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Organic vs GMOs
A case study

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Image: John Paull, 2014

Organic versus GMOs.
Organic agriculture v genetically modified organisms.
Are these two agricultural technologies destined for co-existence or conflict?
This is a case study from Australia about 2 neighbours in conflict.
Michael Baxter who planted GM canola and Steve Marsh his organic neighbour.

A few days ago, when I was boarding my plane to travel to Europe
I was greeted was the message “Be part of the future”.
Today’s presentation is about the fight for the future - about imagined futures.
What future are we imagining?

The message at the airport went on to propose an answer “We will all fly organic”.
The fight for GMOs and against GMOs is a fight for the shape of the future

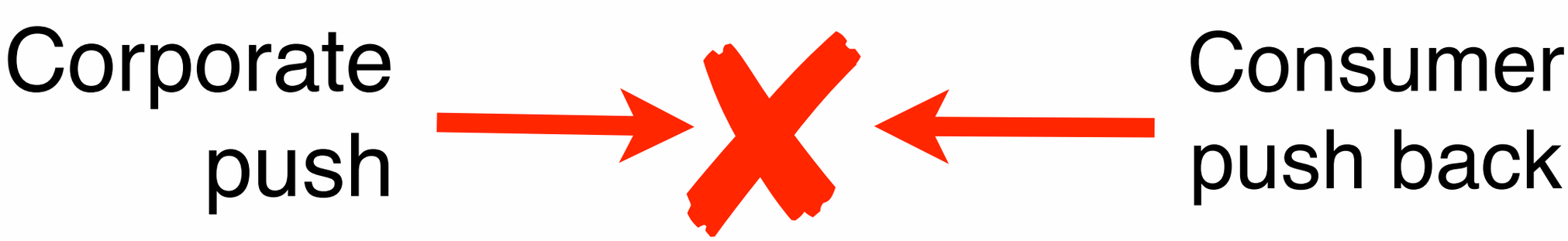
The case study I will share with you is from Australia.
Australia as you see here is mostly desert – all of the central area.
There is a green belt around the edges, down the east coast, then all of Tasmania & in the south west.

The events in the case of Marsh & Baxter, the GMO farmer, occur in the south west.

This is the wheat belt of Western Australia.
The region is renowned for wheat and sheep.

Not only wheat & sheep –
you may also see some native Australian wild life –
in this case an emu.

GMOs - a contested technology

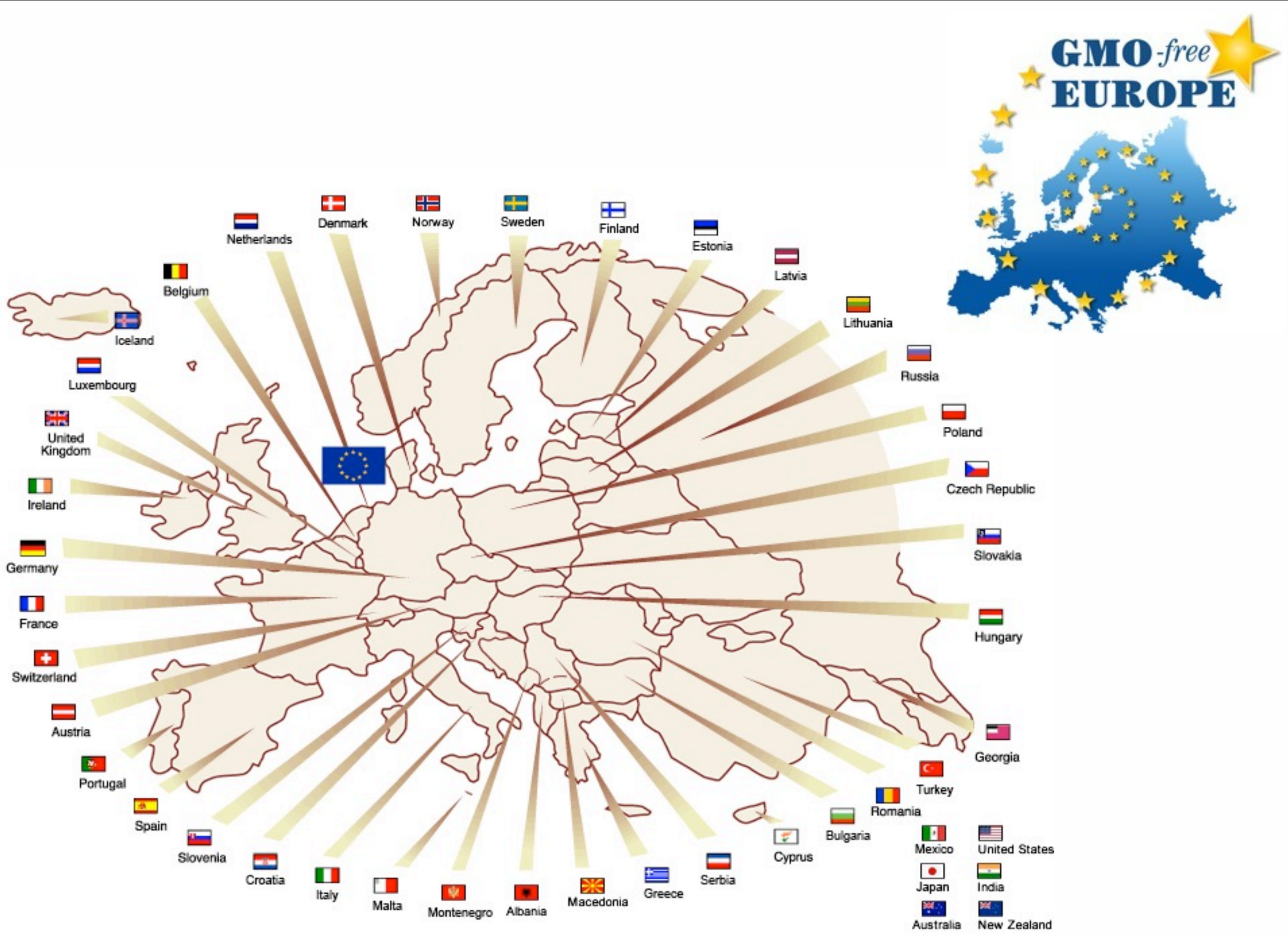


The case of Marsh v Baxter is one battleground of a bigger worldwide conflict.
Let us look at some context.
1st let's take a brief overview of GMO agriculture.
2nd a brief overview of organic agriculture &
3rd let's look at some specifics of the Marsh & Baxter case.
GMO technology is a contested technology.
The contest is essentially a conflict of corporates versus consumers.
Between a few big corporate pesticide companies pushing for the uptake of GMOs
& the multitude of consumers who are pushing back against GMOs.

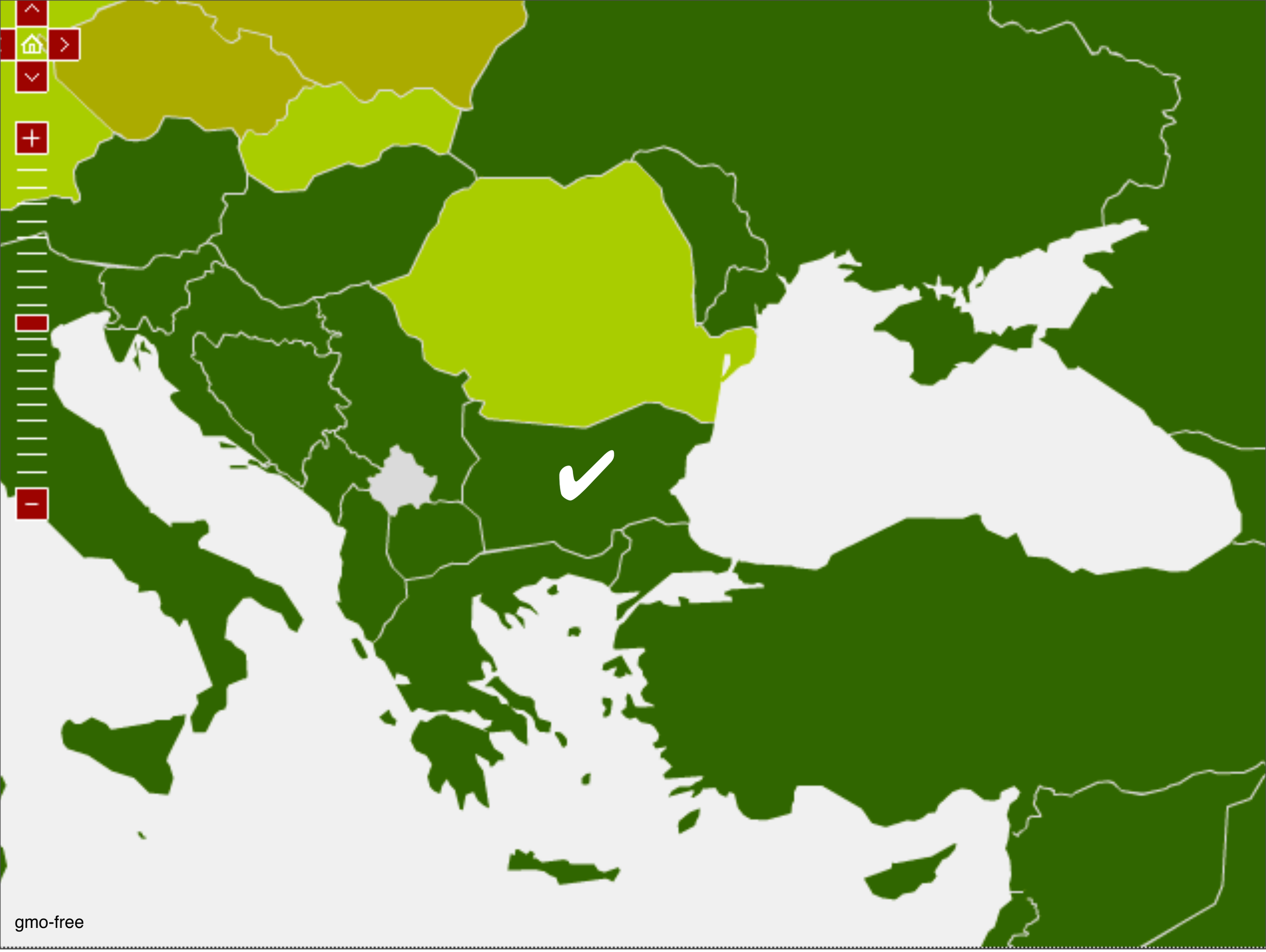
GMO contestation?

- ✗ patents
- ✗ control
- ✗ “substantially equivalent”
- ✗ labelling
- ✗ health
- ✗ ecology
- ✗ environment - canetoad

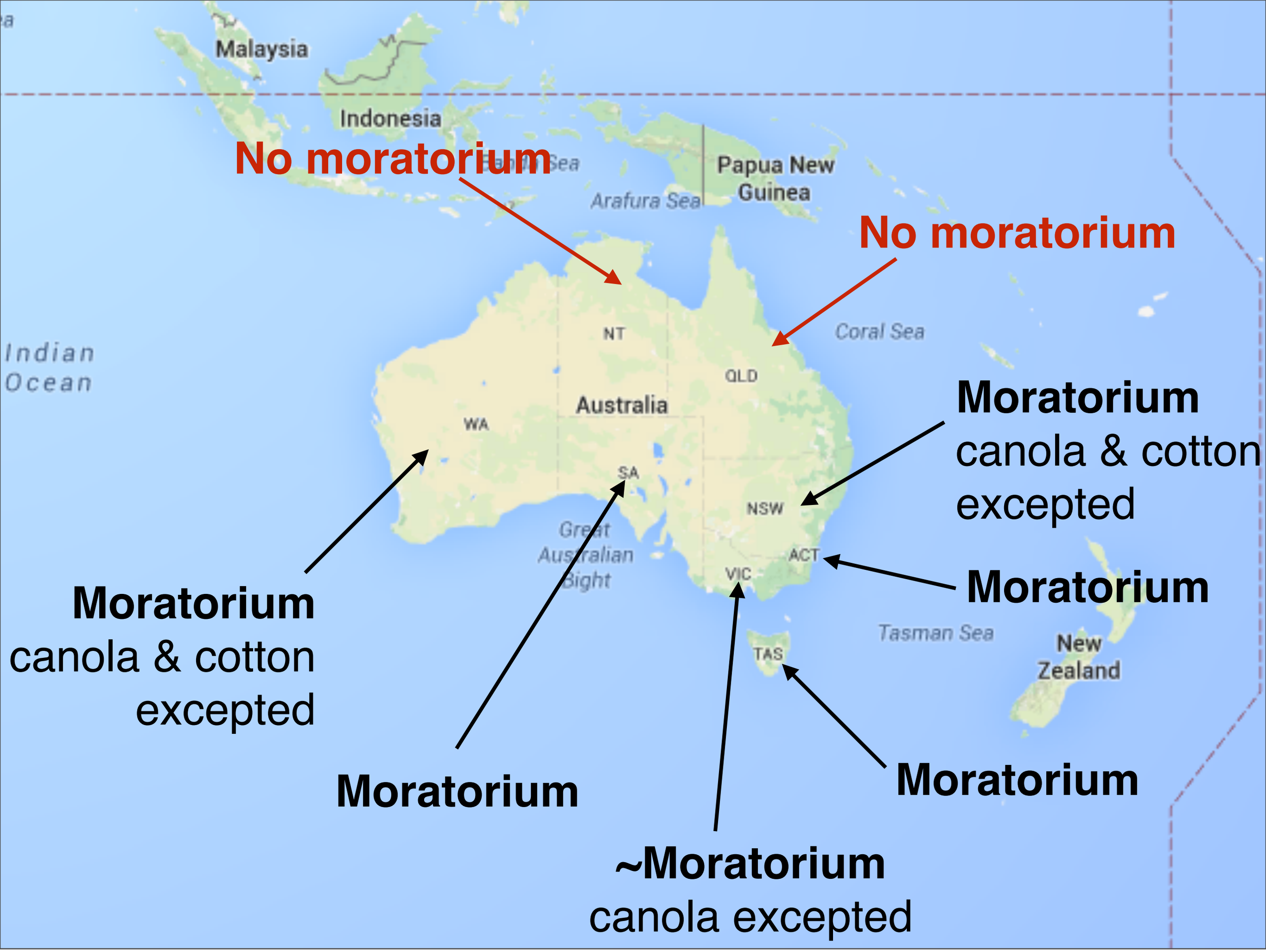
There are at least 7 areas of contestation against GMOs.
Should we allow patents over living organisms?
Is it OK for pesticide companies to control our food supply? For corporate profit?
There is the dubious doctrine of substantial equivalence - wanting to have it both ways - claiming a patent for difference & also an exemption from scrutiny on the basis of sameness.
There is the fight to have GM products labelled.
The impacts of GMOs on health, ecology & environment are uncertain & will remain so for generations.
Are GMOs the new canetoads of Australia & the world?
Canetoads seemed like a good idea at the time. Backed by science.
But when things go awry there may be no recall.



As you will be aware, there has been steady resistance to GMOs throughout Europe –
Europe has been @ the forefront in the resistance to GMOs –
it is a resistance achieving uneven results.

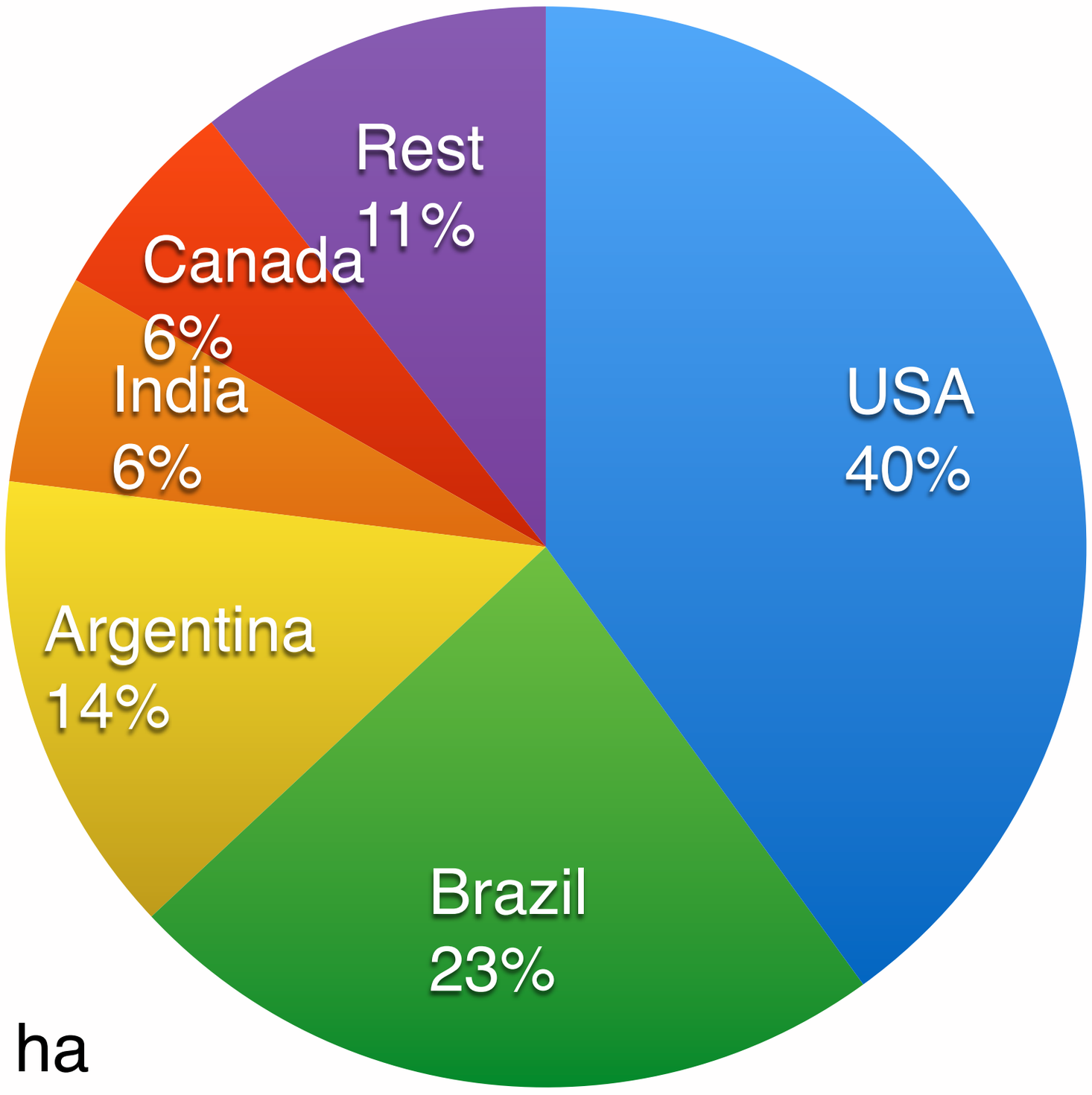


Here in Bulgaria, I am happy to report that Bulgaria is a GMO-free area.



In Australia the picture is more muddied.
There is the Gene Technology Regulator.
It is a federal agency that has approved GM cotton & GM canola.
Each state nevertheless has taken its own position on these approvals.
2 states,Tasmania & South Australia have strong moratoria in place.
Other states have either no moratorium or a compromised moratorium.

GMOs (ha) - Big 5

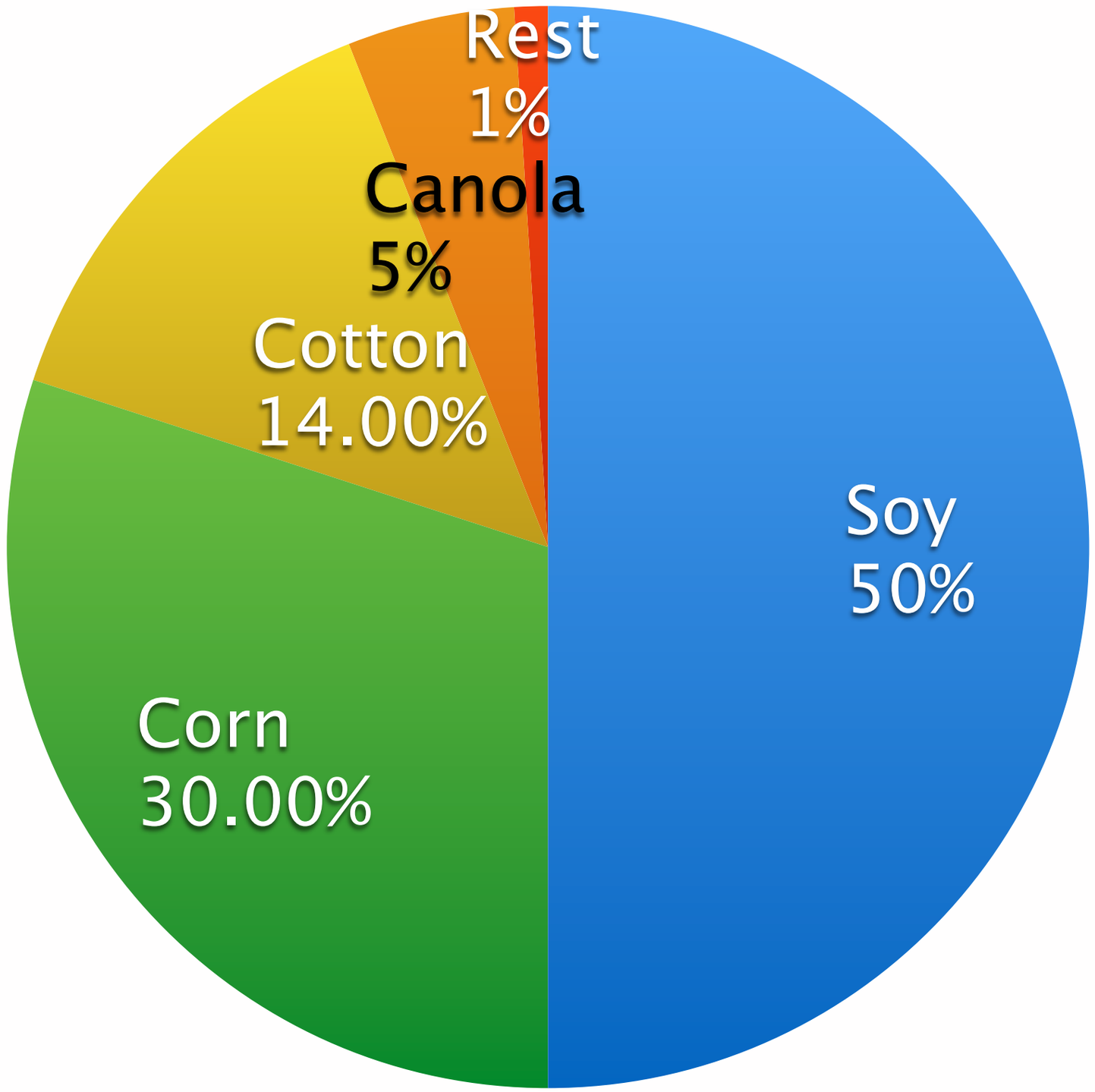


World total = 175.2 m ha

data: James, 2014

Worldwide, the uptake of GMO agriculture has been very limited.
5 countries account for 90% of GMO plantings.
and north & south America account for 85% of the world's GMO plantings.

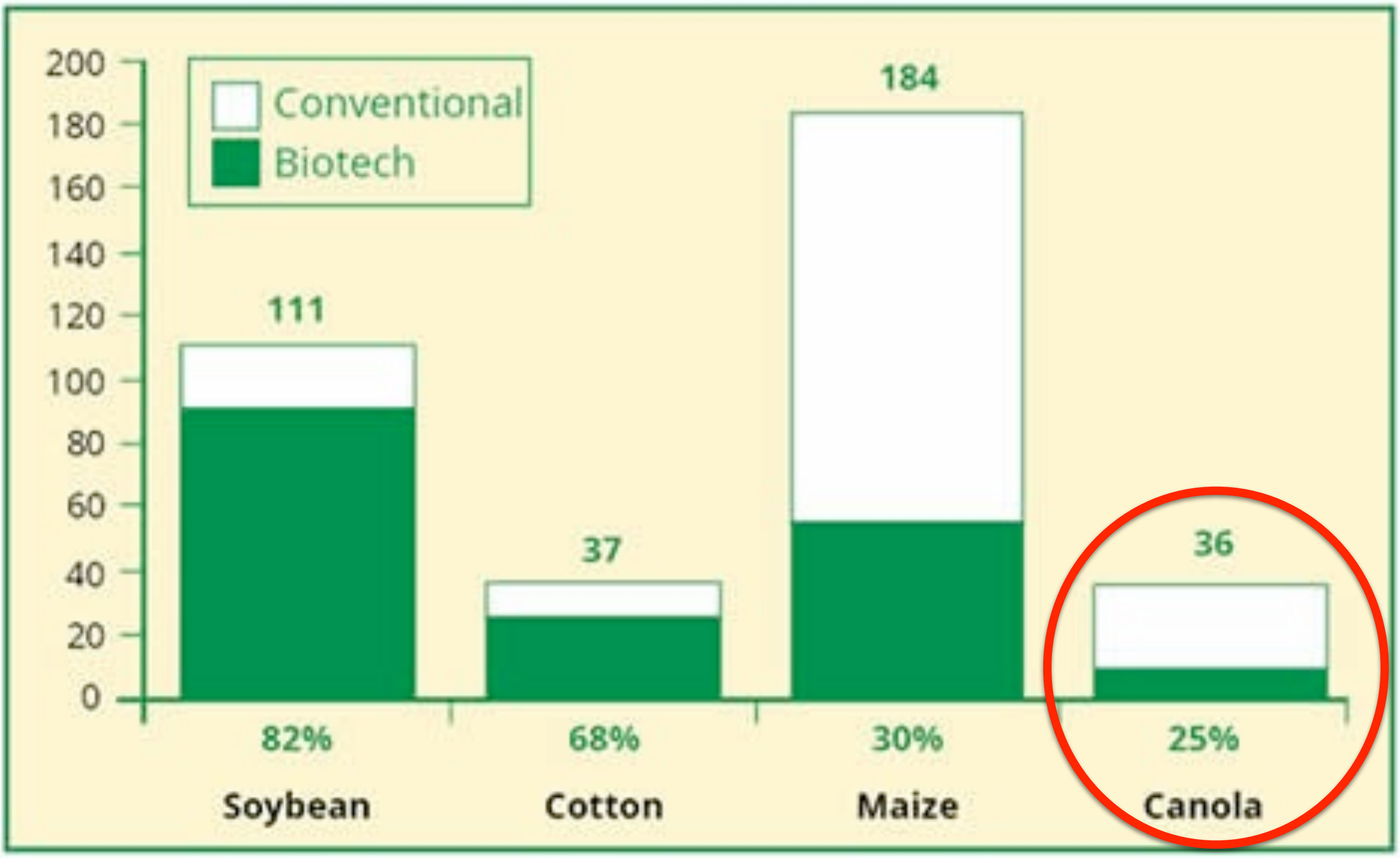
GMOs: 4 crops



data: CBAN, 2015

Just 4 crops account for 99% of GMO agriculture.
Soy, corn, cotton & canola.
The Marsh v Baxter case is about GM canola.

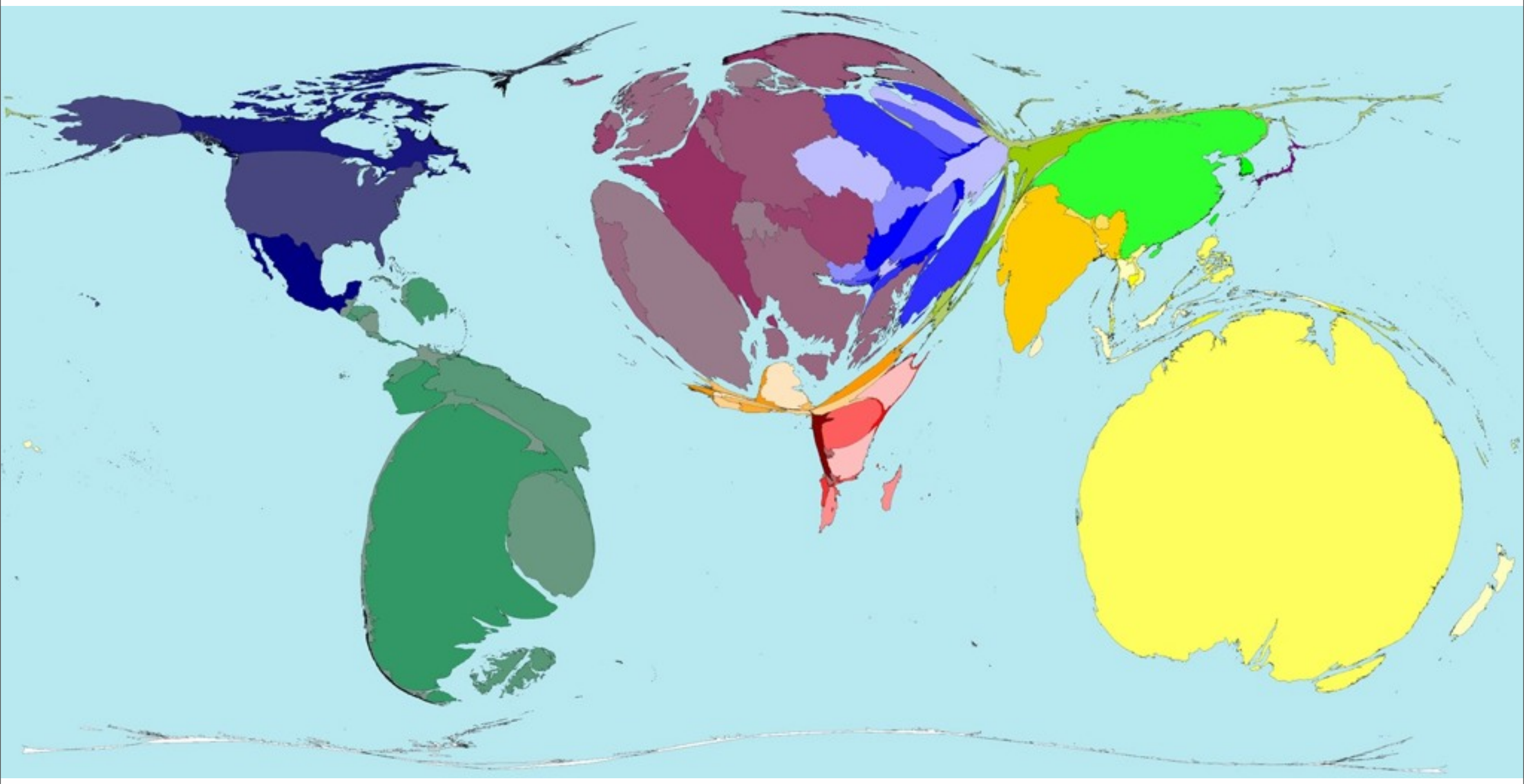
Figure 3. Biotech Crop Area as % of Global Area of Principal Crops, 2014 (Million Hectares)



Source: James, 2014

It is claimed that 25% of the world's canola is GM canola.

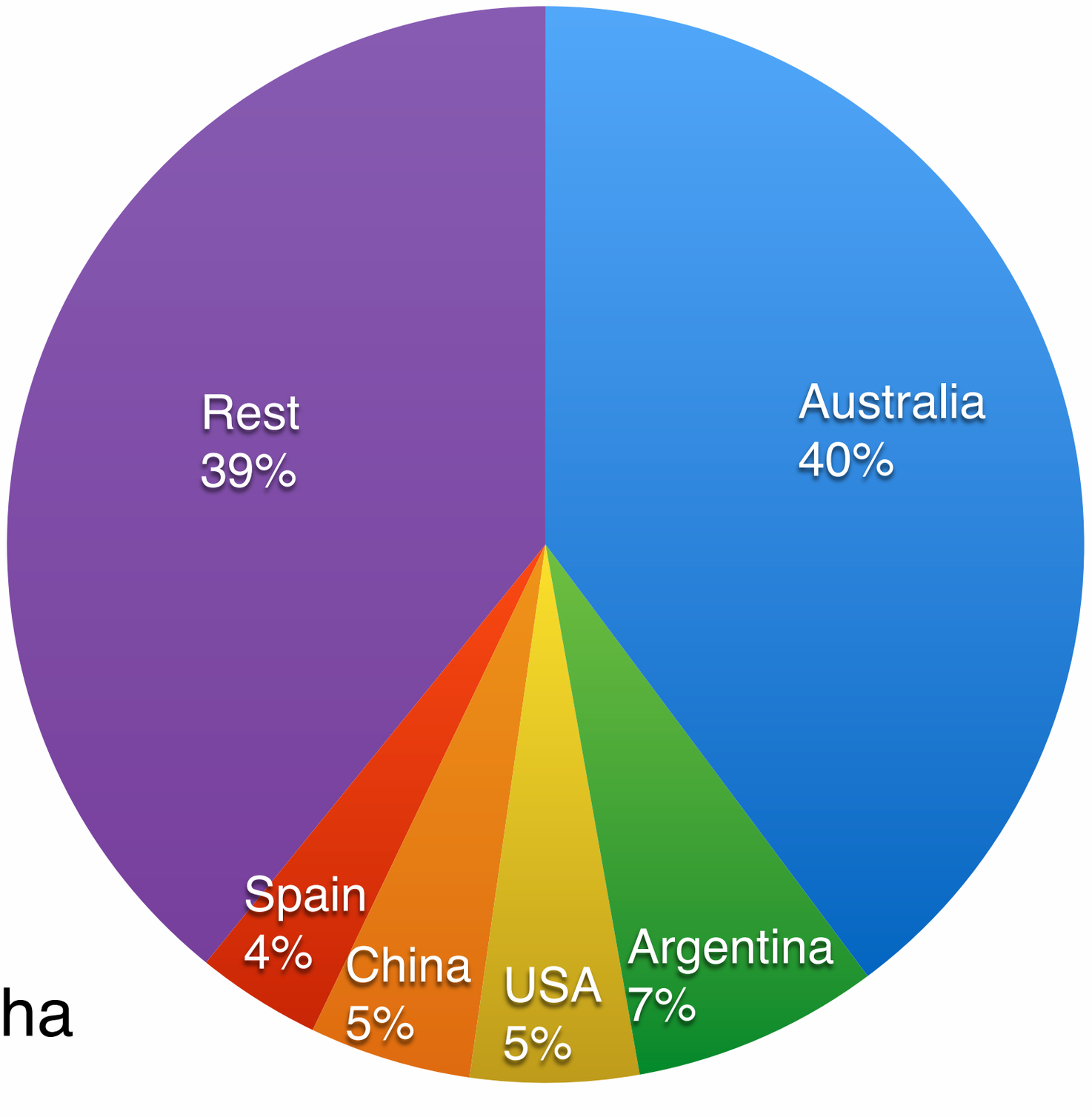
World Map of Organic Agriculture



Paull & Hennig, 2013

Let's briefly look at organic agriculture.
It is a much more widely distributed agricultural technology.
162 countries report annually certified organic farming statistics.
This is a density equalizing map for organic agriculture.
On this map, the bigger the area the more certified organic hectares.
You will see that Australia is doing well, Europe is doing well, Africa is not doing so well.

Organic (ha) - Big 5



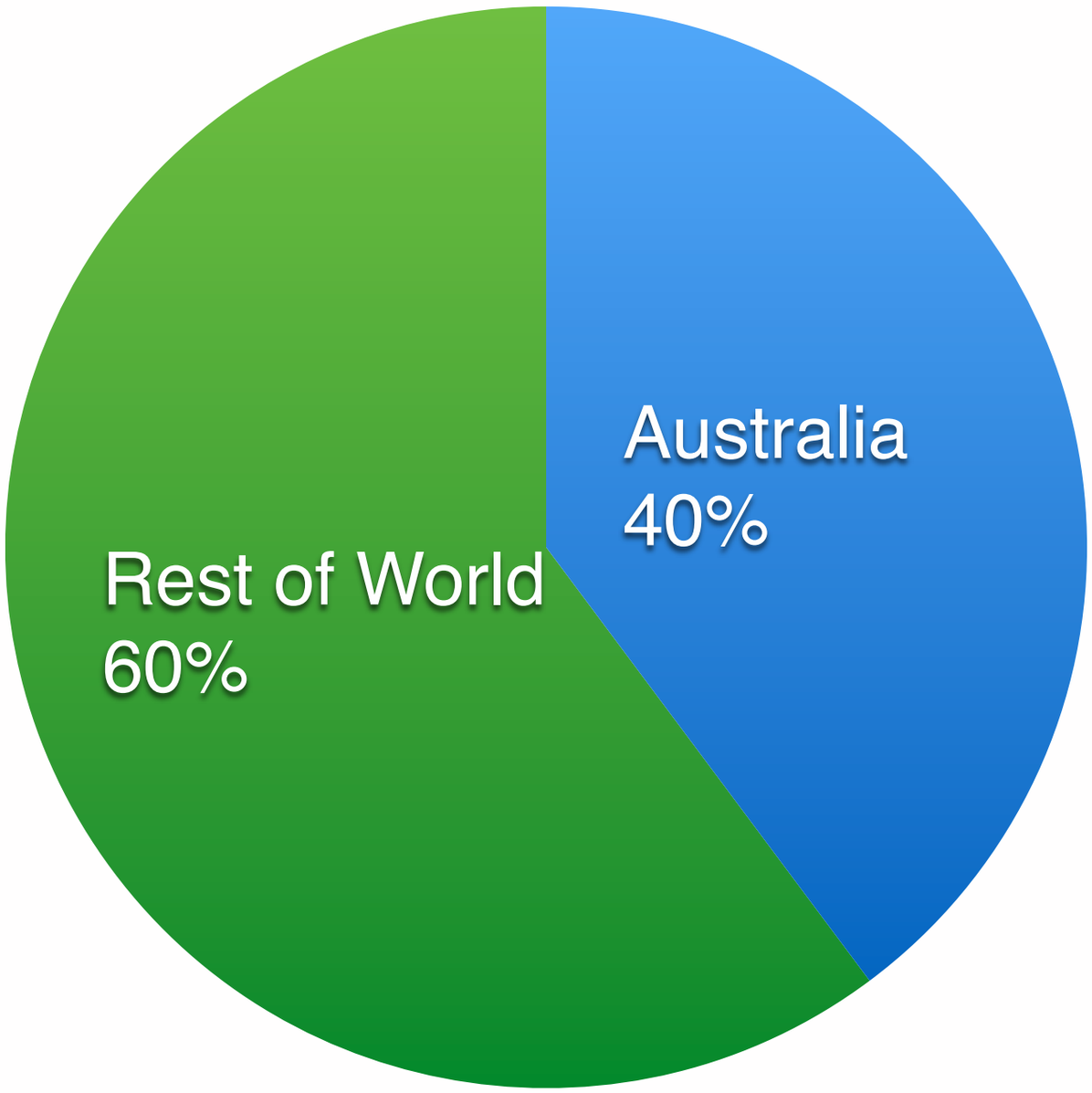
World total = 43.1 m ha

data: Willer & Lernoud, 2015

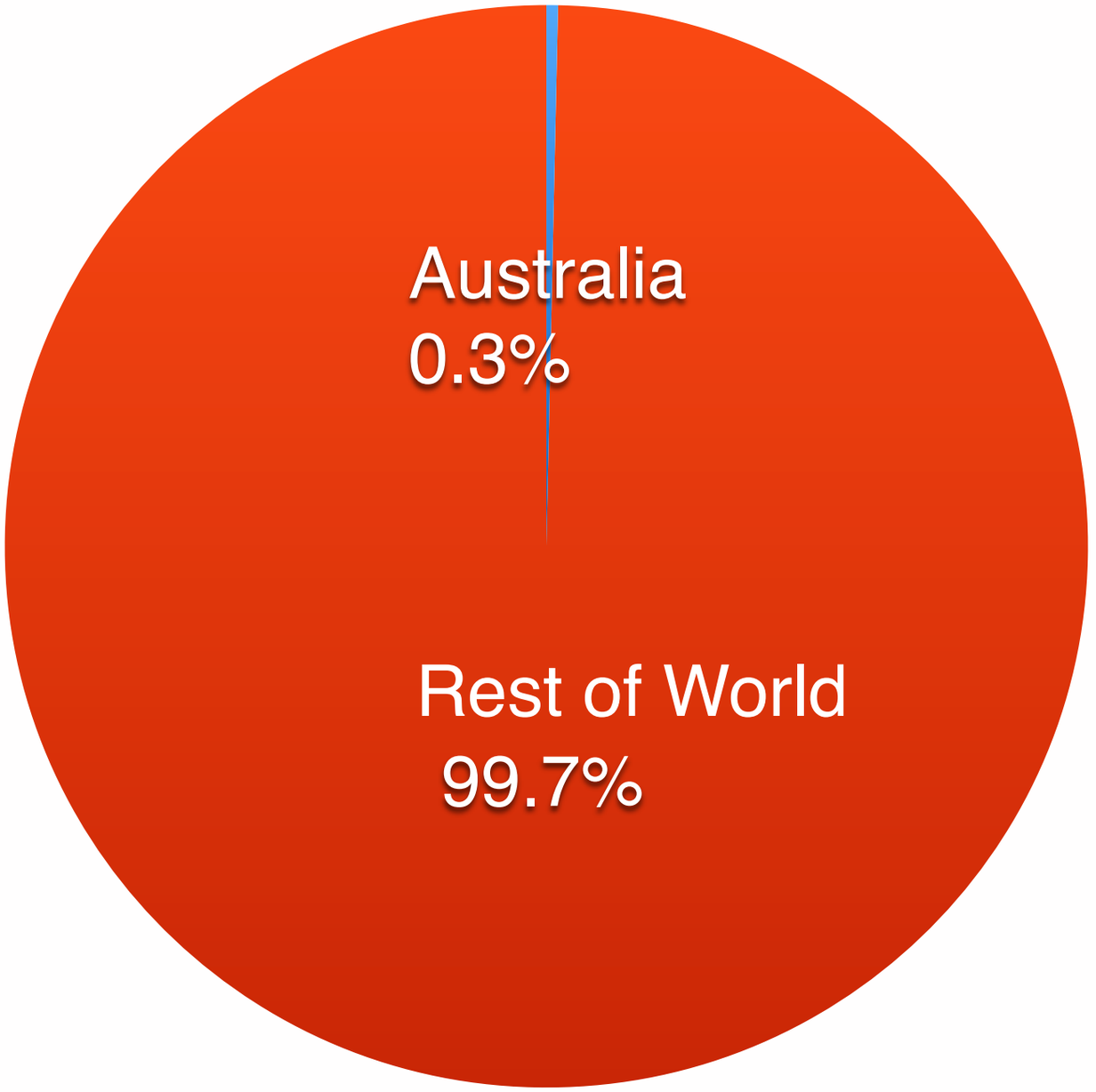
Australia accounts for 40% of the world's certified organic agriculture.
It is followed by Argentina, USA, China & Spain.

Australia & the World

Organic Agriculture (ha)



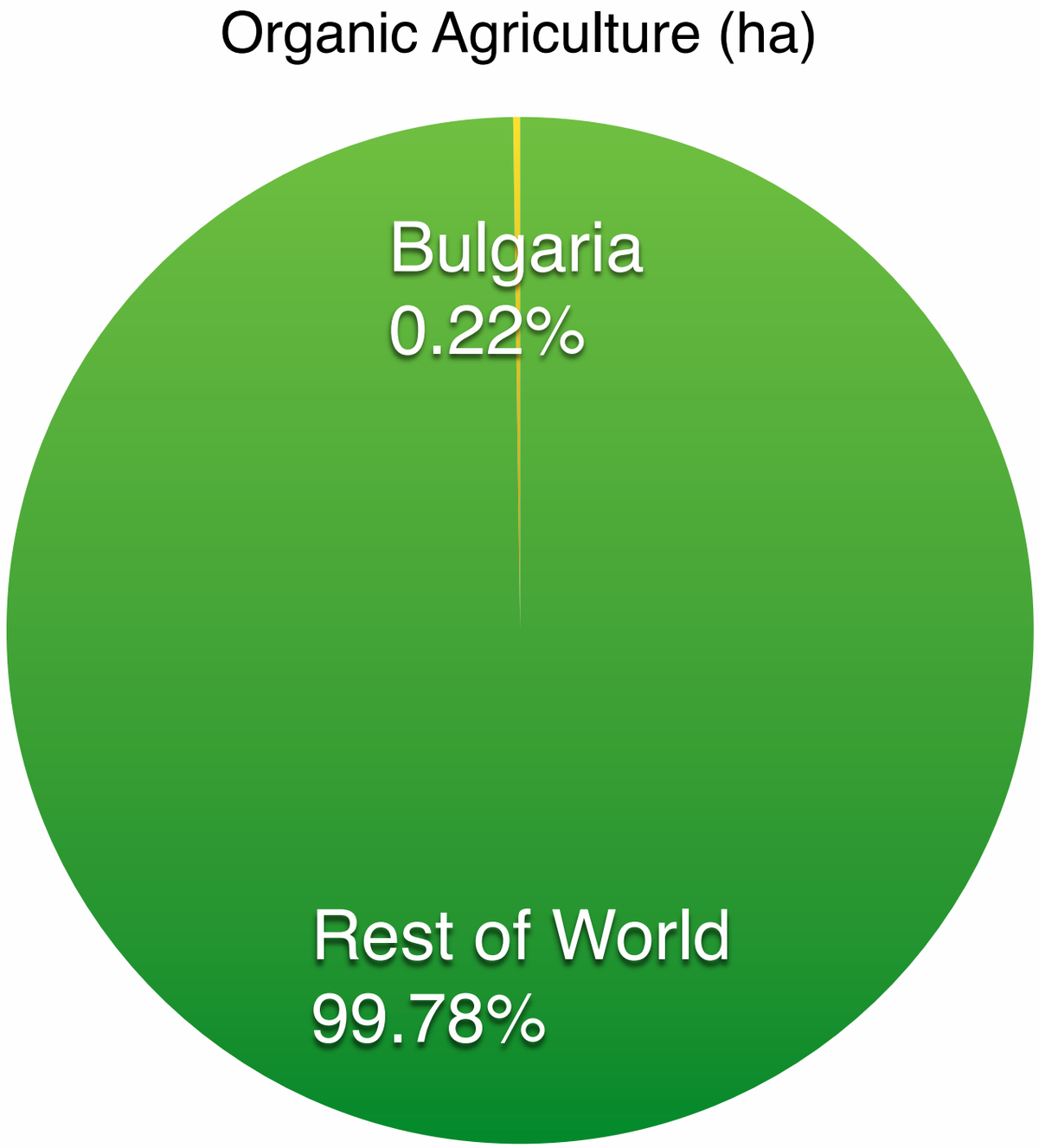
GMOs (ha)

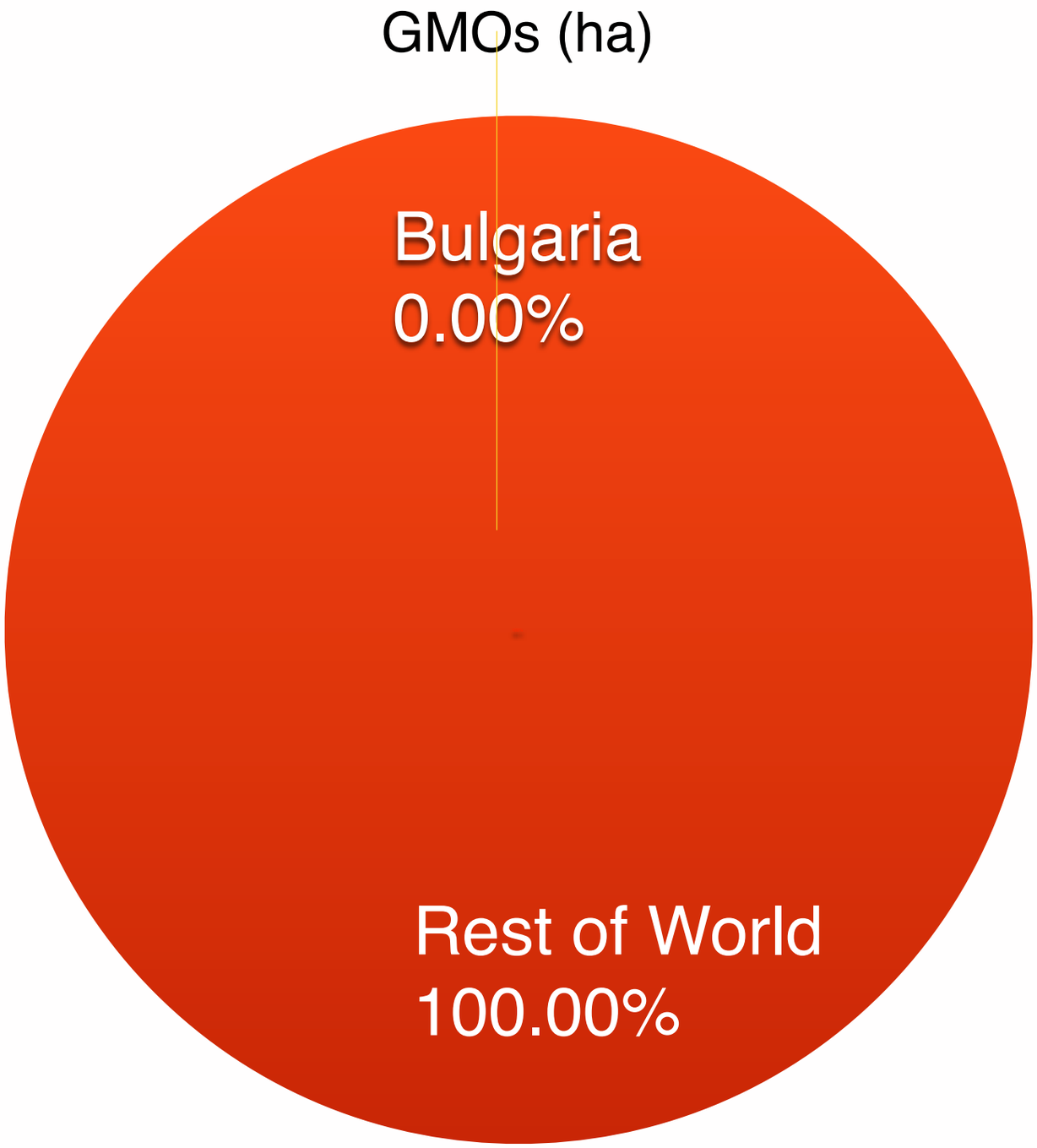


data: Willer & Lernoud, 2015
data: James, 2014

When we compare Organic and GMO hectares in Australia
we see that Australia is a world leader in organics
& a very minor player in GMOs.
Australia has 40% of the world's certified organic agriculture (17m ha & growing) &
just 0.3% of the world's GMO agriculture (0.5 m ha & shrinking).

Bulgaria & the World





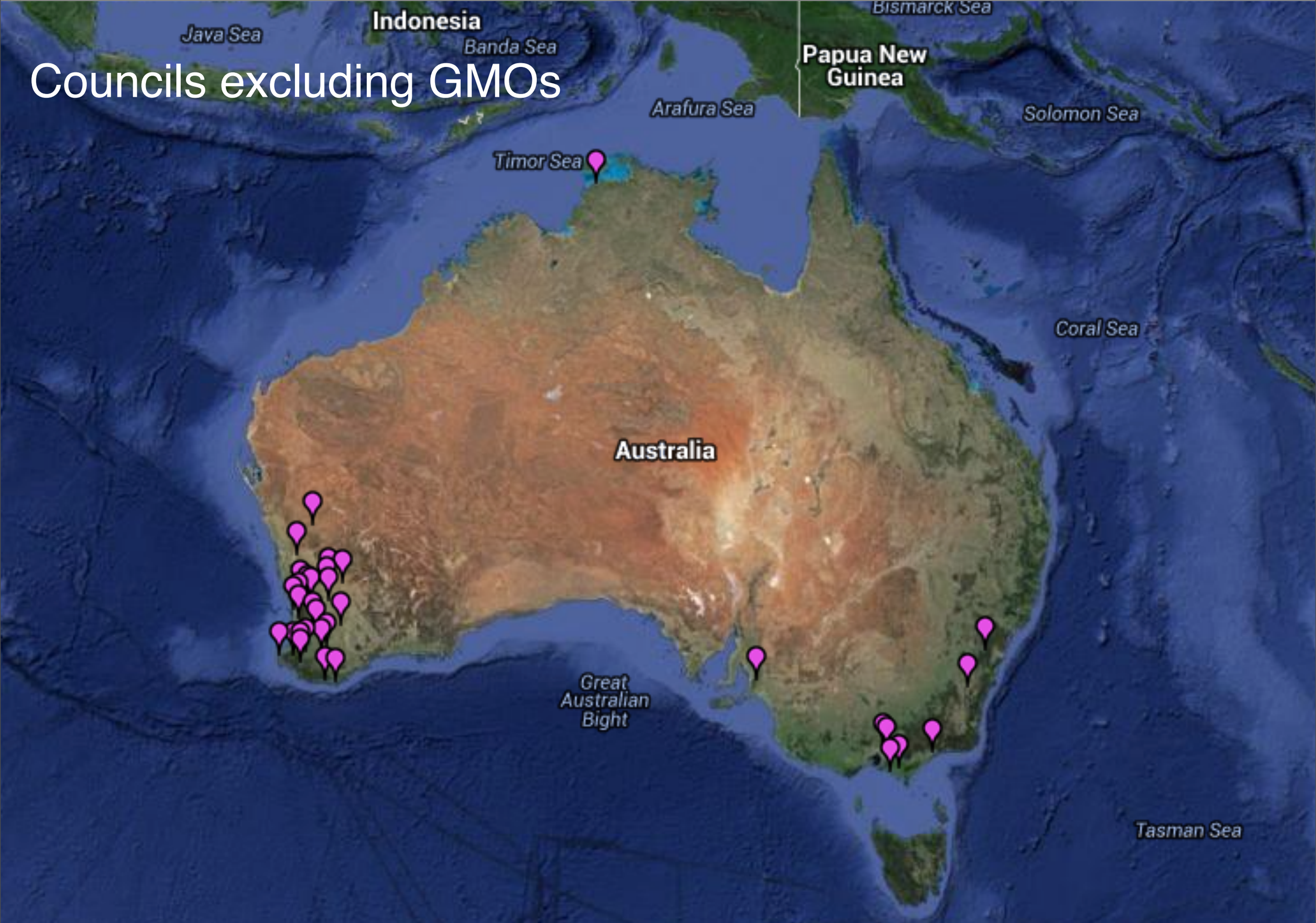
data: Willer & Lernoud, 2015
data: James, 2014

These are the comparable statistics for Bulgaria.
Bulgaria has just 0.22% of the world's certified organic agriculture &
none of the world's GMO agriculture.

GMO farms & silos 2015

These brown markers show GMO farms & silos this year in Australia as identified by an NGO.

Councils excluding GMOs

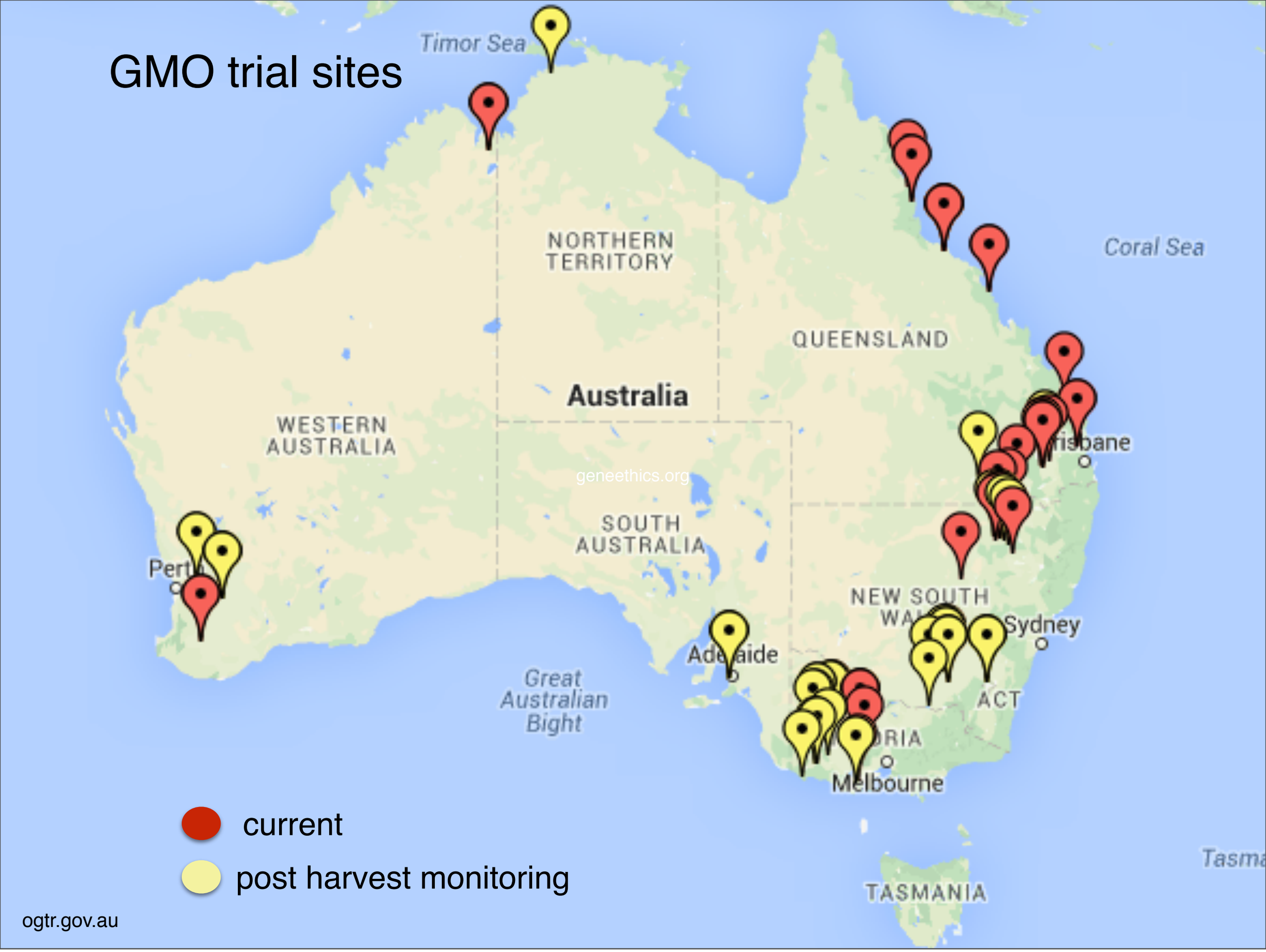


This map shows local councils in Australia who have a policy of excluding GMOs from their municipality.
You will see the predominance of such councils in WA.

GMO reported contamination events

This map shows reported GM contamination events.
5 states have reported such contamination events.

GMO trial sites



This map shows current GMO trail sites in RED
and post-harvest monitoring sites in YELLOW.
As with all the maps we are seeing agricultural pursuits around the periphery of the country.

Now to Kojonup.
It is in the south west corner of Australia.

Image: John Paull, 2014

From the city of Perth to Kojonup is about a 3 hour drive.

Image: John Paull, 2014

Kojonup is a small rural town with a population of about 2100 people.
Kojonup services the regional agricultural community.

Kojonup

Image: John Paull, 2014

Kojonup is about 260 km from Perth the capital city of Western Australia.
The land is flat & dry.
The rainfall is adequate for cereals (530mm).
The winter is reliably wet for growing & the summer is reliably dry for harvesting.
Wheat yields are in line with the low rainfall & lower than international averages (eg 1.6 t/ha).

Grain production has been an important economic activity in the region since this land was settled in the 1830s.

Image: Australian Story, ABC TV, 2015

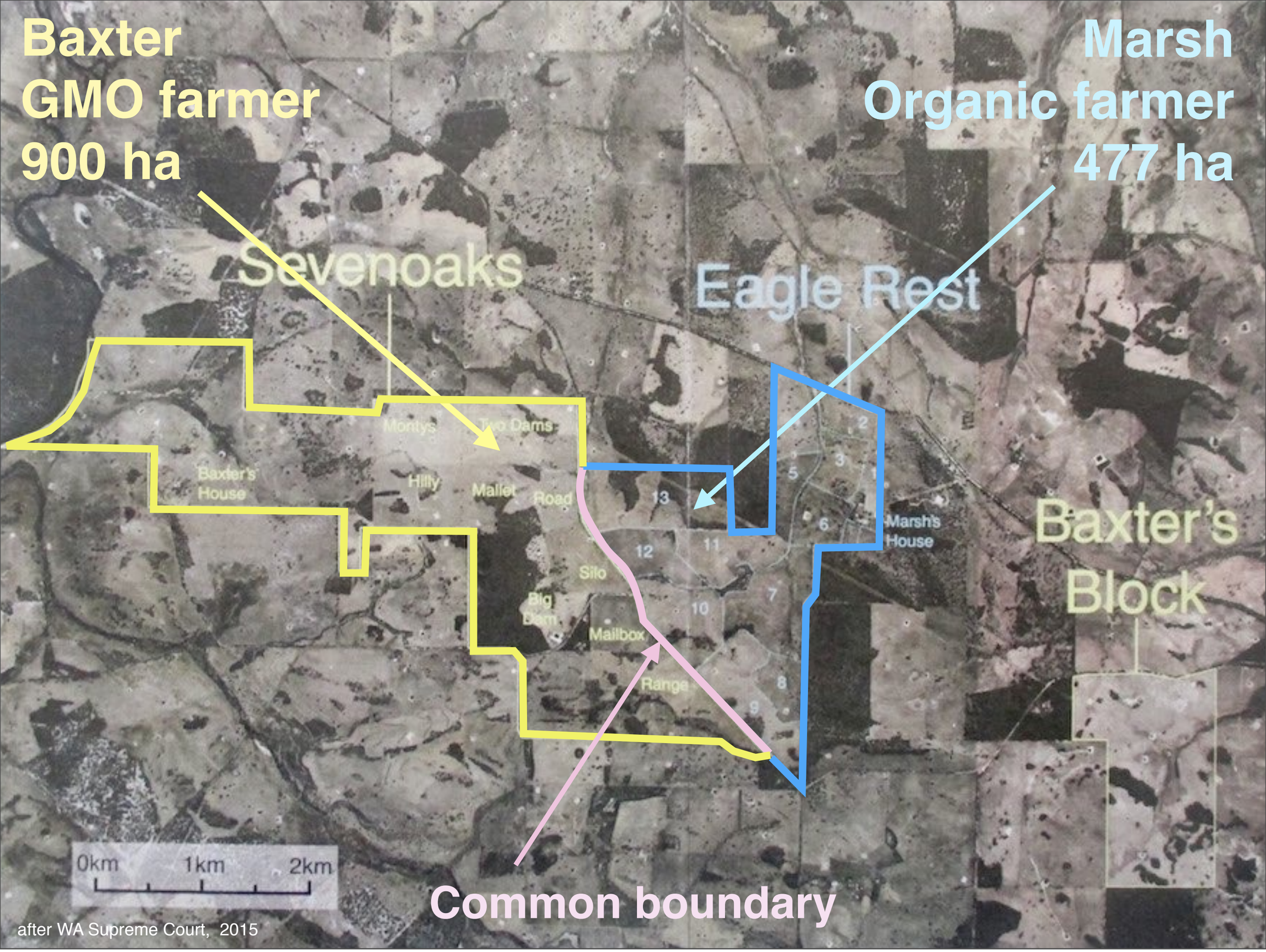
Steve Marsh and his wife, Sue, grow organic wheat, oats, rye, spelt and sheep just outside of the town of Kojonup.

Image: John Paull, 2014

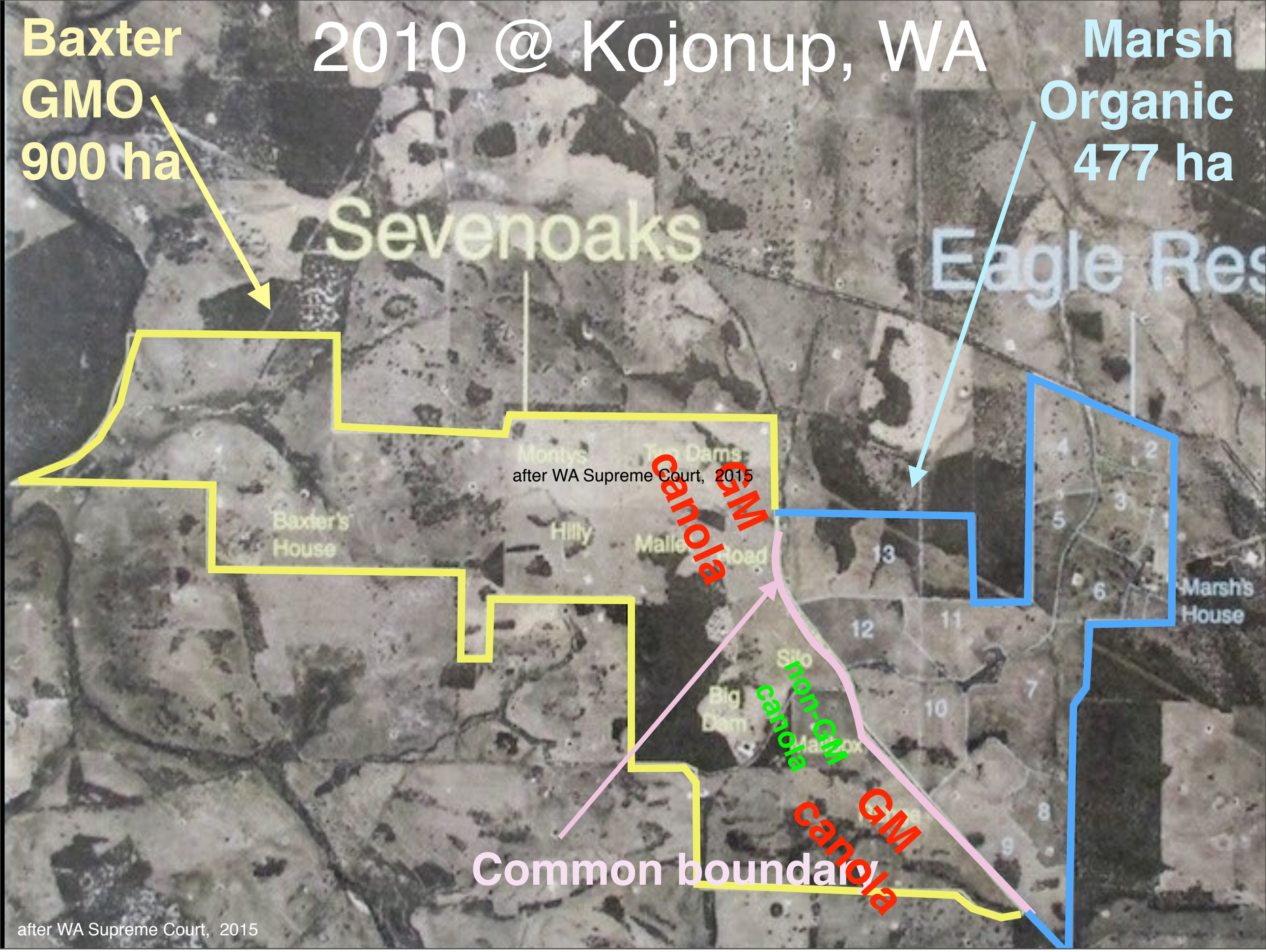
The Marsh farm has been a certified organic farm since 2006.
Signs on the boundary identify the farm as organic,
and it is common knowledge in the district that the Marsh farm is an organic farm.

Image: Australian Story, ABC TV, 2015

A neighbour to Marsh is Michael Baxter.
Baxter grows cereal crops, sheep, and canola.
Here he standing in a canola field.



The farms of Marsh & Baxter share a common boundary of about 3.6 km – shown here in pink.
The GMO farm is on the left in yellow.
The organic farm is on the right in blue.
The GM farm is 900 ha & the organic farm is 477 ha.



In 2010 Baxter planted GM canola in 2 of his boundary paddocks
He planted non-GM canola in a middle paddock.
Baxter says he ran out of GM seed.

This is GM canola.
Before 2010 it could not legally be grown in WA.

Image: John Paull, 2015

Canola is used for cooking oil.
Most of Australia's canola crop is non-GMO.

Image: John Paull, 2015

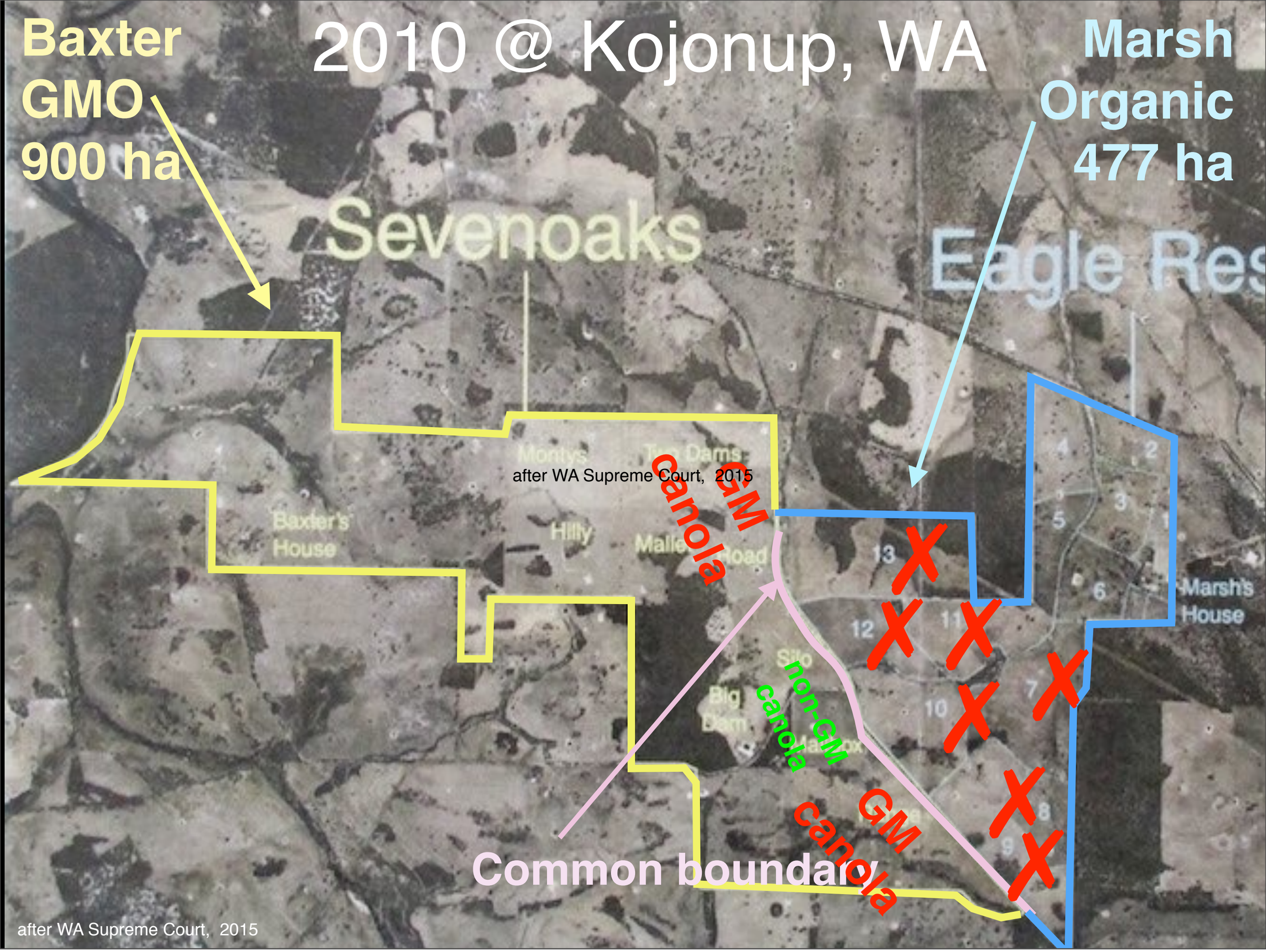
You see this canola oil is clearly labelled as a non-GMO product.

GM canola on the boundary

i. malicious ?
ii. foolhardy ?
iii. reckless ?
iv. provocative ?
v. threatening ?
vi. stupid ?
vii. sound farming practice?

image: WA Supreme Court, 2015

There is an unresolved question as to just why Baxter planted GM canola on the boundary of an organic farm.
He had been warned prior that such an action could jeopardise Marsh's organic certification
He went and did it anyway.
Was it malicious, foolhardy, reckless, provocative, threatening, stupid, or sound business practice? or all of the above?



Anyway, the result was that GM canola blew across the organic farm.
Swathes of GM canola were identified on the organic farm.
The paddocks (7-13) marked with a red cross were decertified due to GM contamination.
This was 70% of the Marsh farm decertified in 2010.

Timeline

Dec 2003	**GM canola approved for Australia**
2004	GMO moratorium in WA
Sept 2008	Conservative WA government elected
Nov 2008	**Marsh warns Baxter**
Jan 2010	**WA moratorium exemption for GM canola**
May 2010	**Baxter plants GM canola**
Dec 2010	Baxter swathes GM canola
Dec 2010	Marsh finds GM seeds, pods, swathes
Dec 2010	**Marsh loses organic certification**
April 2012	Marsh sues Baxter
Feb 2014	Case heard (12 days)
Mar 2015	2 Appeals heard (3 days) - results awaited

Here is a timeline of the events before and after the contamination events of 2010.
GM canola was approved for Australia in 2003 – but the WA government put a moratorium in place.
That changed when the govt changed in 2010.
Baxter immediately took advantage of the exemption.
What followed was ... the contamination ... the decertification ... the legal action

Image: John Paull, 2014

Perth

There has been popular support for the organic farmer.
On the other hand, the WA Farmers & Graziers Association supported the GM farmer.

Marsh v Baxter

i. Nuisance
ii. Negligence
iii. Injunction
iv. Damages

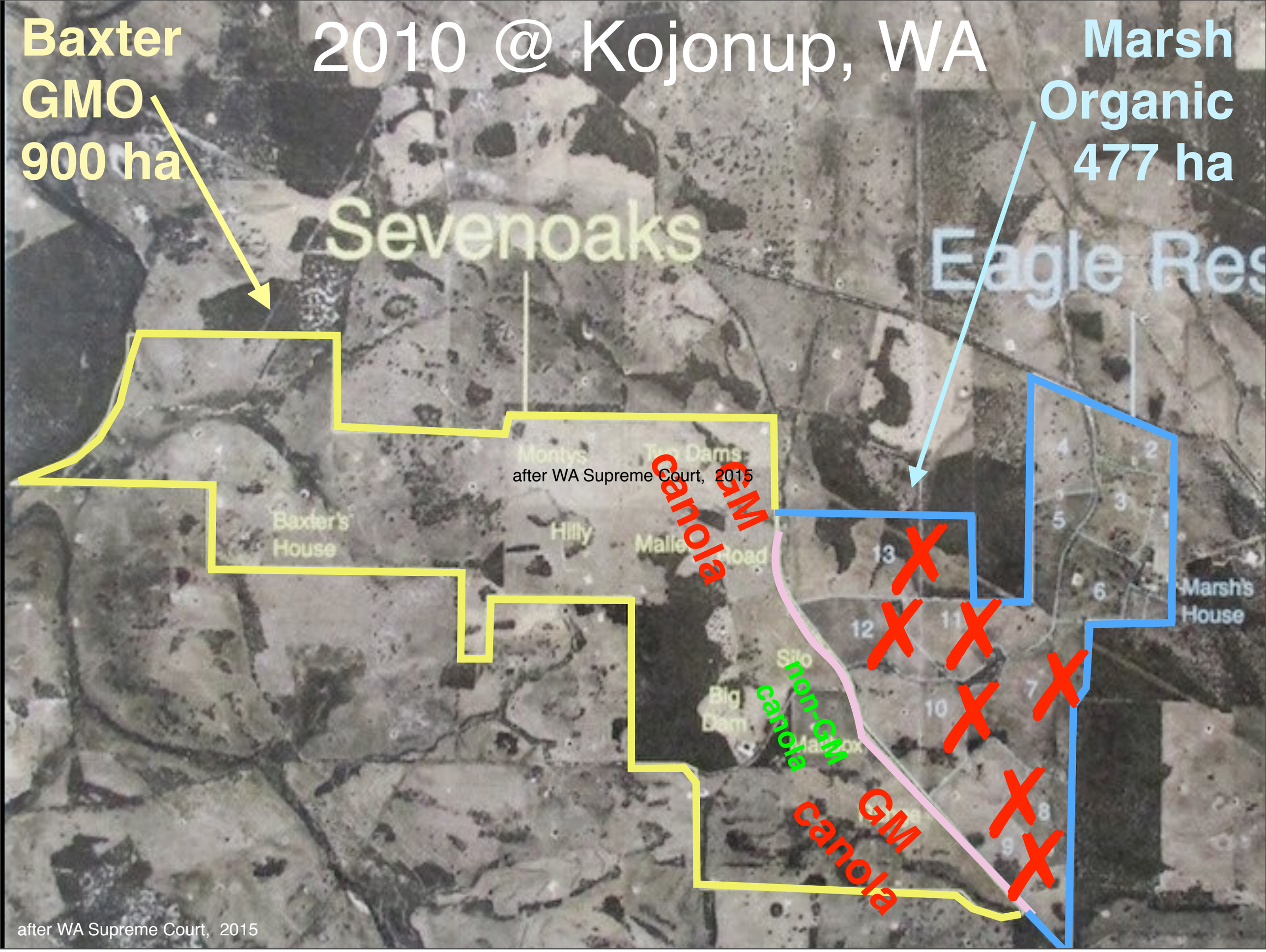
Martin, 2014

There are 4 elements to this case: nuisance, negligence. injunction & damages
Nuisance – that the events have been a nuisance to Marsh.
Negligence – that Baxter was negligent, that he did not take due care.
Injunction – that the court order Baxter's behaviour to be different in the future.
Damages – that Baxter pay Marsh the losses incurred due to his decertification.

Harvest - swathing

- 8-10 Nov 2010 crop is swathed
- heads cut off & herbicided & windrowed
- wind > swathes, seed pods into organic farm
- 2-4 Dec 2010 swathes collected
- Judge: novelty is a defence

There was quite a lot of court time spent on the method of harvesting of the GM canola.
Baxter had grown non-GM canola for a decade.
Previously he had always direct headed the crop -
the harvester went thru & the seeds were gone from the paddock.
For the GM canola Baxter changed his practice, he swathed the crop - cut the stalks, herbicided, windrowed the cut stalks, and left them for 3½ weeks before collection.



Which explains how the GM canola material –
swathes, stalks, seed pods & seeds came to be blown across the Marsh farm.
They had been left to the vagaries of the winds for those 3½ weeks

Contamination?

- 245 GM canola swathes > organic farm
- 1.2 km into the organic farm
- Farmer: “contamination”
- Certifier: “contamination”
- Agreed: “no genetic contamination”
- Judge: “incursion”

The judge accepted that 245 GM canola swathes were blown onto the organic farm.
And that they had intruded 1.2 km into the farm.
To the organic farmer, and to the certifier, this GM material was “contamination”.
But to the judge, it was an “intrusion” rather than contamination.

i. Nuisance?

- to prove - interference
- to prove - loss of enjoyment & use
- Judge: no physical damage
- Judge: Marsh to pursue the certifier

*Martin. 2014

Let's look at the 4 elements of the case.
For nuisance, the burden of proof is low.
It is to prove that Marsh has lost some use & enjoyment of his land.
The judge found that there was no physical damage to the Marsh farm.
He suggested that Marsh take up the decertification with his certifier rather than Baxter.

ii. Negligence?

- To prove: nuisance + carelessness
- Judge: novel harvesting method (swathing)
- Judge: novelty is a defence

For negligence, the burden of proof is higher.
It had to be proven that Baxter was careless & acting in disregard of his neighbour.
If nuisance cannot be established then the case for negligence will also most likely fail.
Judge stated that Baxter had not used swathing as a harvest method before &
so Baxter could not have forseen the blowing of the GMO material onto the organic farm.

iii. Injunction?

- a court order to stop a future action
- ask: 2 km buffer
- ask: 1.5 km buffer
- ask: 1.1 buffer
- ask: no swathing
- no empirical evidence presented

*A$85,000

Marsh sought to permanently restrain Baxter from some future course of action.
An application for a permanent injunction escalates a case to the Supreme Court.
The initial request was for a 2km buffer zone between a future GM crop and the organic farm.
There was a cascading retreat of demands – down to 1.5 km, then down 1.1 km, then zero.
The buffer zone idea was relinquished &
replaced with the request for a ban on swathing as a harvest method.

iv. Damages?

- €60,400*
- agreed
- loss of organic certification
- loss of organic premium

*A$85,000

The fourth element of the case was the damages.
The losses to Marsh were agreed at €60K.
Marsh had lost his certification & along with that he lost the price premium for organic.

Marsh v Baxter

i. Nuisance ✗

ii. Negligence ✗

iii. Injunction ✗

iv. Damages ✗

When the judgement was delivered it was a resounding loss for the organic farmer.
All 4 points were lost.
The judge declared no nuisance, no negligence, no injunction, and no damages.

The Baxter's had a trip to New Zealand paid for by Monsanto – the provider of the GM canola.

Judgement

Nuisance: “no”

Negligence “no”

Injunction: “no”

Damages: “no”

Costs awarded: €570,000 to GMO farmer

Martin, 2014 *A$804,000

Added to the loss on all 4 points was that
the judge awarded costs of €570,000 (A$804,000) against the organic farmer.

Image: Australian Story, ABC TV, 2015

So the stakes are now very high.
The big picture is of Monsanto versus the World.
The close-up picture is that of an organic farmer who could lose his farm.
And be bankrupted due to the award of costs.

The Marshes appealed firstly the case & secondly the award of costs.
This took the case to the Appeals Court of the Supreme Court of WA in March 2015.

Appeals Court 2015

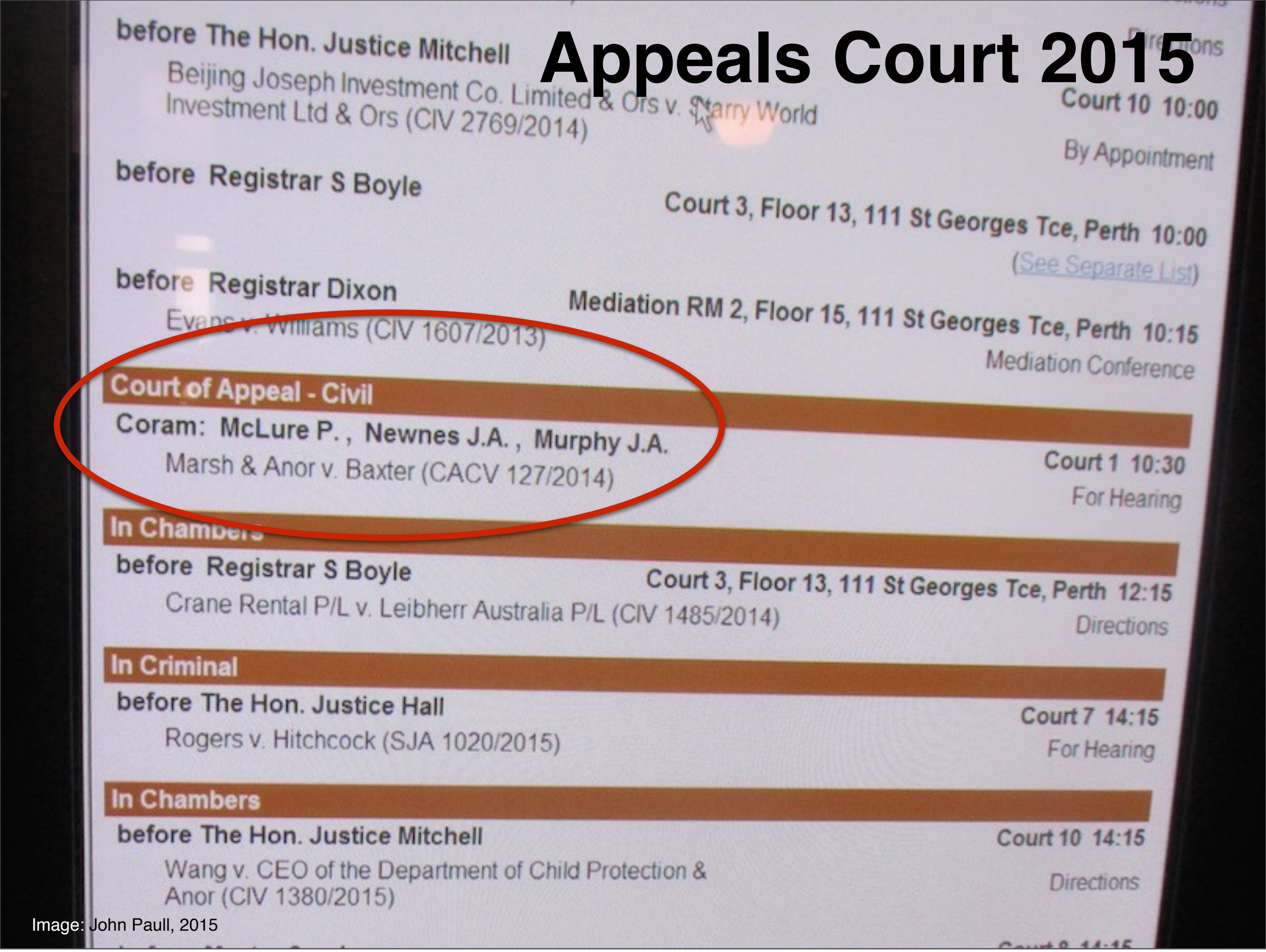


Image: John Paull, 2015

The 2 appeals were heard over 3 days before 3 judges.

5 Responses

1. Government: Change GMO tolerance from 0% to 0.9% ✗
2. Organic farmer **appeals** against judgement ~ TBD
3. Organic farmer **appeals** against costs ~ TBD
4. Certifier: Remove 5 year exclusion ~ TBD
5. Certifier: Replace fact with intention ~ TBD

In the wake of the Marsh v Baxter case there have been 5 responses:
Government proposed to change GMO tolerance in organics from 0% to 0.9% - this has been rejected.
The 2 appeals - we are awaiting the results.
One certifier has suggested that GMO contamination should be treated more leniently -TBD.

Image: John Paull, 2014

And then there is the reiteration of the call from consumers to reinstate the moratorium & to reverse the GM canola exemption.

This is Sue & Steve Marsh @ the appeals.
They are hopeful for positive outcomes from the appeals.

Image: John Paull, 2015

Popular support was demonstrated for the Marshes @ the Supreme Court during the appeals.

Legal Costs

GMO

€570,000* 12 days case
c.€142,500** 3 days appeals

Total: c.€712,500***

- Monsanto?
- WA PGA?

Organic

c.€570,000*** 12 days case
c.€142,500*** 3 days appeals

Total: c.€712,500***

- Pro bono
- Crowd sourced
- Safe Food Foundation

Legal costs to date: c.€1,425,000**

* A$804,000, Martin, 2014; *estimated pro rata per diem based on A$804,000; ** estimated

Meanwhile the legal costs are mounting.
I estimate the legal costs to date at c.€1,425,000.
So there is a great disproportionality between the original damages of €60K
& the legal costs approaching €1.5M.

Marsh v Baxter

2015 Snapshot

1. **Resolution: none**
2. **Time: > 6 years**
3. **Money: c. €1,425,000**
4. **Monsanto :-)**
5. **Organics :-(**
6. **Certification: restored (Dec 2014)**
7. **GMOs on boundary: none**
8. **Damages: none recovered**
9. **Injunction: no prospect**
10. **Appeals x2: await results**
11. **Bankruptcy: possible**
12. **Mutual co-existence: not demonstrated**

* estimated

In summary, here is a 12 point snapshot of the current state of play.

Thank you … Questions …

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Image: John Paull, 2014

Thank you – I would welcome your questions.

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