AGRONOMY SUMMIT 2026

JOHN SARUP

Thursday 6th August 2026

SPUD Agronomy & Consultancy Ltd

Acknowledgements

- PNZ
- Cedric Porter (World Potato Markets)
- James Hutton Institute (FAB & Euroblight)
- SAC
- Syngenta
- FMC
- FERA
- Restrain

AGENDA

- SPUD Agronomy & Consultancy
- What's changed since my last visit?
- Insight to UK & EU Production
- Managing Resistance Challenges in UK & EU
- Q & A

- Desiccation
- Sprout Suppressors
- Seed Age & Stem Density Management
- Q & A

Who is SPUD Agronomy?

- John Sarup and Rob Blades
- Yorkshire, Lancashire, Cheshire, the Borders, Pembrokeshire, Eire and NZ
- 12500 Acres (5000 Ha)
- Processing, Table, Bag Trade (chip shops) and Seed.
- Practical Agronomy advice based on knowledge and experience
- KE (knowledge exchange) & Training

What HAS changed since my last visit?

- 4 prime ministers since 2020!!
- All have run round like headless chickens regarding Agricultural Policy & food production
- Closer ties with EU (was 2027 probably 2028 now)
- Opens up import/export opportunities again
- Likely need to conform with EU pesticide legislation – more actives lost!!

2019 – 2025/26

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Insight into UK & EU production

The following section has been prepared by Cedric Porter, Editor of World Potato Markets
www.worldpotatomarkets.com

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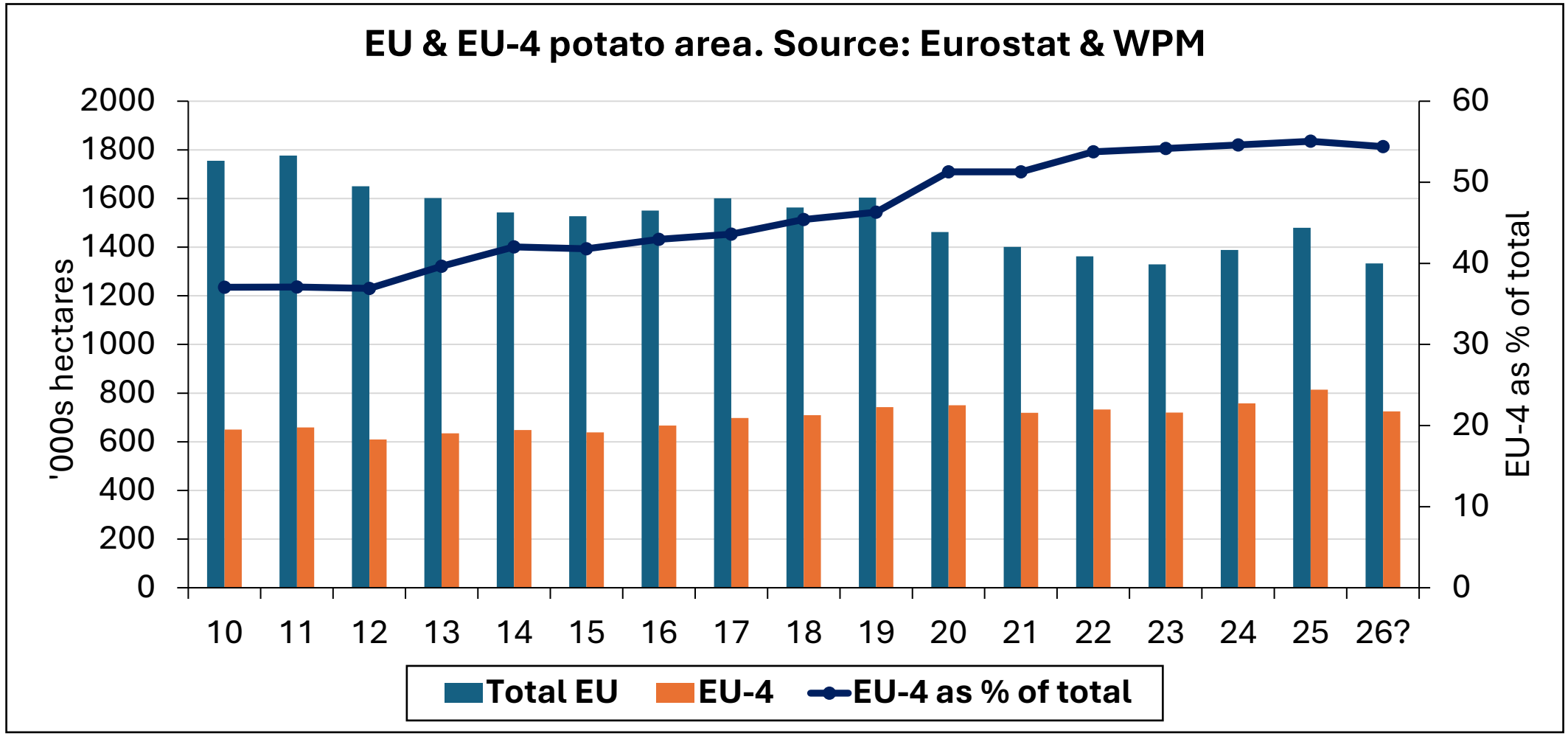
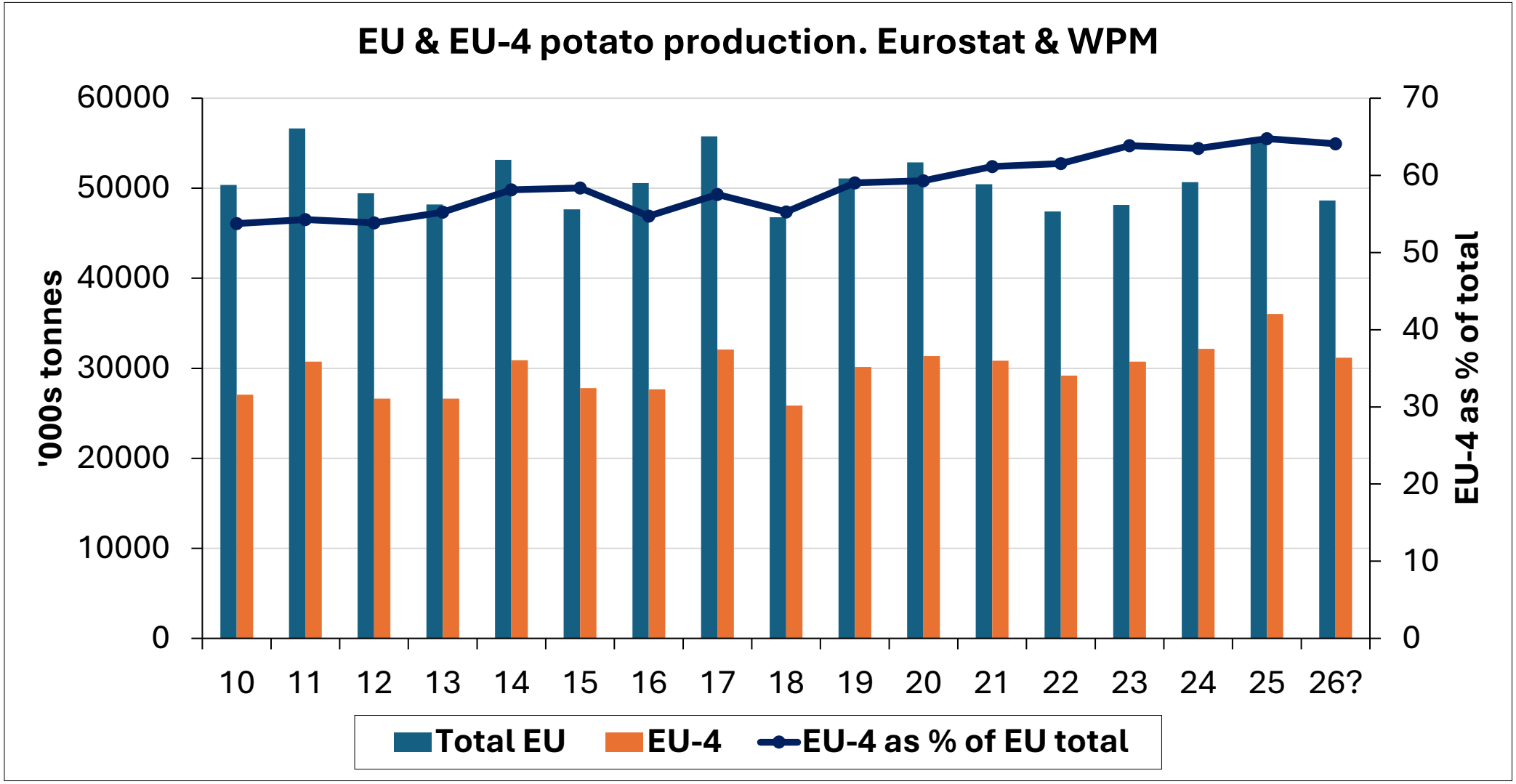
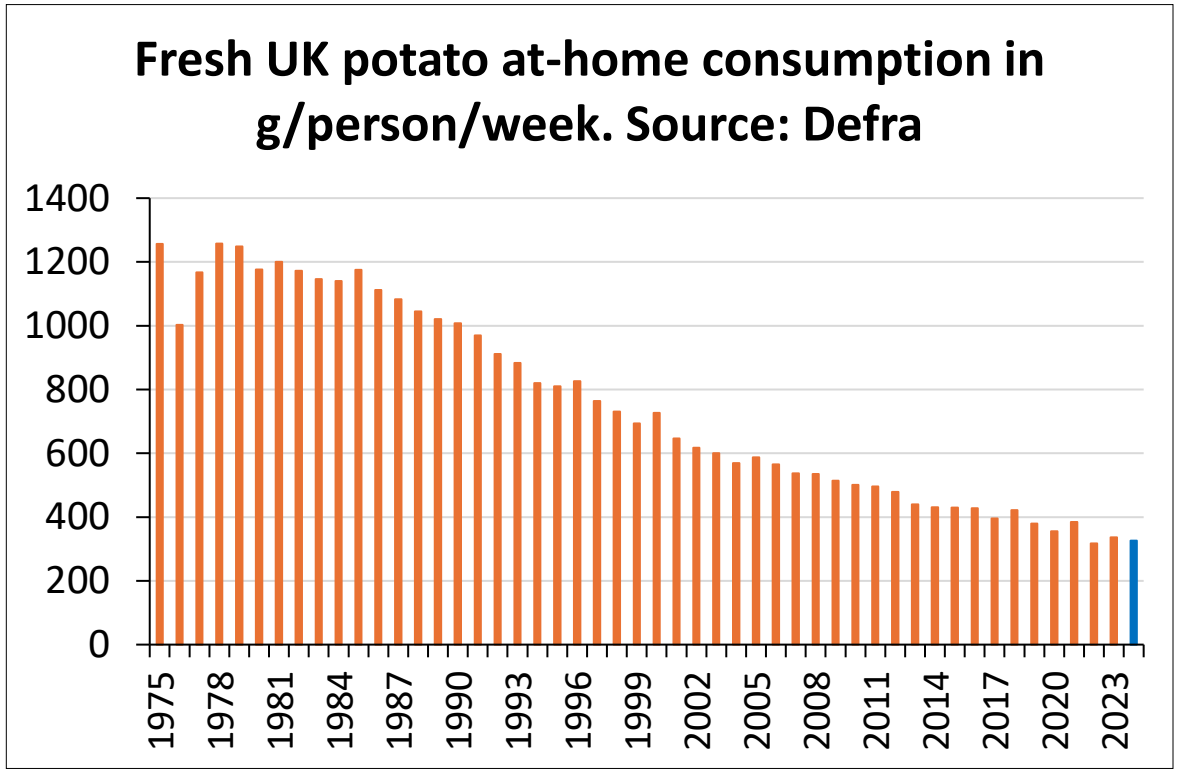


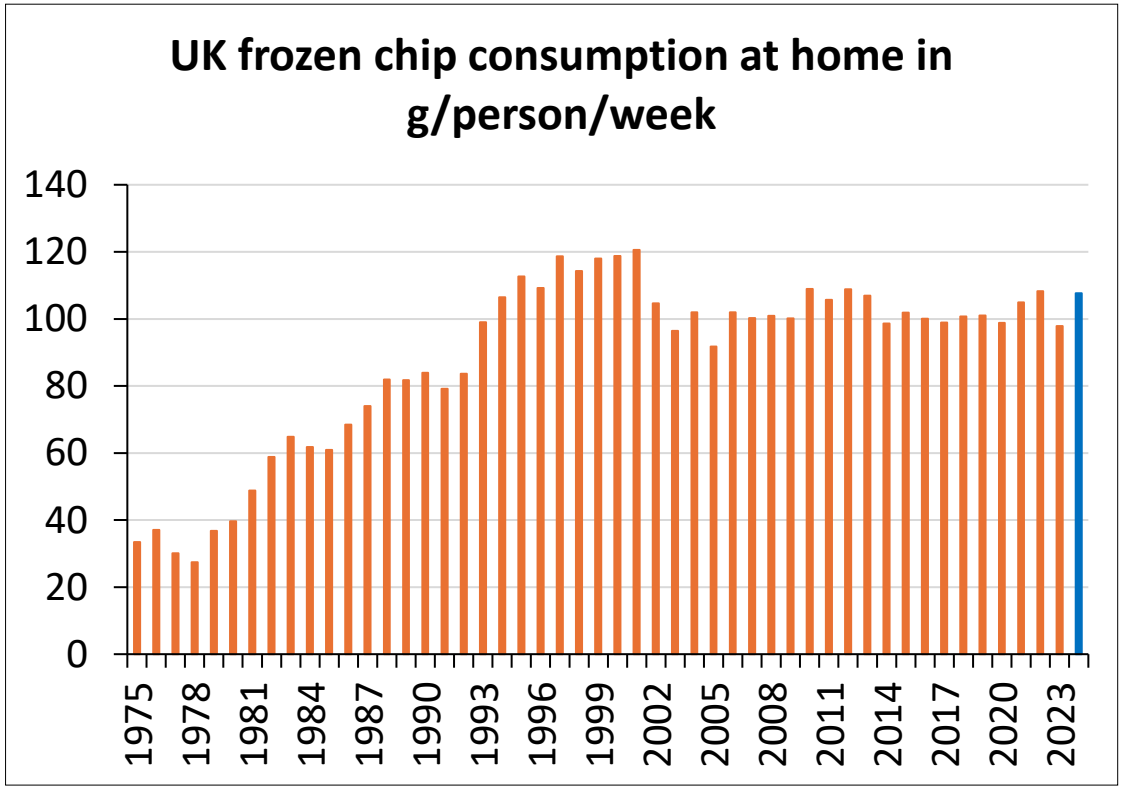
EU area has been trending down this century but was at a 6 year high in 2025. WPM predicts a 9.7% drop this year to 1.333 million hectares. The second smallest ever after 2023. The EU-4 area (Germany, France, NL & Belgium) was a record 814,500 hectares last year, but WPM expects a 11% drop to 725,000ha in 2026.



There was an EU oversupply of about 5 million tonnes of potatoes in 2025, with 3 million tonnes in the EU-4. EU output may be down 13.8% to 48.2 million tonnes, with EU-4 production 15.3% lower at 30.8m t this year.

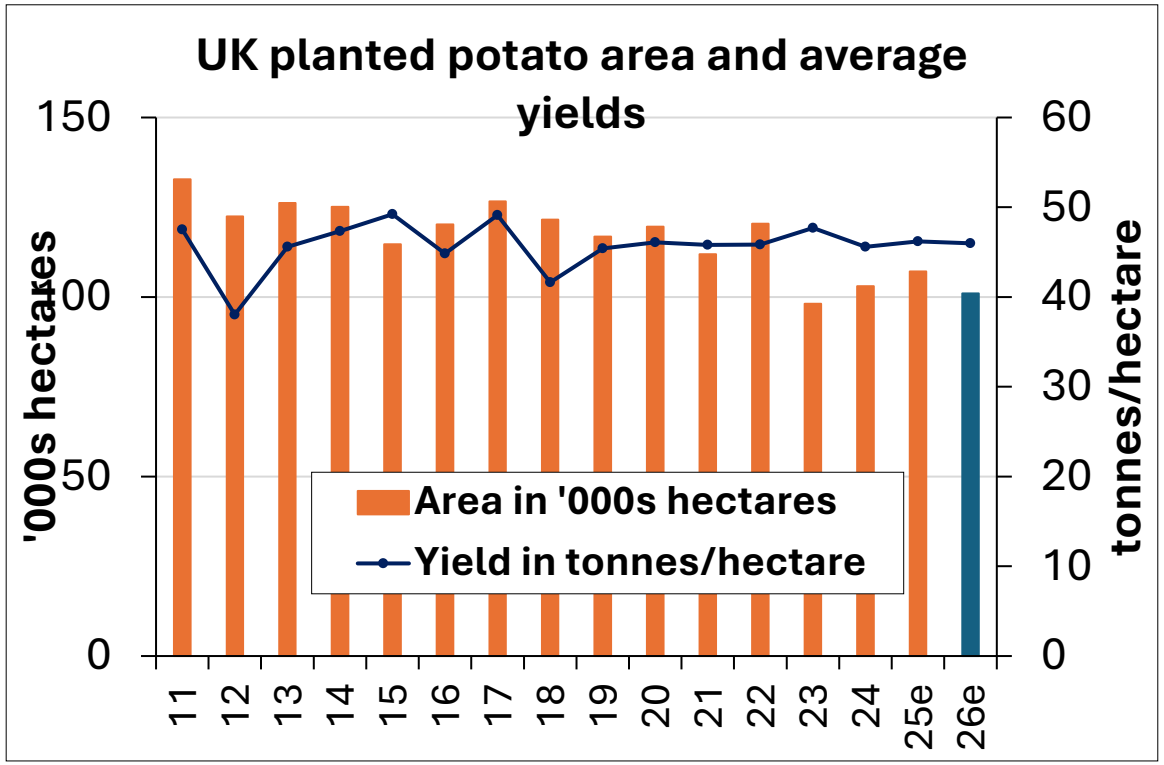
UK – At Home Consumption over the years



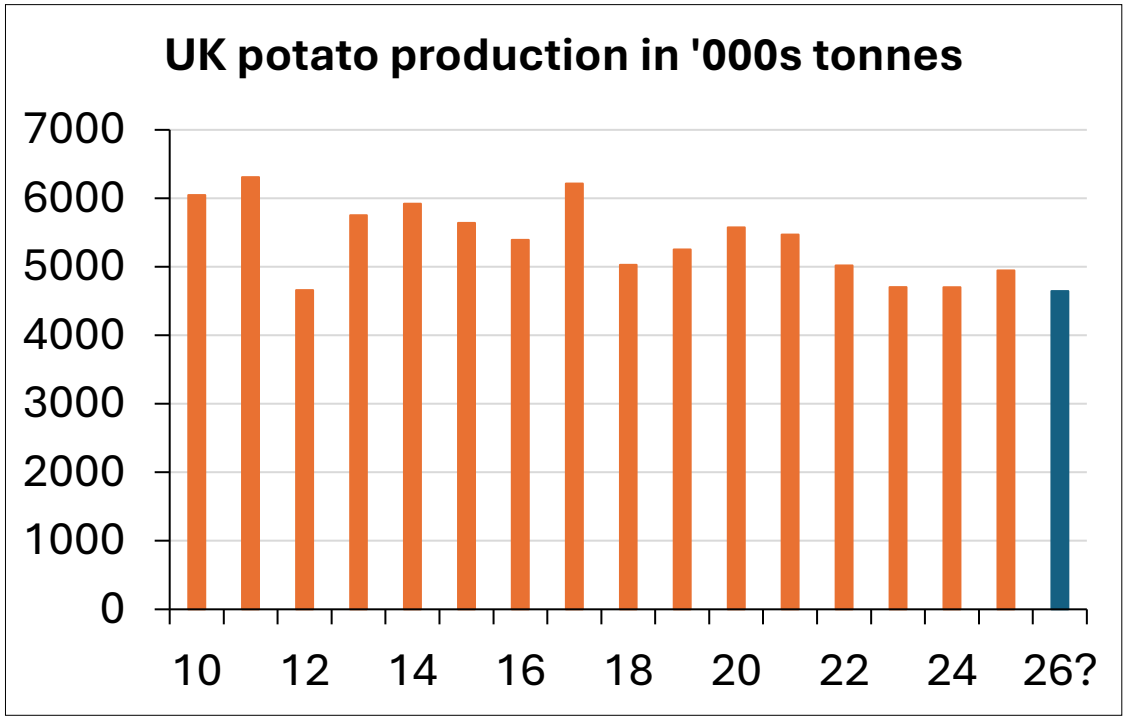


UK fresh potato consumption has fallen dramatically, but frozen chip/fry demand has held steady

UK Production over the last 15 years

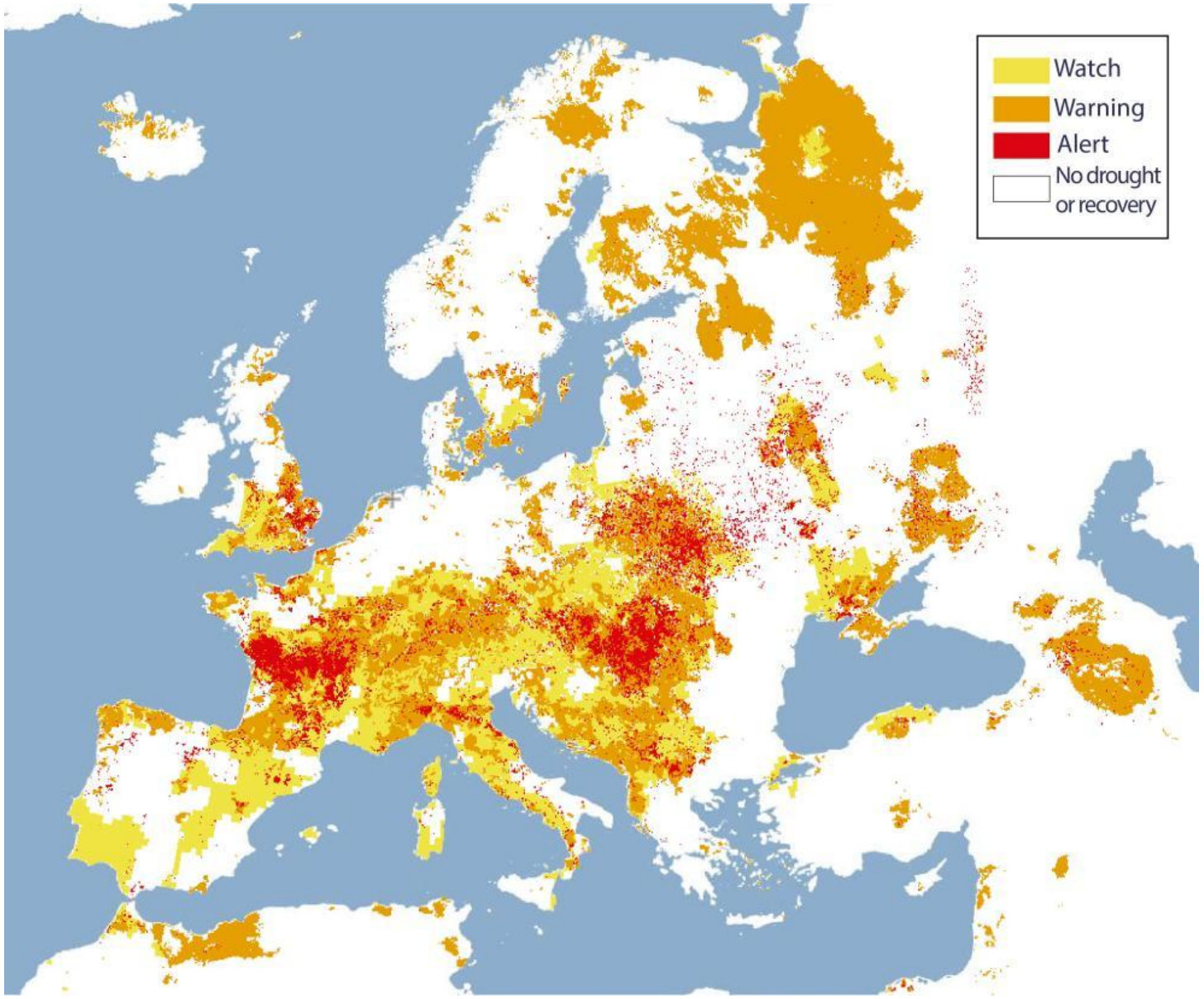


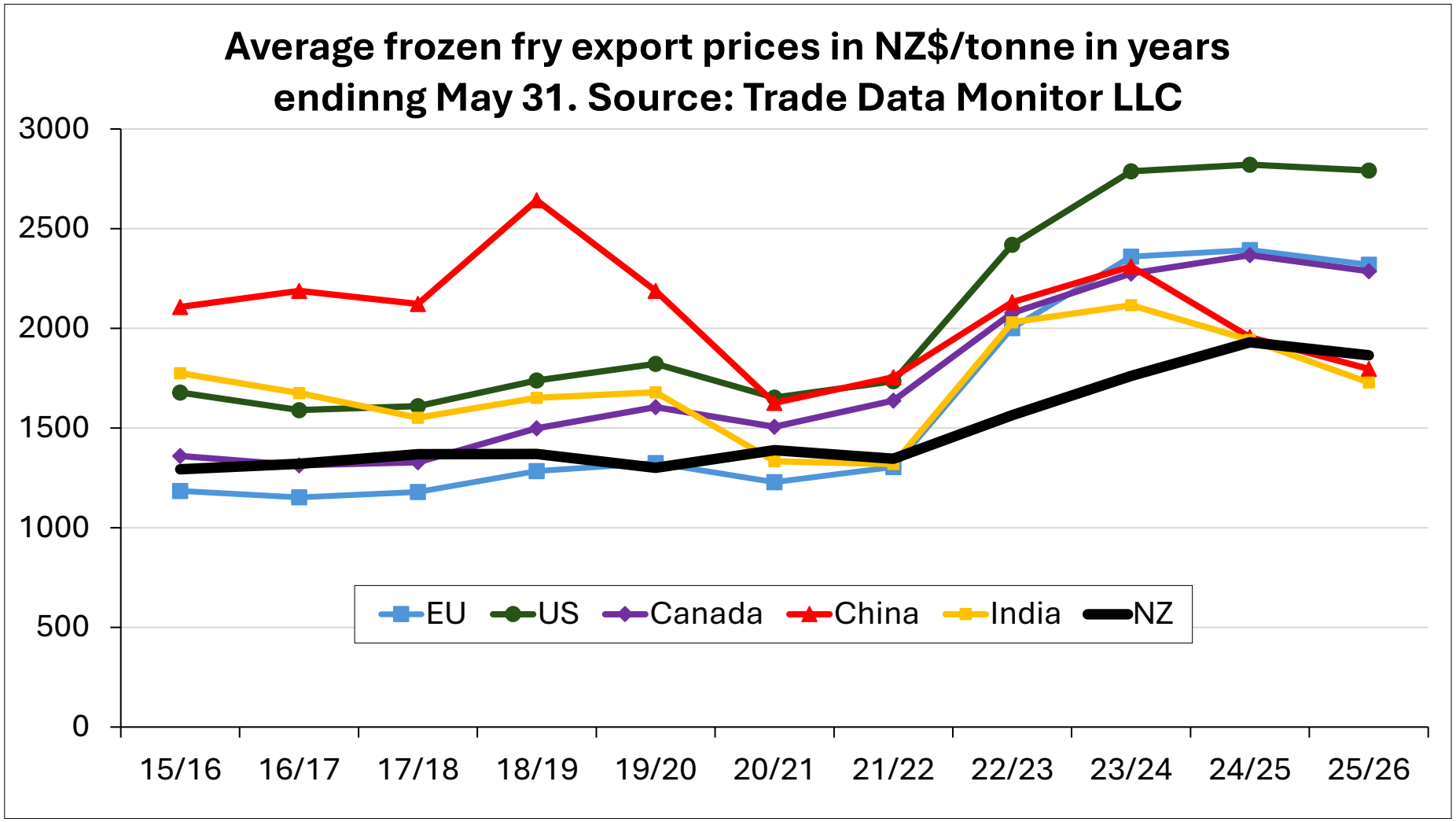
UK potato area and production has been steadily falling over the last 15 years with the country only 70% potato self-sufficient. The area this year is estimated at 100,000 hectares, with average yields delivering a 4.6 million tonne crop. Source: Defra & WPM



Drought could severely impact production.
There were 3 heatwaves by the middle of July. EU potato production could be below 40 million tonnes for the first time on record, if the drought yields (29.9t/ha) of 2018 are repeated.

Map from European Drought Observatory in late June





New Zealand is still very competitive against global frozen fry export competitors including China & India. EU prices jumped after Covid and are now easing. The US is still the most expensive supplier.

The Good News!

2024 yield in tonnes/hectareT	
New Zealand	**51.3**
USA	**50.9**
UK	**46.6**
Denmark	**45.8**
Germany	**45.0**
France	**42.4**
Netherlands	**41.7**
Canada	**41.7**
Australia	**40.8**
Bahrain	**40.0**
Source: FAOSTAT	

Not only does New Zealand win at cricket, it also tops the world potato yield league!

Managing Late Blight Resistance Challenges

- Can destroy entire fields within days under favourable conditions
- Only needs 4-5 days from infection to new spore production
- Impacts both foliage and tubers
- Requires extensive IPM to control

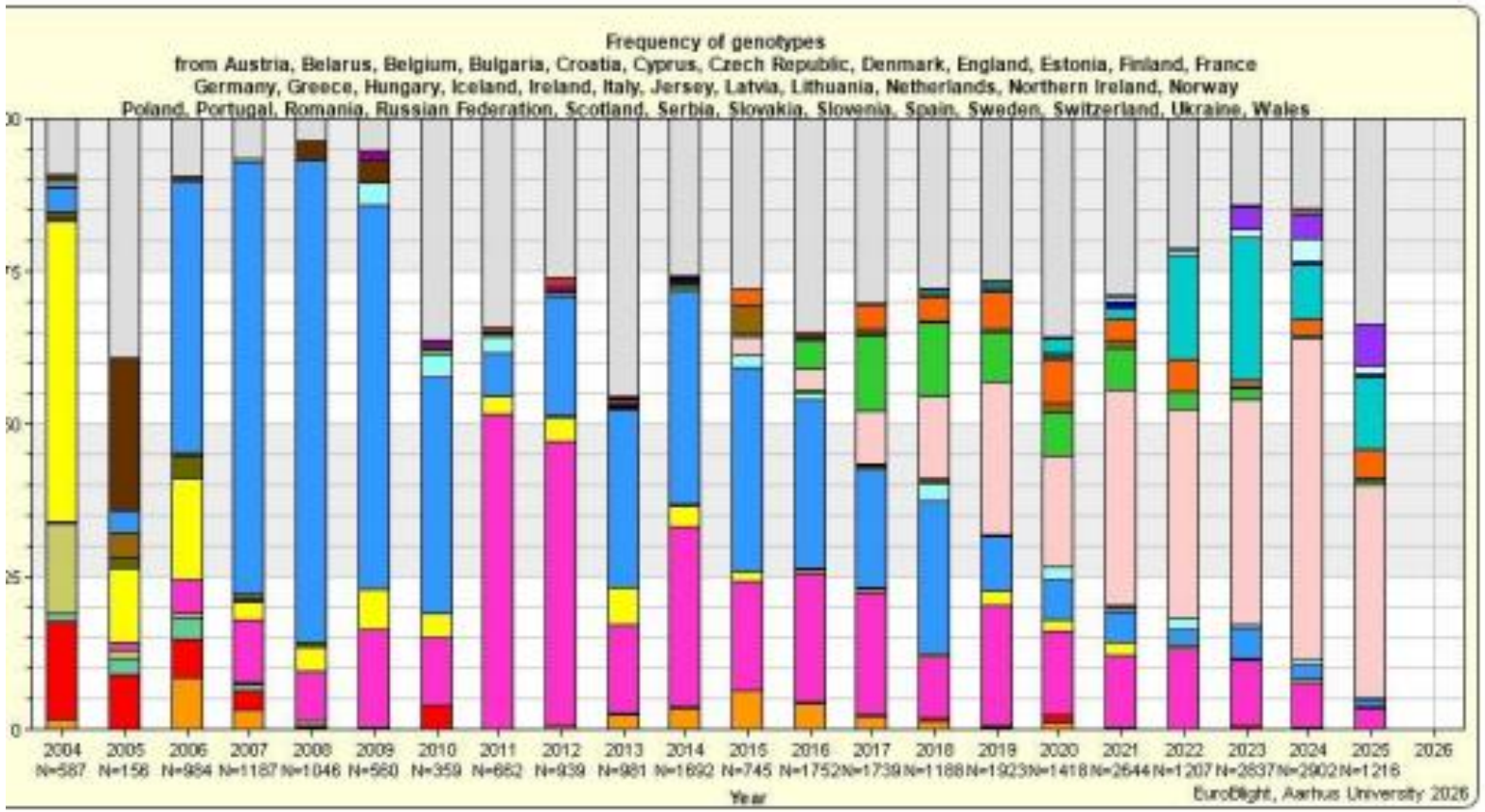
Per Lesion Production

- 1cm^2 lesion can produce 50,000 sporangia in its short lifetime
- Under optimal conditions, one infected leaf can generate millions of spores

FIGHT AGAINST BLIGHT NETWORK

- FAB works across UK & Europe monitoring Late Blight outbreaks using samples from a network of “blight scouts”
- Samples submitted on FTA cards can be genotyped quickly with results fed back to agronomists
- Each year detached leaf tests are carried out to look for chemical resistance

EuroBlight results – All countries



EU_2_A1
EU_8_A1
EU_23_A1
EU_37_A2
EU_41_A2
EU_44_A1
EU_46_A1
EU_6_A1
EU_13_A2
EU_36_A2
EU_39_A1
EU_43_A1
EU_45_A1
Other

The James Hutton Institute

- Fewer samples than last 2 years
- EU36 dominant
- Other increase
- Slight increase in EU43 & EU46
- Range expansion
- Spatial difference?

Late Blight Genotypes 2025 – UK & Ireland

Europe

Country

5 countries selected

Host

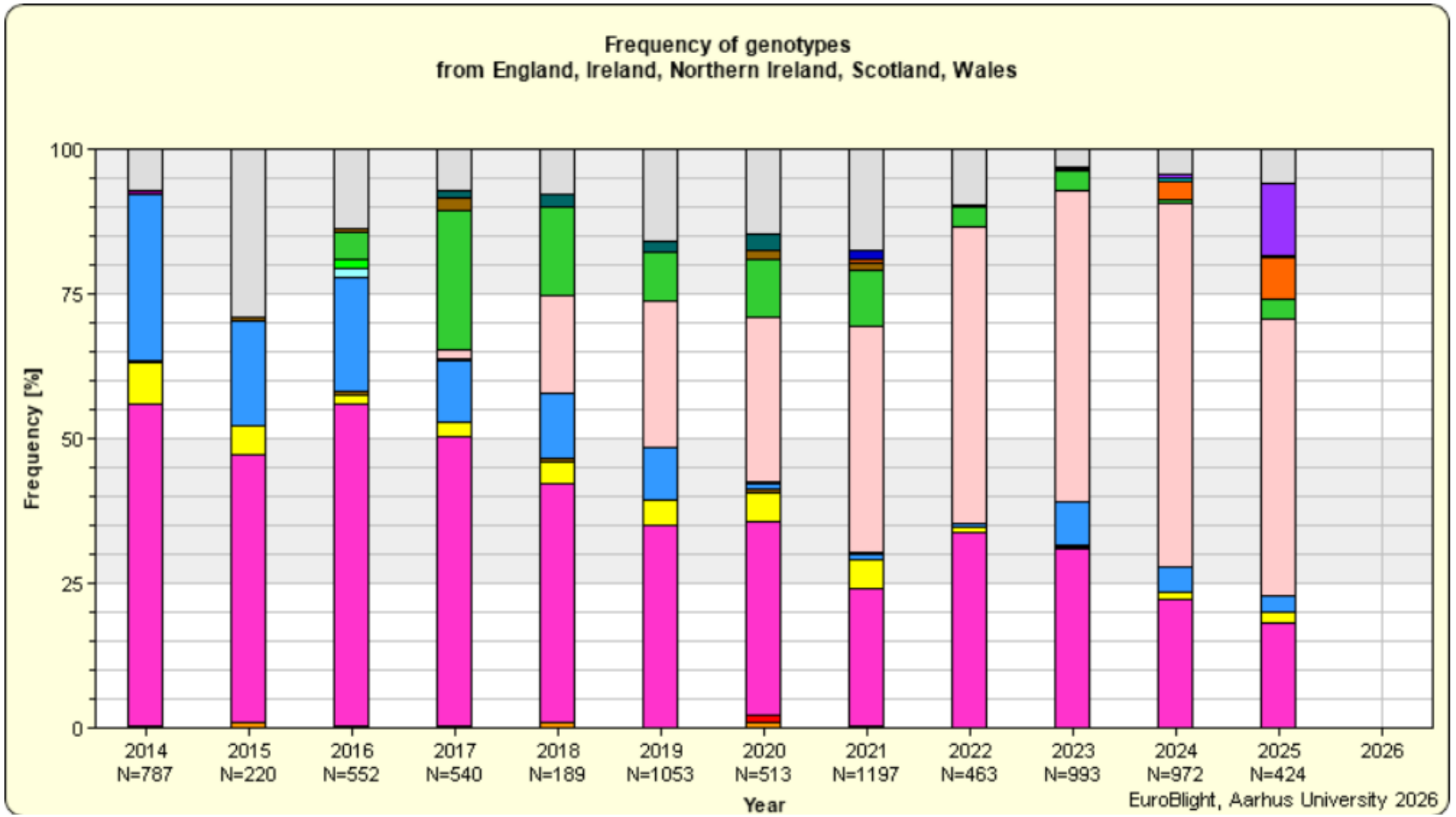
All

Other Potato Tomato

Show

Genotype legend

EU_1_A1
EU_2_A1
EU_3_A2
EU_5_A1
EU_6_A1
EU_8_A1
EU_10_A2
EU_12_A1
EU_13_A2
EU_23_A1
EU_22_A2
EU_33_A2
EU_35_A2
EU_36_A2
EU_37_A2
EU_39_A1
EU_41_A2
EU_42_A2
EU_43_A1
EU_44_A1
EU_46_A1
Other



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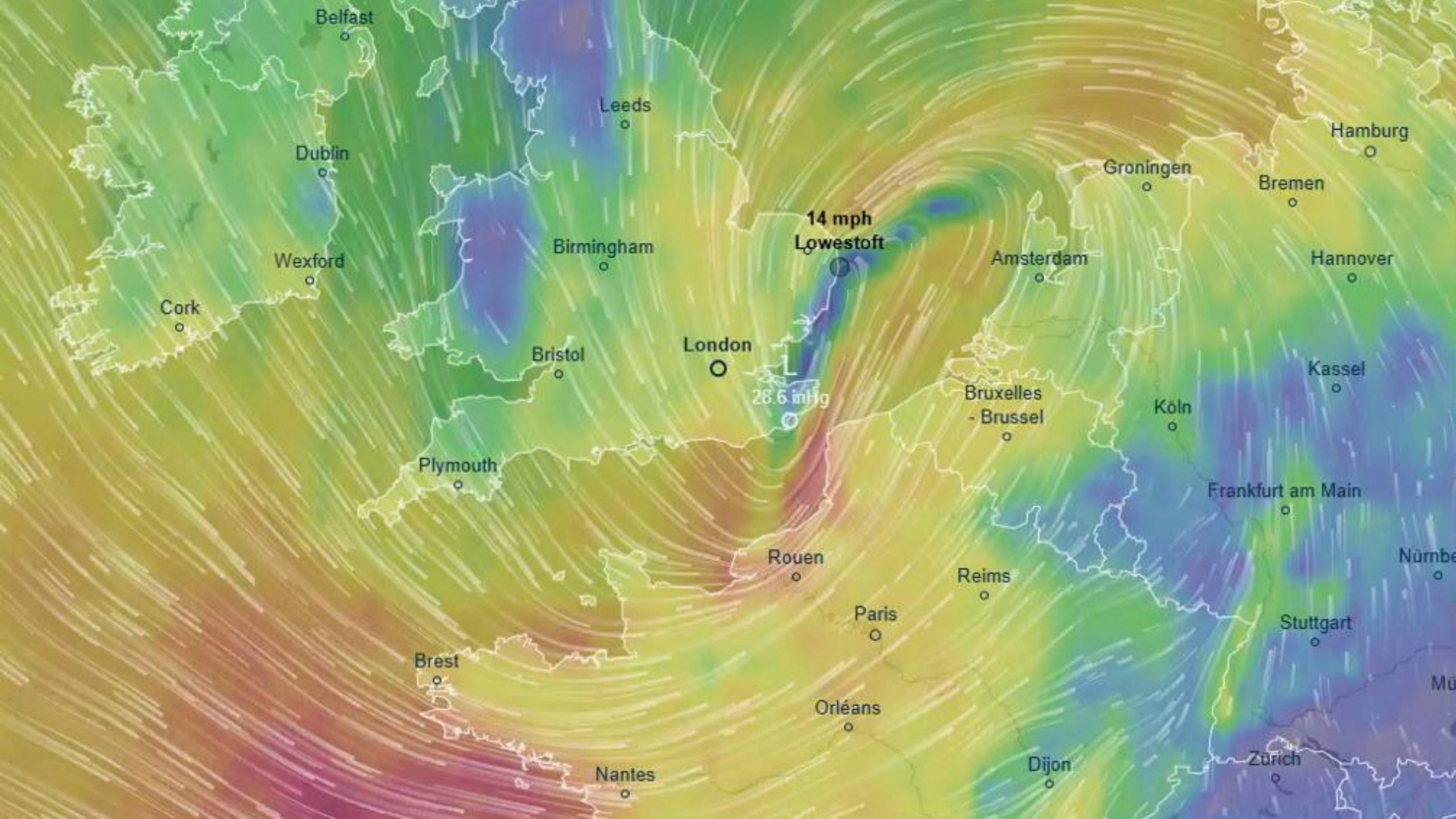

Belfast
Leeds
Dublin
Hamburg
Groningen
Bremen
14 mph
Lowestoft
Birmingham
Amsterdam
Hannover
Wexford
Cork
London
Bristol
28.6 inHg
Kassel
Bruxelles
- Brussel
Köln
Plymouth
Frankfurt am Main
Rouen
Reims
Paris
Stuttgart
Brest
Orléans
Dijon
Zürich
Nantes

Detached leaf fungicide sensitivity summary

- European and UK strains
- Full resistance reported in four actives only
- Some variation within clones e.g. EU43, EU46, EU36

The James Hutton Institute

Genotype	Oxathiapiprolin	Mandipropamid	Metalaxyl	Fluazinam	Propamocarb	Ametoctradin	Zoxamide	Amisulbrom	Cyazofamid	Fluopicolide	Mancozeb
36_A2	41*	43	15	12	46	5	5	29	36	36	19
37_A2	20	32	5	**15**	30			15	30	30	15
6_A1	33	28	10	6	33	5	5	22	28	23	17
13_A2		6	**3**	1	6				6	1	
41_A2 (DK)	5	6	**6**	5	6	5	5	5	1		
41_A2 (UK)	10	10	**6**		10			5	**5**	5	
43_A1 (DK)	5	**28**	15	10	5	5	5	5			
43_A1 (NL)	**5**	**5**	5		5			5	5	5	
46_A1 (NL)	**5**	**5***	5								
46_A1 (UK)	**5**	**5**	5		5			5		5	
Other (NL)	**4**	4									
	* R reported on continent	* one NL R									
				Sensitive							
				Difference at low doses							
				Intermediate							
				Resistant							
	DNA	DNA									

James Lynott

The fight against blight team has begun using a new digital droplet PCR assay to assess fungicide resistance/sensitivity present in different genotypes. This is a higher throughput method than standard PCR and sanger sequencing.

The range of EU43 distribution has expanded in France and been detected in the UK.

How did resistance happen?

- The repeated and sequential application of single site modes of action over multiple sprays – RESULT – FUNGICIDE RESISTANT GENOTYPES
- Traditional practice in Europe was to block products together
  - SHIRLAN (Fluazinam)
  - SHIRLAN
  - REVUS (Mandipropamid
  - REVUS
  - RANMAN TOP (Cyazofamid)
  - RANMAN TOP
  - SHIRLAN
  - SHIRLAN
  - REVUS
  - REVUS
  - RANMAN TOP
  - RANMAN TOP

  - Then came EU_13 (metalaxyl resistance) and EU_33 & EU_37 (fluazinam resistance) along with loss of actives (e.g. Mancozeb)

Late Blight Programmes in Denmark
Pre & Post emergence of EU_43_A1

PotatoPower

From 2027, they now only have 5 a.i's:

- Mandipropamid (REVUS)
- Cymoxnanil (Option)
- OXTP (Zorvec)
- Propamacarb (Raport)
- Azoxystrobin (AMISTAR)

Trt no.	Before EU_43_A1*	2022-26 Season	2027 Season**
1	REVUS	REVUS + Shirlan	Raport + Option
2	REVUS	Shirlan + Raport	Revus + Option
3	Ranman Top	Zorvec + Raport	Zorvec + Raport
4	Ranman Top	Shirlan + Option	Revus +Option
5	REVUS	Zorvec + Raport	Zorvec + Raport
6	REVUS	Shirlan + Amistar	Revus + Amistar
7	Ranman Top	REVUS + Raport	Raport + Option
8	Ranman Top	Shirlan + Option	Revus + Amistar
9	REVUS	REVUS + Raport	Raport + Option
10	REVUS	Shirlan + Option	Revus + Option
11	Ranman Top	REVUS + Amistar + Option	Raport + Option
12	Ranman Top	Shirlan + Option	Revus + Option

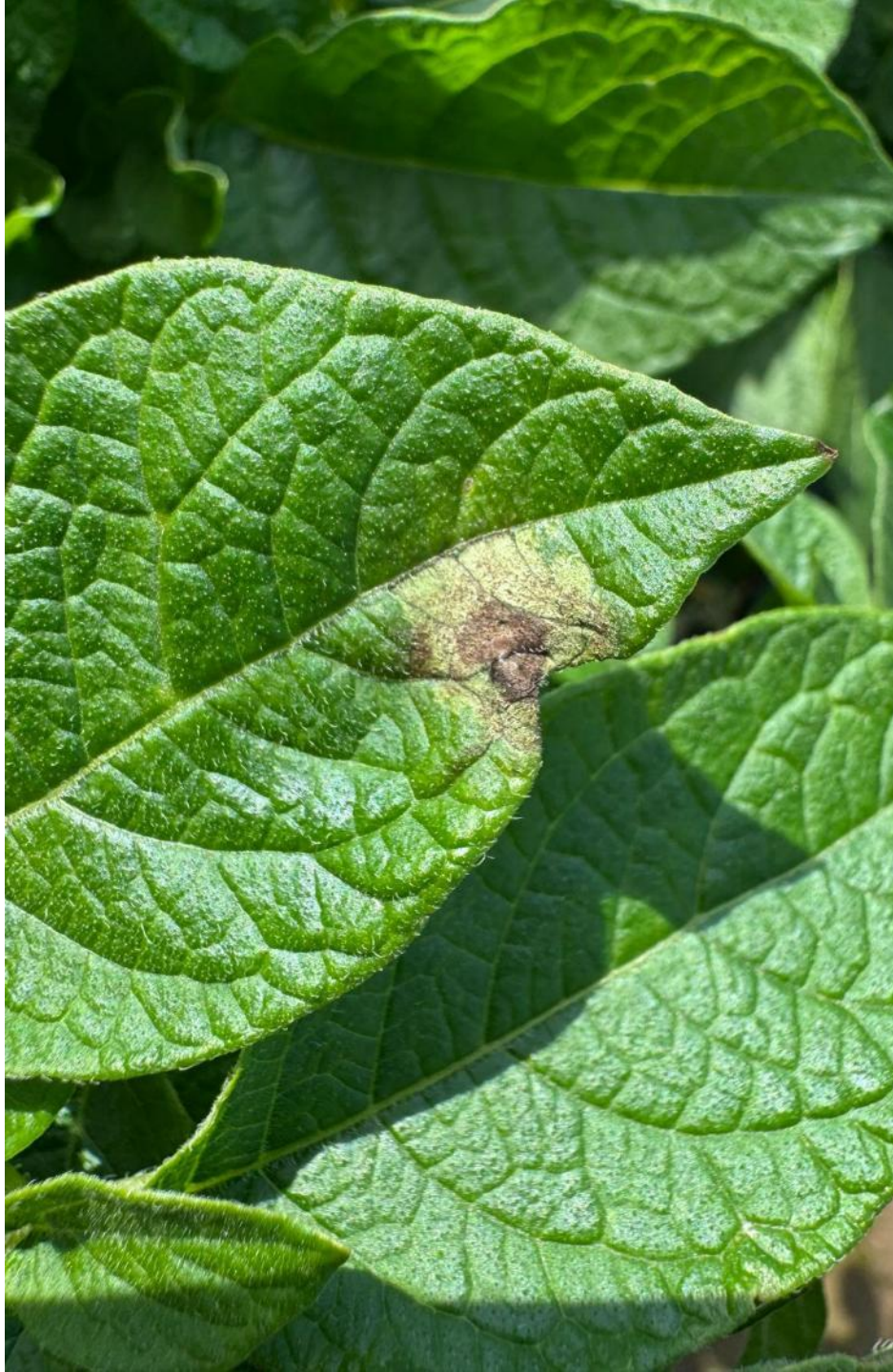
* = If blight was found in the field Proxanil was added

** = Fluazinam lost due to PFAS risk

syngenta

Late Blight – Resistance

- **No Mancozeb!**
- Fungicide resistant strains now present in GB
  - Fubol (*metalaxyl*) EU 13 / 41)
  - Fluazinam (Shirlan) EU 37)
  - CAAs (Revus, etc) EU 43 / 46)
  - OSBPI (Zorvec) EU 43 / 46)
- Fungicide resistant blight at low incidence so careful management possible!



FRAC Group		Actives	Products	Restrictions
Carboxylic acid amides (CAA)	40	mandipropamid	Revus	No more than 2 consecutive sprays Not more >50% of intended programme
Oxysterol binding protein inhibition (OSBPI)	49	oxathiapiprolin	Zorvec Entecta (+amisulbrom)	Corteva Advice: Ware: 2 sprays per crop if the expected programme is less than 15 sprays. Seed: 1 spray per crop if the expected programme is less than 15 sprays.
Uncouplers of oxidative phosphorylation	29	fluazinam	Shirlan	Max. no. of applications = 7.5 (7) Resistance – EU_33 & 37
~~Phenylamides~~	~~4~~	~~metalaxyl-M~~	~~Fubol Gold (+mancozeb)~~	~~Not currently available~~
Quinone outside inhibitor (QiI)	21	amisulbrom cyazofamid	Shinkon	No more than 3 consecutive QiI products Not more >50% of intended programme
Carbamates	28	propamocarb	Raport/Sporax	Up to 6 applications Total dose: 6.498kg/ha
Cyanoacetamide-oxime	27	Cymoxanil	Cymbal 45	Up to 6 applications
~~Dithiocarbamates~~	~~M03~~	~~Mancozeb*~~	~~Manzate~~	~~Not available~~
Benzamides (toluamides)	22	Zoxamide	Lieto (+cymoxanil)	Up to 6 applications Zoospore activity
Phosphonates	P07	potassium phosphonate	Privest	Currently not available solo (+ ametoctradin) 3 apps/crop (Phosphonate MRL: 200mg/kg)
Benzamides (pyridinylmethyl-benzamides)	43	fluopicolide	No solo version Infinito (+propamocarb)	Co-formulated with propamocarb Maximum number of sprays is 4 at full dose. No more than three consecutive sprays
Quinone outside inhibitor (QoSI)	45	ametoctradin	Enervin**	No more than 3 consecutive sprays **Not available as a solo for 2026

Conclusions

- Remove sources of infection
  - Volunteers
  - Dumps
- Genotype blight out breaks so you know what you have got
- Use products with differing modes of activity
- Alternate products from different FRAC groups
- Consider detached leaf tests using most widely used blight products

Aphid Resistance Challenges

- FACT – The Climate is changing – mild winters – altitude no longer seems to make a difference with seed production
- Main concerns are - PVY & PLRV
- Non-persistent virus (PVY) spread by transient aphids (eg Willow-Carrot aphid) – pyrethroid resistant populations
- Persistent virus (PLRV) spread by colonising aphids (eg Peach-Potato aphid) – pyrethroid resistant and evidence of Insyst (acetamiprid) resistance
- Use of Yellow water traps to monitor flights and aid decision making

Aphid Monitoring Results for Wydale High Planting

Aphid Species	Common Name	PVY Index	31/05	08/06	14/06	21/06	28/06	05/07	12/07	19/07	27/07	Total PVY Index
Myzus Persicae	**Peach-Potato Aphid**	**1.00**	427	175	18	7	18					645
Acyrthosiphon Pisum	**Pea Aphid**	**0.70**	4	2	1		2	2	1			8.4
Sitobion Avenae	**Grain Aphid**	**0.60**	1				4	13	2	1	1	13.2
Cavariella Aegopodii	**Willow-Carrot Aphid**	**0.50**	66	8								37
Metopolophium Dirhodum	**Rose-Grain Aphid**	**0.30**	1	1			1					0.9
Brachycaudus Helichrysi	**Leaf-Curling Plum Aphid**	**0.21**	1			1						0.42
Aulacorthum Solani	**Glasshouse and Potato Aphid**	**0.20**	1									0.2
Macrosiphum Euphorbiae	**Potato Aphid**	**0.20**	2	3			6		1			2.4
Hyperomyzus Lactucae	**Currant-Sowthistle Aphid**	**0.16**		3		2	2					1.12
Aphis Fabae	**Black-Bean Aphid**	**0.10**							1	1		0.2
Brevicoryne Brassicae	**Cabbage Aphid**	**0.01**	11	2		16						0.29
Acyrthosiphon Malvae	Pelargonium aphid	0.00	1									0
Acyrthosiphon Spp.		0.00	6	1								0
Amphorophora Rubi	Bramble Aphid	0.00							2			0
Capitophorus Elaeagni		0.00	1									0
Cavariella Pastinacea		0.00							1	3	2	0
Cryptomyzus Galeopsidis	Black Currant Aphid	0.00	1	1								0
Cryptomyzus Sp		0.00						1				0
Dactynotus Spp.		0.00	5						1			0
Dactynotus Tussilaginis		0.00		1								0
Drepanosiphum Platanoidis	Sycamore Aphid	0.00							1		1	0
Metopolophium Frisicum		0.00						1				0
Metopolophium Sp		0.00	1									0
Microlophium Carnosum	Nettle Aphid	0.00	2	4								0
Nasonovia Ribisnigri	Currant-Lettuce Aphid	0.00							1			0
Phyllaphis Fagi	Beech Aphid	0.00	1									0
Unidentifiable		0.00		4	2			2	1			0
Weekly Index			464.62	181.8	18.7	7.69	23.62	9.2	2.2	0.7	0.6	
Cumulative Index			**464.62**	**646.42**	**665.12**	**672.81**	**696.43**	**705.63**	**707.83**	**708.53**	**709.13**	**709.13**

Problems for Seed Production

- Proximity of seed to ware production
- Volunteers
- Loss of pesticide actives
- Mild winters (climate change)
- Resistance to pyrethroids in transient aphid population (PVY vectors)
- Reliable tuber sampling and testing
- Need for reliable deterrent
- Rented land
- Need better understanding of mature plant resistance
- Virus comes with input seed
- Cost

Current strategy – seed only

- Isolated sites for high grade production
- Use younger generation seed if possible
- Encourage land suppliers to manage volunteers
- Frequent applications of mineral oil from first emergence
- Avoid use of pyrethroids due to resistance issues and to encourage beneficials
- Use of yellow water trap data
- Spray every 3-4 days if necessary, from emergence to stable canopy
- Aim for quick and complete desiccation

UK - Actives available

- Insyst (acetamiprid)
  - Evidence of resistance?
- Teppeki (flonicamid)
- Sivanto Prime (flupyradifurone)
  - Same mode of action as Insyst
- Movento (spirotetramat)
  - Limited to use after flowering
- Mineral Oils (used as deterrent)
- Benevia is coming 2027?

Typical Aphid Spray Program

- 2-3 L/HA Cropspray 11E + Wetcit – from first emergence to 100% emergence – every 3-4 days
- Sivanto Prime – 80-100% emergence – depending on water trap results
- Teppeki – from 100% emergence – then a 7-day program
- Cropspray 11E + Wetcit
- Insyst + Wetcit
- Cropspray 11E + Wetcit
- Teppeki + Wetcit
- Cropspray 11E + Wetcit
- Insyst + Wetcit
- Movento – if required

Important to use alternate modes of action

- Sivanto Prime and Insyst have similar IRAC MOA's
  - Avoid sequential use
- Teppeki – different MOA
- Movento – different MOA
- Benevia – different MOA

- These are only dealing with colonising aphids and PLRV management

Conclusions

- Use young generation seed
- Most virus inoculum comes from input seed/proximity of adjacent ware crops and volunteers
- Use products with differing modes of activity
- Avoid blocking products with same MOA - Alternate from different IRAC groups


THANKYOU
ANY QUESTIONS?
SPUD Agronomy & Consultancy Ltd