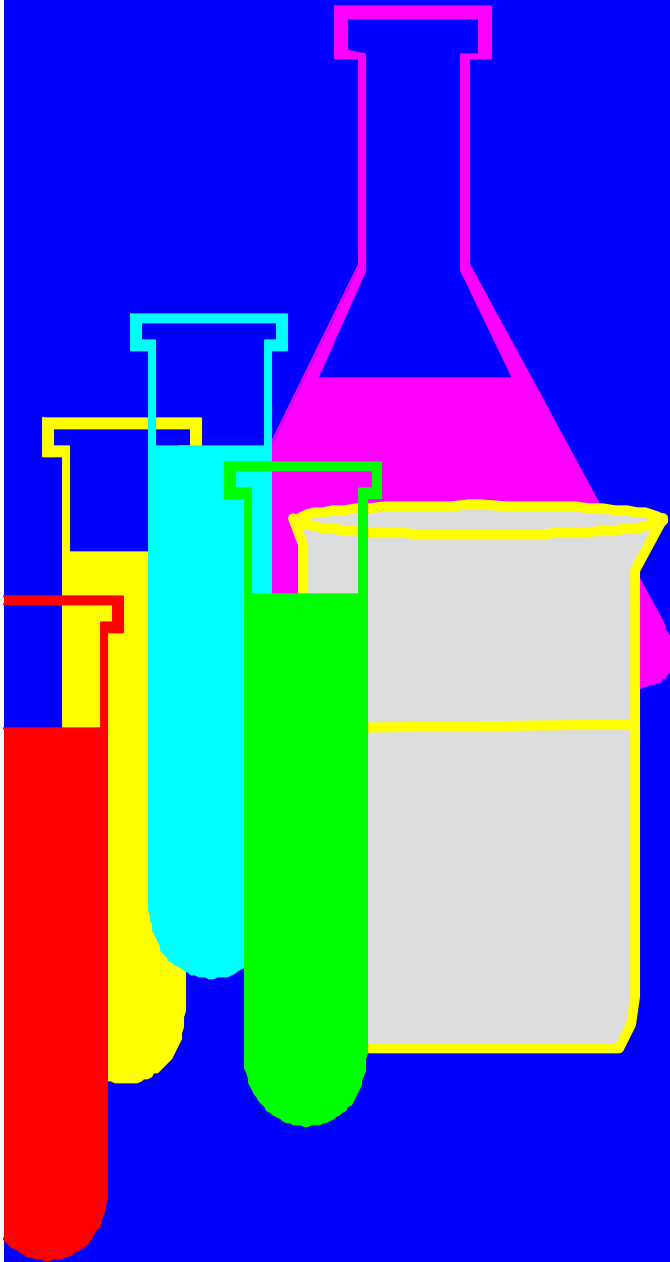
environmental

- **what type of disruption is targeted**
- **what chemicals should be tested**
- **the order of testing**
- **types of tests EPA should require**

EDSTAC Timeline



| | |
|-------------|-----------------------------------|
| Late 1996 | formed by EPA |
| Dec. 1996 | debated definition |
| April 1997 | debated some more |
| March 1998 | continued to debate |
| Aug 3, 1998 | report to EPA was due |
| Sept. 1998 | report to EPA |
| Oct. 1998 | EPA accepted recommendations |
| March 1999 | EPA plan due for review |
| Dec. 1999 | final plan due for implementation |



EPA will screen for 3 effects:

- 1 - estrogenic (female hormones)**
- 2 - androgenic (male hormones)**
- 3 - thyroid**

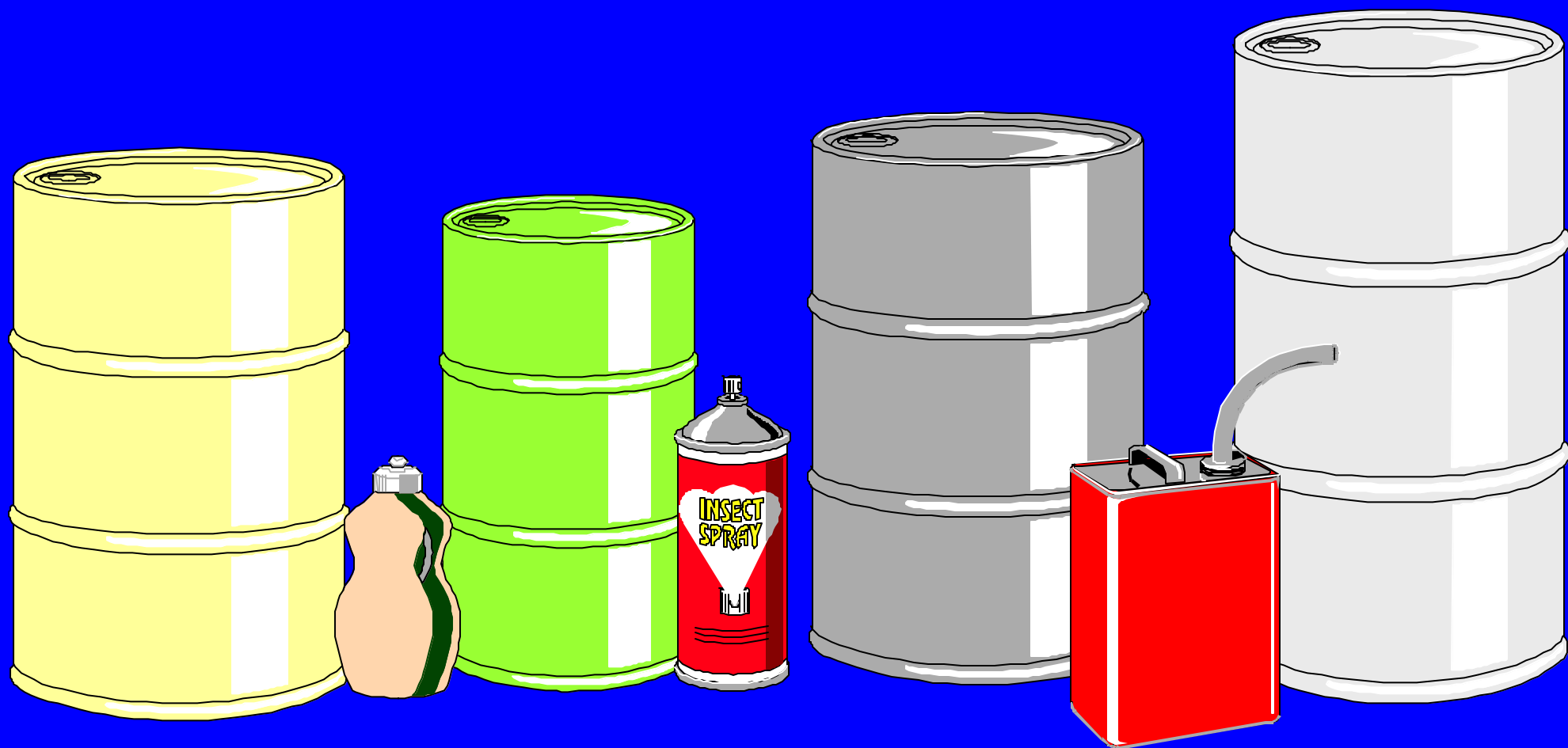
- well-studied**
- likely the most important effects**
- testing systems already exist**

What chemicals must be tested?

Food Quality Protection Act = all pesticides
Safe Drinking Water Act = any substance
found in drinking water



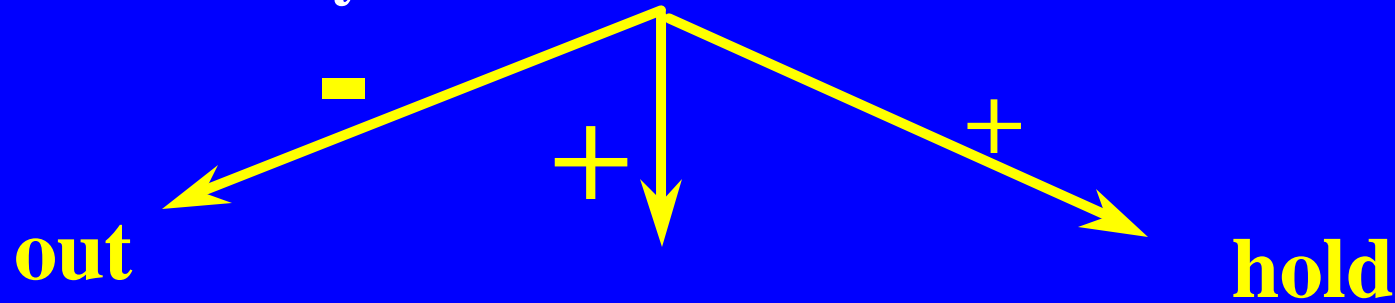
70,000 pesticides & chemicals



Screening Program

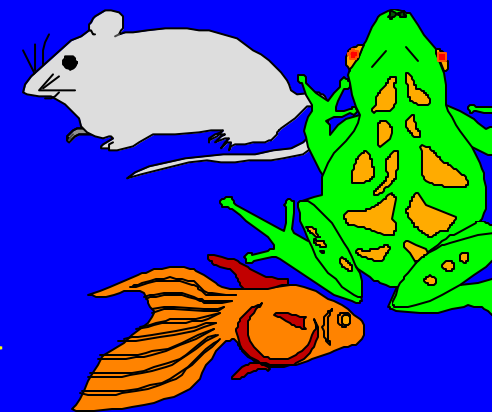
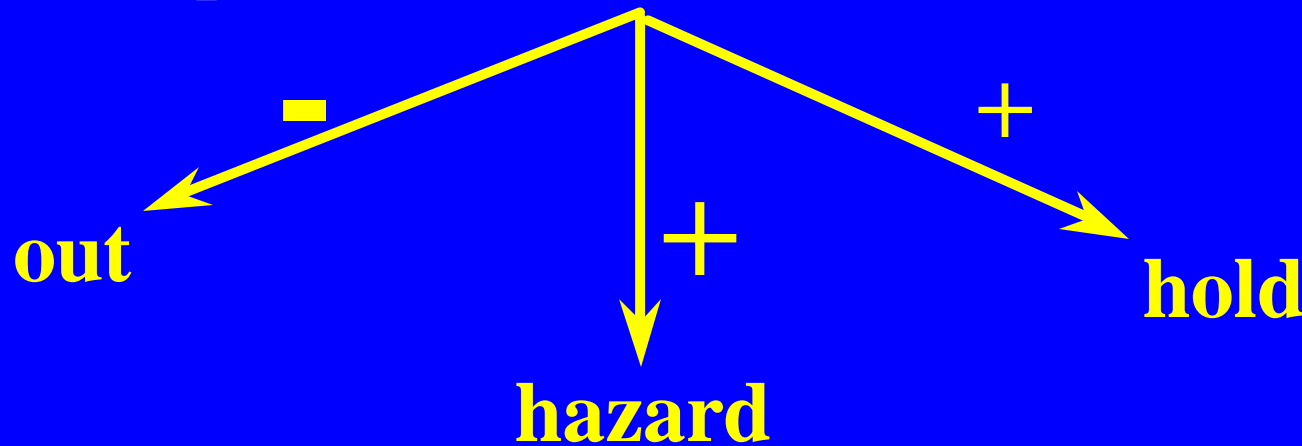
Tier 1

standard battery of tests in cell culture and animals



Tier 2

further testing to determine potential effects in humans



Endocrine Disrupter testing priorities

LOW

category 1

not likely to be an ED

category 2

insufficient evidence of ED
- Tier 1 analysis

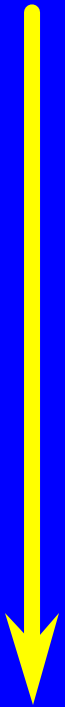
category 3

sufficient evidence of ED
- skip Tier 1, go to Tier 2 analysis

HIGH

category 4

much evidence of ED
- skip all lab tests
- do a hazard assessment

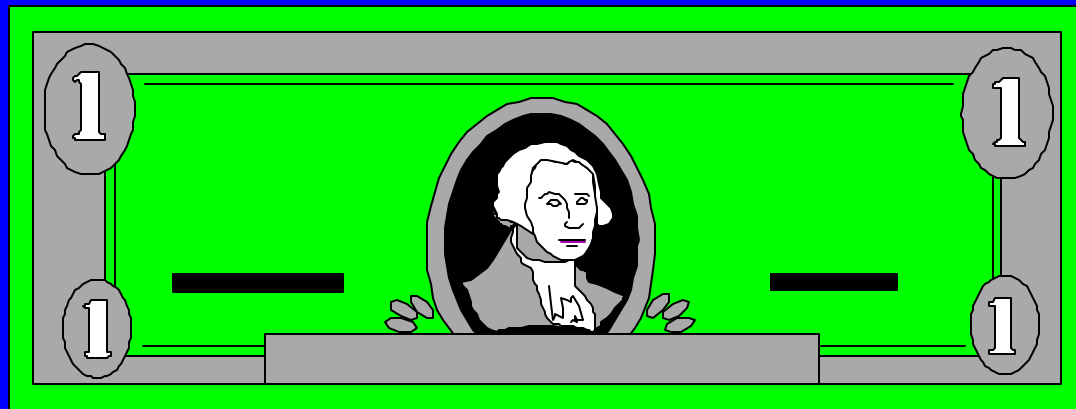


Concerns

test methods - are they valid?

automation - can the system be more efficient?

funding - who pays?



**Endocrine disruption
is still a hypothesis.**

Consumer Right-to-Know

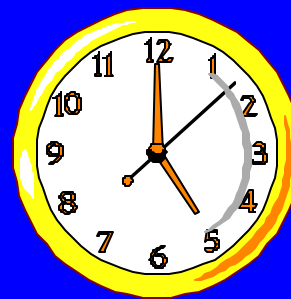
FQPA addresses the consumer's right-to-know about potential pesticide residues in food.

EPA must create a brochure for grocery stores about pesticide residues.

Grocery stores are not required to display it.



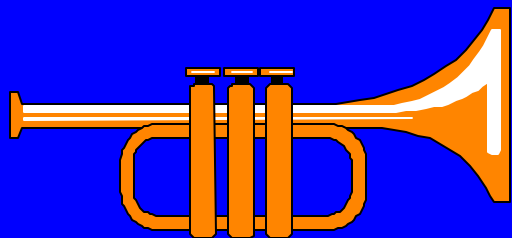
Right-to-Know Timeline



| | |
|--------------------|---------------------------------------|
| May 1997 | work group to write brochure |
| Oct. 1997 | first draft |
| April 1998 | second draft |
| Aug 3, 1998 | brochure due (missed deadline) |
| Sept. 1998 | brochure in “final stages” |
| Nov. 1998 | EPA postponed release |
| Dec. 1998 | revisions |
| Feb. 1999 | brochure finally released |

Original draft brochure discussed:

- dangers of pesticides
- government regulation of pesticides
- FQPA, “a tough new safety standard”
- tips to reduce pesticide residue on food
 - washing
 - peeling/ trimming
 - cooking
 - buy organic
- national organic standards



concerns:

**tooted government's own horn
emphasized organic**

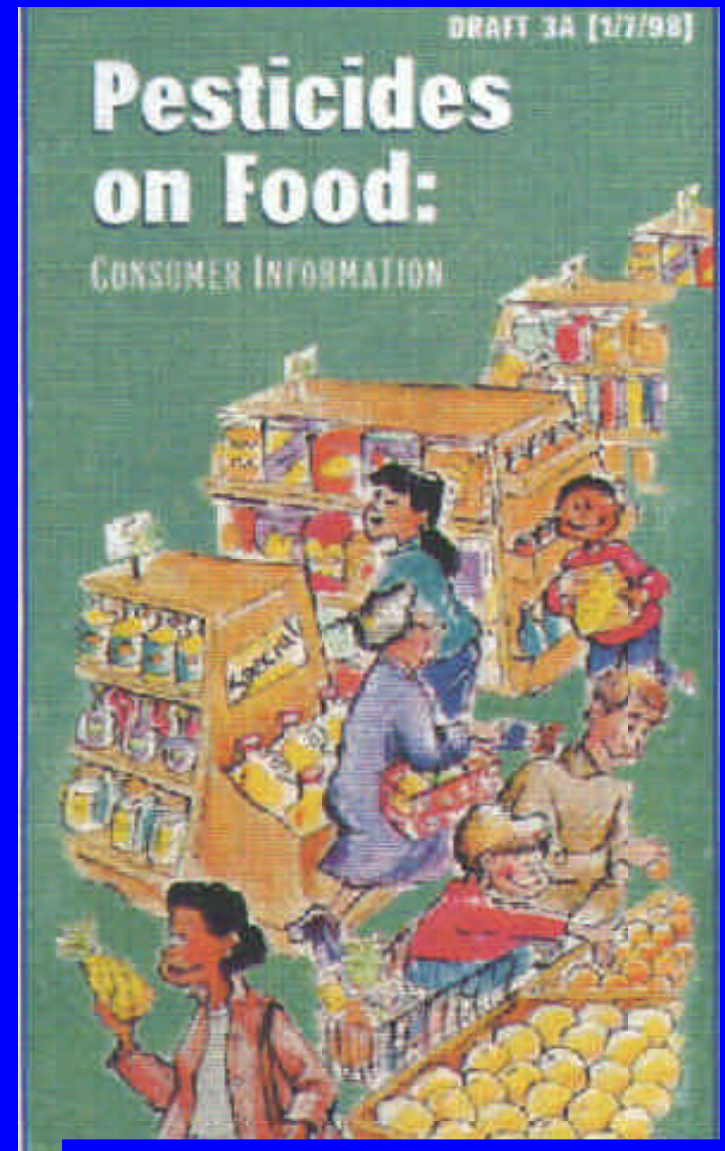
Selected comments on the draft:

**“ brochure is alarming
to the public”**

**“grocery stores will be very
hesitant to display
as it is written”**

**“contains organic food
propaganda”**

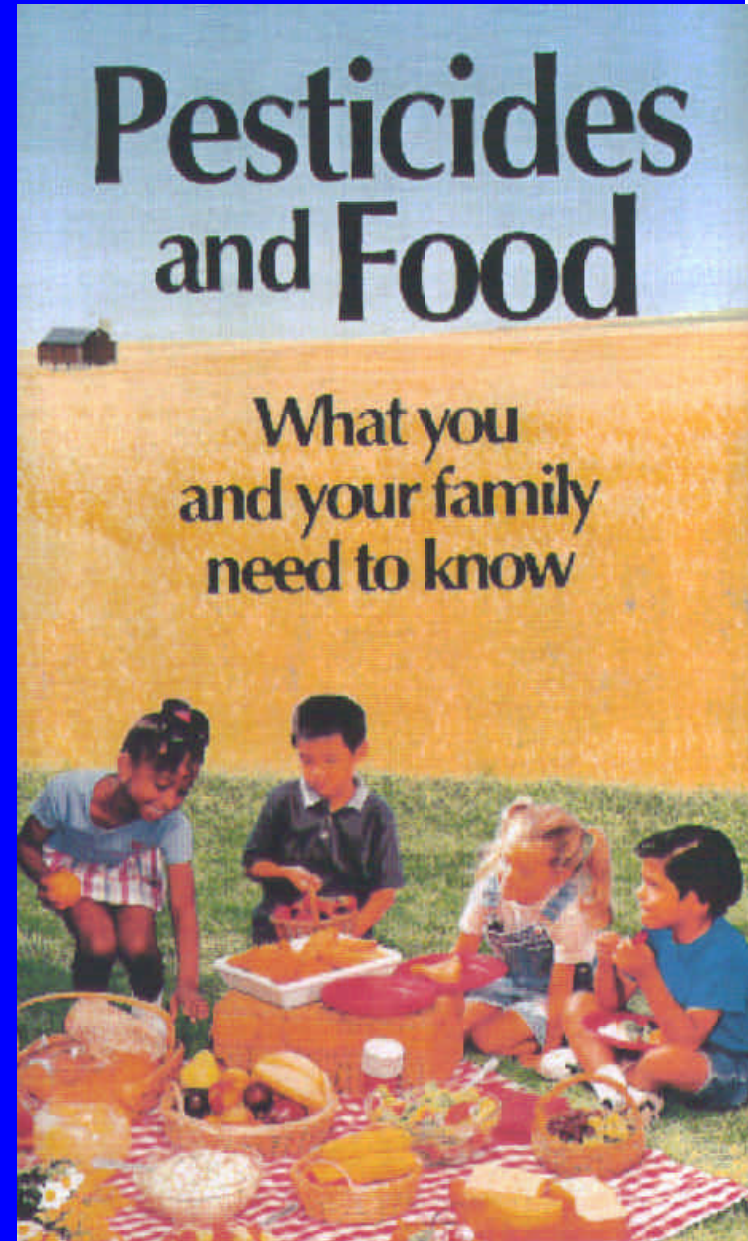
“could cause another Alar”



Final version of brochure: (Feb. 1999)

In a grocery store near you?

- title changed to
“Pesticides AND Food”
- reduced number of pages
(4 vs. 8)
- pesticides & health played down
- little mention of organic
- instead mentions IPM
- refers people to EPA web site
for more info



TRAC

Tolerance Reassessment Advisory Committee

co-chairs

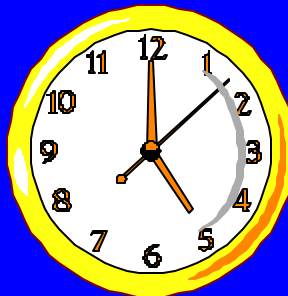
Deputy Director of USDA

Deputy Assistant of EPA

members

| | |
|-------------------------|----|
| environmental/consumer | 8 |
| ag/farmer/structural | 11 |
| pesticide manufacturers | 6 |
| federal agencies | 2 |
| academic | 6 |
| food processors | 6 |
| state/local gov't | 6 |

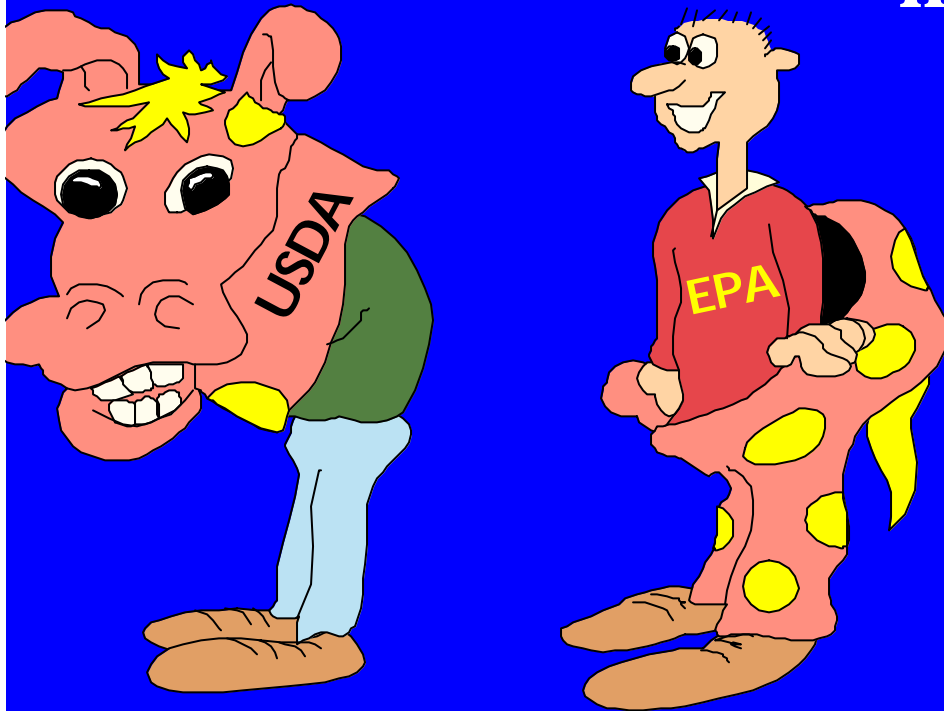
TRAC Timeline



- | | |
|-----------------------|--------------------------------------|
| April 8, 1998 | Gore letter to EPA/ USDA |
| April 10, 1998 | EPA/ USDA response |
| April 30, 1998 | TRAC announced |
| summer 1998 | TRAC meetings |
| Oct. 1998 | EWG resigns |
| Oct.-Dec 1998 | Nine “policy issues” released |

TRAC Goals

make EPA's views on **FQPA**
more transparent



bring EPA and
USDA together

develop “talking points”
(things to resolve as
FQPA is implemented)

the
**Nine Science
Issues**

(based on TRAC discussions)

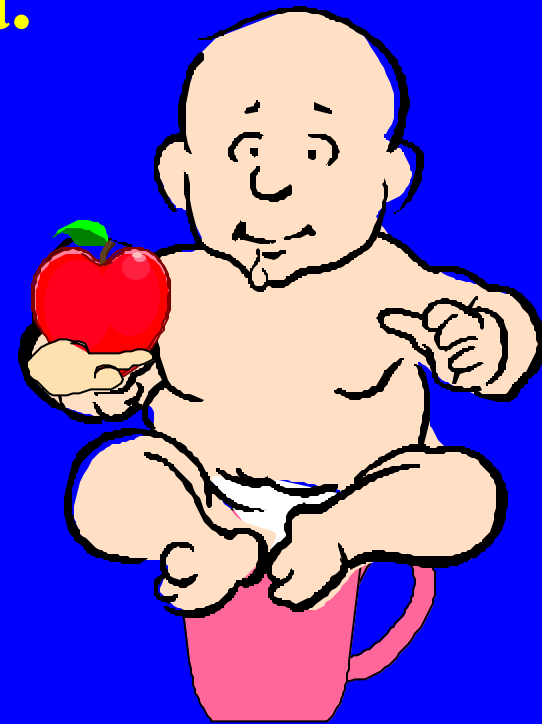
10x Safety factor

ISSUE

Under FQPA, an additional safety factor may be added to tolerances to account for children's exposure and "completeness" of data.

PROBLEMS

- A consistent policy for applying the safety factor is needed.
- When is data complete?



Monte Carlo Analysis

ISSUE

FQPA risk assessments require a mathematical model to estimate exposure. *Monte Carlo analysis* uses probability; it is more accurate than other models.

PROBLEMS

- It can be expensive, slow.
- The model only as good as data going in, and in some cases the data is not accurate.



Common mechanism of toxicity

ISSUE

Pesticides with a common mechanism of toxicity must be grouped when setting tolerances.

PROBLEMS

- What pesticides will be grouped?
- How stringent will common mechanism be applied?
- How will common mechanism be used in cumulative risk assessment?



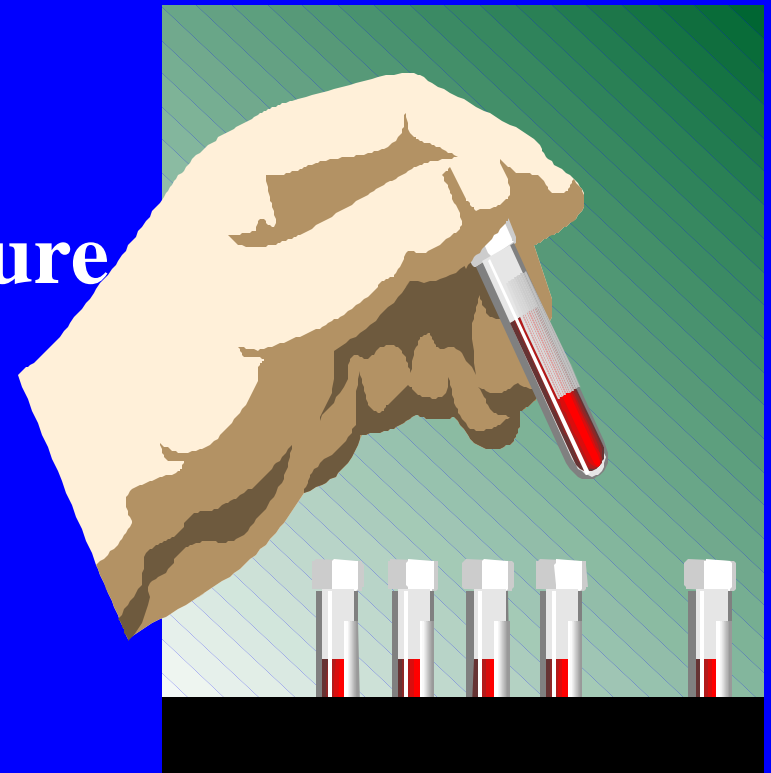
Assessing OP toxicity

ISSUE

To compare OPs, EPA must use a standard “toxicological endpoint”, cholinesterase inhibition.

PROBLEMS

- There are several ways to measure cholinesterase levels (plasma, membrane, etc); results may differ by method.



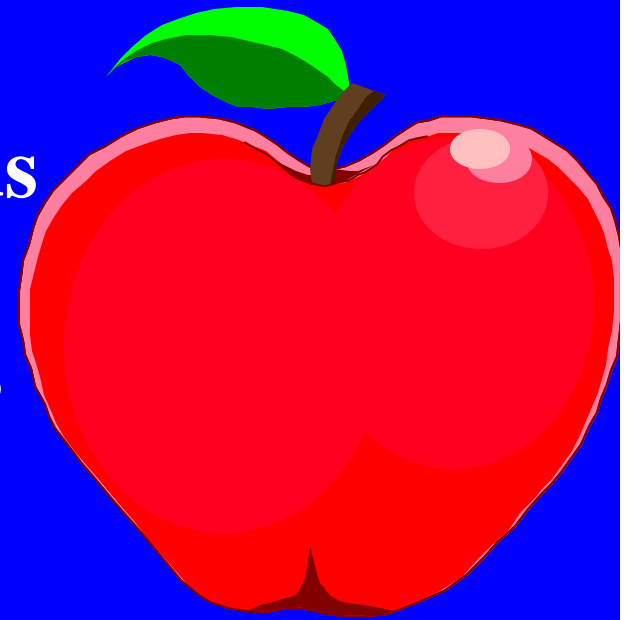
Dietary (food) exposure

ISSUE

All pesticide exposures via food are considered when setting tolerances.

PROBLEMS

- Residue data available for some foods but not others.
- Good data on typical diets of various groups of people is also needed.



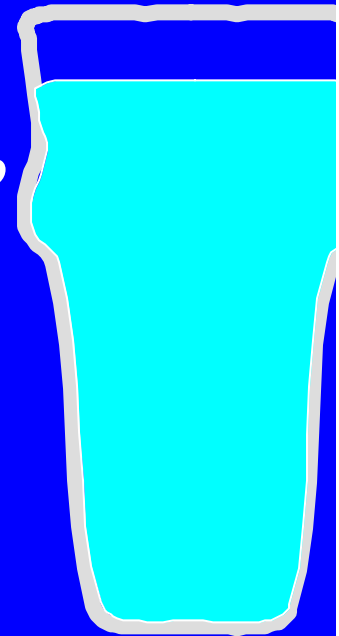
Drinking water exposure

ISSUE

Pesticide exposures via drinking water will now be considered when setting tolerances.

PROBLEMS

- **Lack of good water monitoring data.**
- **Need something better than a “farm pond” model to estimate pesticide exposure in drinking water.**



Residential exposure *ISSUE*

Residential exposures (indoor, garden, lawn, pet) will now be considered when setting tolerances.

PROBLEM

- Lack of good data on residential residue levels for some pesticides.
- Lack of standard methods for obtaining this data.



Aggregate exposure *ISSUE*

Once dietary, drinking water, & residential exposures to a pesticide are known, these data must be used to estimate aggregate exposure.

PROBLEM

- How do you “put it all together” to do an aggregate risk assessment?



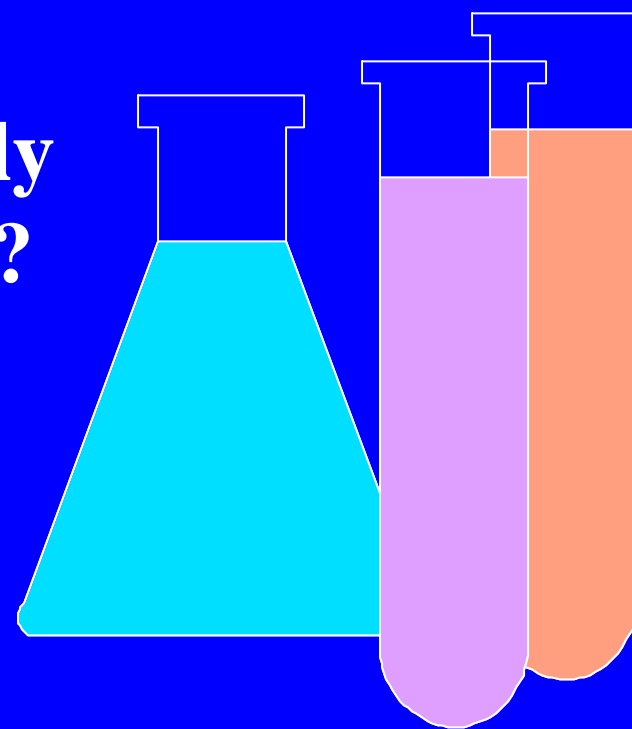
Non-detectable residues

ISSUE

Residue tests of food, water, and non-food items often detect no pesticide residue.

PROBLEMS

- Is the residue really “zero” or simply below the detection limit of the test?
- Should EPA use “0” or some other value in its risk assessments?



**the Environmental Working Group (EWG)
resigned from TRAC (Oct. 98)**



<http://www.ewg.org/>

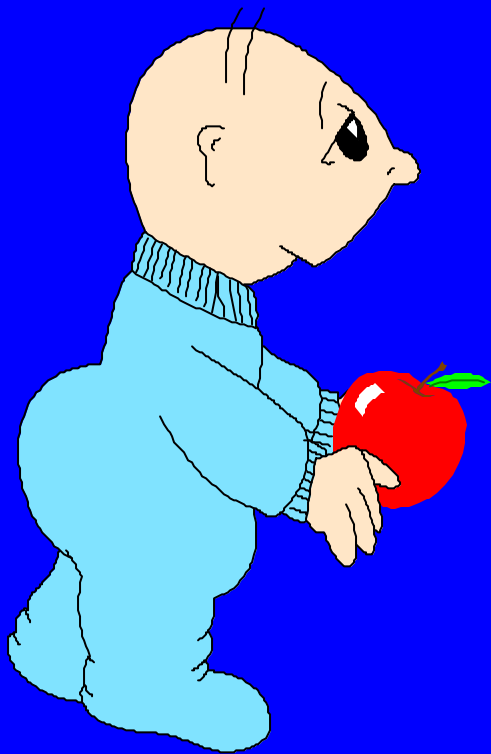
“we cannot point to any tangible action the [Clinton] Administration has taken that actually will protect children from pesticides”

“by consuming enormous amounts of staff time .. the process served only to delay implementation of the FQPA, and regulation of organophosphate insecticides”

Pesticides and Kids' Risks

Newsweek, June 1, 1998

“Unsafe Levels: Organophosphate insecticides can harm a developing brain. Some sources in kids' diets:”



| <i>food</i> | <i>chance unsafe</i> | <i>#kids affected per day</i> |
|-------------|----------------------|-------------------------------|
| peaches | 24.8 | 77,440 |
| apples | 12.9 | 408,680 |
| popcorn | 8.5 | 68,370 |
| applesauce | 5.2 | 70,150 |
| grapes | 5.1 | 54,630 |
| corn chips | 4.5 | 53,080 |
| raisins | 3.3 | 21,800 |