

WHY I WON'T EAT GM FOOD

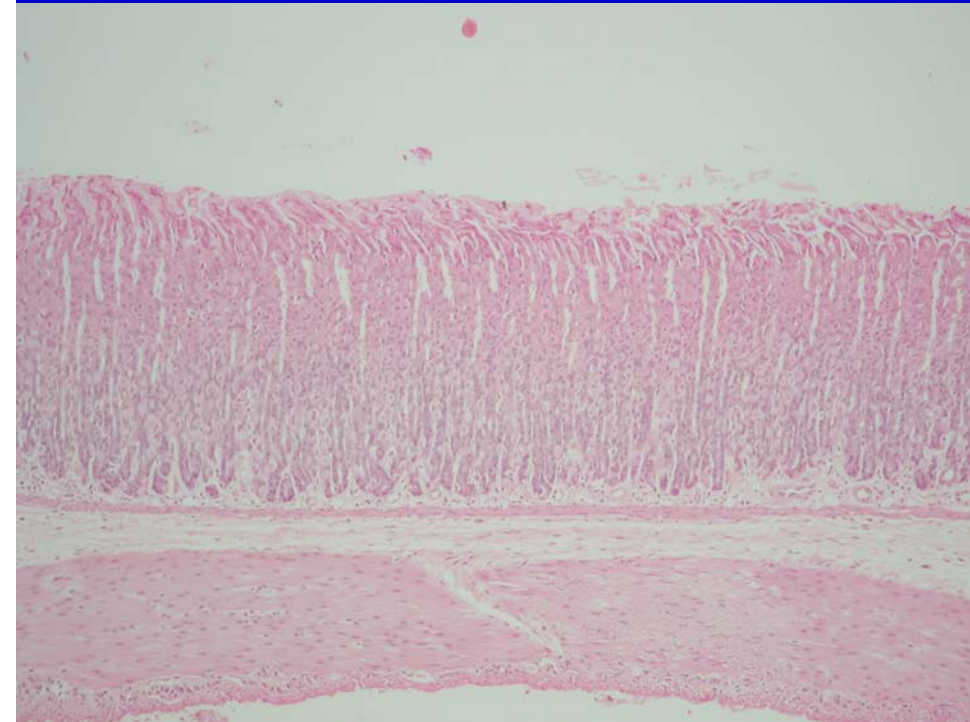
A BETTER TITLE WOULD BE;

- Why I would **prefer** not to eat GM food
- The problem is that 3 of 7 volunteers in a recent study were shown to have eaten GM soya before the study commenced
- In other words – it is as AJP stated in World in action in 1998 “we are all human guinea pigs” involved in a global experiment

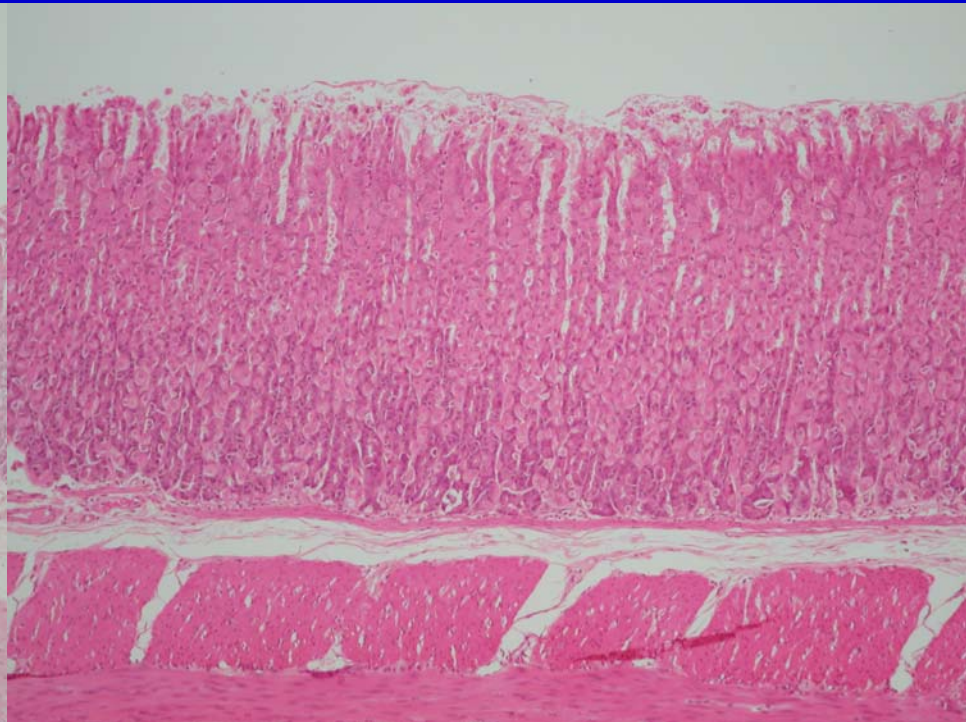
“NEW EVIDENCE”

- New evidence was presented in 2003 by Pusztai *et al.* in Food Safety (D’ Mello)
- Flavr Savr tomatoes produced gastric erosions in 4 of 20 female rats given tomato homogenates and when the experiment was **repeated** 2 of 15 female rats developed similar lesions (unpublished)
- These gastric erosions in the test animals were attributed to an “artefact of gavage studies”

COMMITTEE ON TOXICOLOGY (MAY 1999)

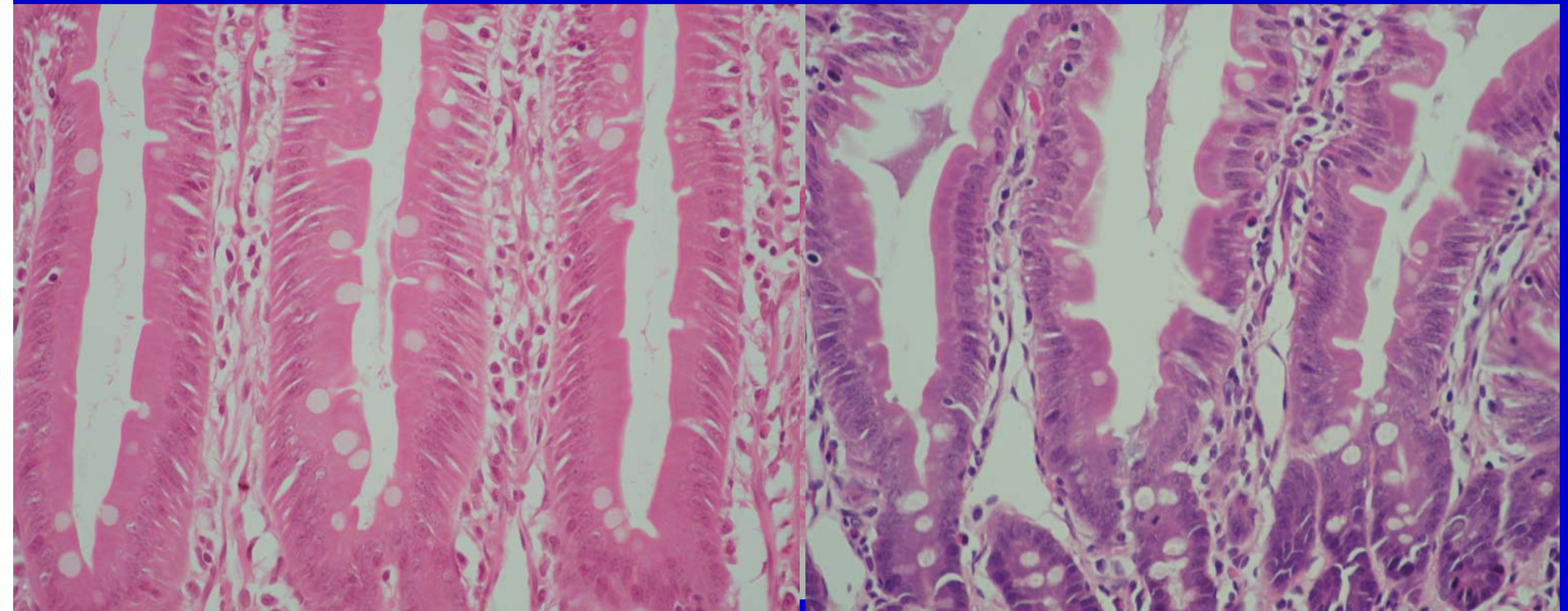


Raw parent x100



Raw GM x100

LANCET (1999)



Raw GM x400

Raw parent x400

PUBLISHED (1998 & 1999) RAW GM-POTATO MICRO

	Fares <i>et al</i>	Ewen&Pusztai
Species	male mouse	male rat
Age	4 wk	6wk (100g)
Feeding time	14 days	10 days
Inserted gene	B.thuringensis	galanthus n.ag
Examination	ileal villus planimetry	jejunal crypt image anal.
Result	+21.7%	+57.8%

JEJUNAL CHANGES IN RATS FED GM POTATOES (D' Mello 2003)

	Parent raw	Parent raw +GNA	Raw GM
Crypt cell count	15.8 (1.5)	17.0 (1.6)	20.3 (1.8)
Mitoses (10 crypts)	5.8	5.2	7.5
		p<0.0005	p<0.00001

LIVER NUCLEI IN FEMALE MICE FED GM SOYA ('02)

- 12 controls and 12 fed GM soya (14%)
- Sampled at 1, 2, 5 or 8 months of age
- Quantitative electron microscopy
- At 1 month of age (ie. about 10 days after weaning) dense fibrillar component (DFC) had risen 26.4% indicative of increased metabolic activity in the nucleus
- At 5 months Fibrillarin labelling of DFC had increased 67.4% (autoradiography)

FATE OF GM MAIZE IN OVINE RUMEN ('03)

- Maize silage unlikely to persist in rumen
- Intact maize grains present in rumen fluid samples after 24h
- No evidence of GM DNA in faeces up to 72h after ingestion
- DNA released from diet in the mouth may retain activity for bacterial transformation

PLANT DNA AND THE HUMAN GI TRACT ('04)

- First human study of GM soya ingestion (Netherwood *et al.*)
- 3 of 7 ileostomy patients contained CaMV 35S promoter **before** study had started
- All 7 passed excreta containing GM DNA after test meal (“surprised that any could survive”)
- Faeces of 12 volunteer controls contained no CaMV (were they age and sex matched?)

COMMENTS

- We are not informed about the reason for resection of colon (not terminal ileum as stated) – was the disease colonic malignancy or inflammatory bowel disease which could affect remaining small bowel function
- If unprocessed GM food was to be ingested then much more transgenic DNA would access, and be released into, the normal colon
- Fate of stoma excreta – septic tank to aquatic life?

NORWEGIAN NEW EVIDENCE (UNPUBLISHED)

- Young actively growing rats (6/group) tube fed **once** with DNA constructs
- Sampled at 2h, 6h, and 3days
- Results; detectable PCR products in lymph nodes (mesenteric), spleen and liver at 3d
- Detectable after 6h in kidney and liver
- Detectable after 2h in gastric mucosa and mesenteric lymph nodes

MORE UNPUBLISHED NORWEGIAN EVIDENCE

- Phillipine farmers (Iloila) planted Bt maize
- This maize has a variable level of Bt expression 0.014-0.9 μ g/g (some single kernels lower)
- After the maize flowered many of the surrounding farmers had circulating IgG and IgA antibodies against Bt-toxin
- *In vitro* – addition of CaMV fluorescent green protein construct to human cells caused expression in all the cells tested

CONCLUSION

(PRYME AND LEMBKE)

- I “feel that much more scientific investigation is necessary before I can be satisfied that eating foods containing GM material is not likely to provoke any form of health problems in the long term”

GM SWEET PEPPERS AND TOMATOES (Chen)

- 30d feeding to rats 3wk of age
- The rats were not pair fed in this nutrition experiment
- Several organs weighed but **not** small or large intestine
- “Check histology” revealed no abnormality but crypts and villi were not **quantified**

THE ABIDILE

- Any genetic modification is possible
- Abilone is a mollusc with a pearly shell
- Recent suggestion is to genetically modify crocodile to express abilone features – The Abidile
- Fortunately the experiment failed - the Abidile was actually a Crocobilone