You're Eating What? -- Jeffrey Smith, 2004

CD track table of contents (by Dick Atlee)

2. Relevance: farmers, gardeners, eaters
importance of education: EU vs USA
drama of anti-GMO suppression

3. **Myth: millions eating, no one hurt**
the 1980's GMO L-tryptophan epidemic
3 factors: acute, fast onset, unusual
if one had been diff, would have missed cause
none appear hurt because no one is looking
2x Δ food illnesses since introduced in '90s

4. **rBGH in milk**
FDA concerned scientists fired
high igF1 in rBGH milk: carcinogenic: breast
FDA: any no-rBGH label must say "no diff"

5. **FDA '92: "unaware of info about diffs"**
so: no testing or notification necessary
Lawsuit released FDA's scientists' concerns:
possible allergies, Δ toxins, new toxins,
gathering toxins from environment,
nutrition problems, new diseases,
antibiotic-resistant diseases
concerns were overruled by White House
put Monsanto lawyer Michael Taylor into FDA
Ag Secy is from Calgene
Calgene voluntarily submitted data
showed stomach lesions, but was approved
FDA doesn't claim safety, just acknowledges
that applicant claims safety
animals reject GMOs (wild, domestic)

6. **Description of GM process**
antibiotic marker gene (AMG)
FDA scientists appalled by AMG
myth: DNA destroyed in stomach
Only 1 human feeding study
Roundup-ready (RR) soy
DNA found in colostomy bags
BUT ALSO: gut bacteria were anti-bio resistant
meaning gene jumped from earlier GMO meals
jumped DNA might be allergenic
can't quickly test because requires long exposure
UN standard: must not match allergen
RoundupReady matches two, but was OK'd

7. **Mutations and promoter gene**
changes have appeared in registered DNAsequence
caused by different environments
can create unintended proteins
promoter gene
each gene is controlled by a promoter
but many genes can be affected by one promoter
this is ignored by the GM 1-to-1assumption
GMO promoter: "top volume always-on switch"
can affect other genes with unknown effects
creates a "hot spot" for mutations
could activate dormant viruses in DNA
found in rat organs after 1 meal
no studies have followed this up
Bt (bacillus thuringensis) insecticide
natural insectide, but GMO version more toxic
EPA: no problem, it's all destroyed in digestion
but survived digestion in mice, serious trouble
near cornfields: allergic reactions to pollen

8. **Epidemiologic evidence**
there is no monitoring of GMO effects
but there ARE statistics
UK: soy allergies skyrocketed
Gene insertion is not Legos
causes DNA damage
changes gene expression (proteins)
5% of genes changed express levels
Monsanto summary to EU: no difference
data (via lawsuit) showed otherwise
ΔTrypsin inhibitor (increases allergies)
heating caused 3-8-fold Δ in Trypsin inhib.
changes occurred in nutrient levels
damaged section of DNA found

9. **Long-term safety studies**
(see also notes at end)
166 Aspartame studies evenly divided
100% of independents raised questions
0% of industry-funded raised questions
GMOs: as of 2004, 10 industry, 2 independent
Indep. example: Arpad Pusztai, 1996
35 yrs experience, highly regarded
UK hired to develop long-term protocol
FDA scientists had asked for this earlier
rats + GMO insecticide potato
no prob with reg potato or reg potato+insecticide
problem: GMO potato
implication: process is problem, not insecticide
mentioned on BBC
2 calls from prime ministers office ->
Pusztai fired, gagged, papers confiscated
eventually ungagged to talk to Parliament

10. **Pusztai's "most shocking" experience**
Not the rats sickening, or his firing/muzzling
Asked to analyze industry research submissions
700pp in 2.5 hours
looked at design and data
not for safety but for getting to market
insufficient for any safety conclusions
products had been on market for 2 years

11. **Problems found in other studies**
(see also notes at end)
Deaths, malformed organs
Farm animal reproductive issues

12. **Not monitoring**; winning the battle
DNA changes altering plant physiology
effects of such changes
winning the GMO battle
dasy to win -- use market forces
4/99: Unilever pledge: remove GMOs
all major food suppliers the same in 1 wk
only in EU, kept products same in US
the more people learn, less will they eat
50% in US say they've never eaten GMO
world awareness: lists GMO-free places
industry defense: "FDA tests GMOs"(!)

13. **Myth piercing is working**
Smith's *Seeds of Deception* book

video on GMOs out of school lunches
orgs -- use at least one to stay informed
gmwatch.org (EU) (huge resource)
responsibletechnology.org (great resource)
GMOs are pollution with legs
try recalling salmon or mosquitoes
pollen contamination 1000's miles
based on disproven decades-old theories
use book to overcome US media blackout

14 **Copy this disk, give to --** parents, friends, restaurants, food stores, politicians

QUESTIONS/ANSWERS ----------

15. **GMOs = traditional hybridiz'n/breeding?**
FDA scientists said NO (suppressed)
80 Nobelists said NO
Calgene (Flavr-savr tomato) scientist: NO
Dan Glickman former Ag-Secy: any questioning of GMOs considered disloyal, alien
16. **Have a website w/resources? (see #13 above)**
book has references to original sources
all checked by German biologist
17. **Which crops are GMO?**
big 4: Soy, corn, cotton, canola
Hawaiian papaya
bit of zucchini & crook-neck squash
3-5% of sweet corn (not popcorn)
18. **Economic consequences?**
Quayle's Council on Competitiveness
proved a disaster
corn lost $300M/yr EU market
Canada lost its canola & honey markets
soy market share from 56%->46%
US ag subsidies Δ$2bil due to market losses
yields
soy down 4-6%
sometimes Δ in corn and canola
19. **What is the food industry take on this?**
pain in the neck for them
no benefit
need 2 different labels US+Canada vs EU
GMO/nonGMO separation is complicated
no consumer benefit in traits -- just
84% herbicide tolerant
20% create own pesticide (Bt)
Monsanto's 1999 plan failed
5 yr goal = 100% of market
market actually shrinking
20. **How is market shrinking?**
Japan: no GMOs, labels permit 5% GMO
US: 92% want labels
50% say they wouldn't eat if knew
loopholes: e.g. oils (but nutrients changed)
EU labeling Δ'd awareness
even if only *derived* from GMO
milk/meat from GMO-fed animals
21. **Consequences for farmers of patenting?**
Percy Schmeiser: Canadian farmer
canola contaminated from across road
sued by Monsanto
world-famous case
organic canola farmers can't get OK seed
22. **EU restaurants call GMOs "Frankenfoods"**
Great UK example: Monsanto's restaurant(!)
23. **What about the Terminator gene?**
GMO plants sterile, prevents seed re-use
no need for Monsanto's nosy inspections of land or documents
Monsanto intimidation
Hot line to report seed-savers
Threatening letters & law enforcement
contamination problem
buffer zones (if they work, how did volcanic Hawaii, 2000 miles away, become green?)
24. **Summary --** self-replicating, long-term, invasive technology, reflects a dangerous way of thinking

EXTRA NOTES: Subsequent developments

Monsanto 90-day (~8-9yr) rat feeding study
Roundup Ready corn
claim: safe as non-GMO, regulators: OK'd it
lawsuit exposed raw data
50 physiol/biochem parameters showed statistically significant differences
reflect liver/kidney toxicity
even showed up when corn only 11% of diet
regulators acknowledged, but dismissed

Prof. Gilles-Eric Seralini (2012)
(independent academic scientist in France)
expanded Monsanto experiment
same experimental design and rat strain
extend 90day to 2 year (lifespan)
larger number of parameters
more groups: GMO, GMO w/R, R itself
diffs increased in 1st year, peaked in 2nd
liver/kidney damage got worse
males dying of kidney failure
3-4x more tumors, esp female mammary
Roundup toxic at .5 EU safe dose, .05 US dose
alteration of estrogen/testosterone levels
study attacked as wrong strain and small samples
critique appropriate for carcinogenicity study, but this was toxicology study
Instant attack, forced journal to withdraw it as "inconclusive" (violation of its own rules)

Zola proteomic study
protein compositional profile of organism
proteins ARE the biochemical metabolics
Monsanto Mon-810 Bt corn
GMO and non-GMO parent (isogenic)
same field, same time
dozens of gene expression differences
truncated protein -- implications horrendous
gamma-Zane known allergen
differing gene-expression response to environ
dramatic difference just in protein --
but this implies other components different
requires non-specific testing --
animal feeding studies instead of chemistry