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Can on-farm cost decisions buffer against external volatility?

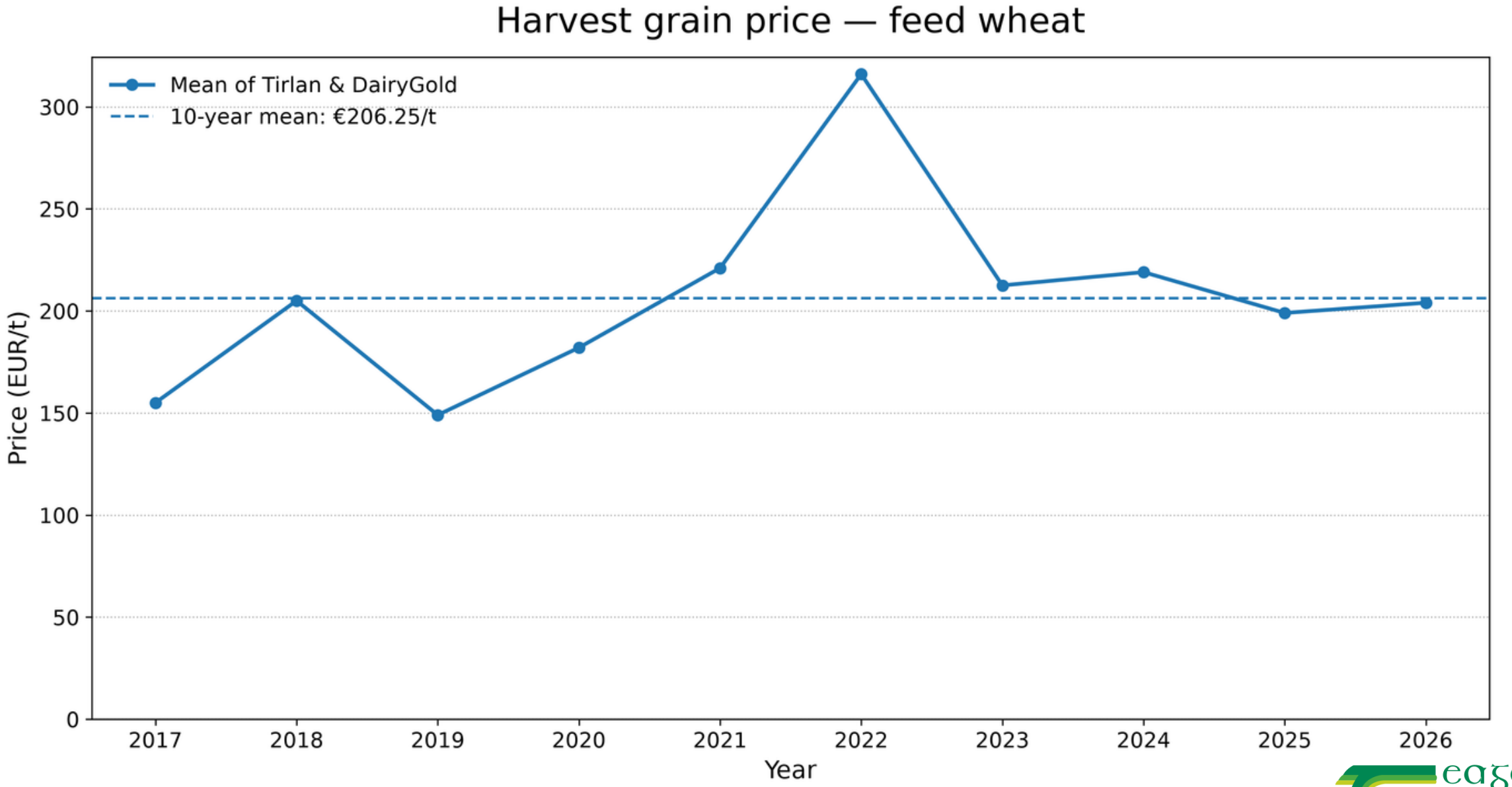
Jack Jameson
Teagasc Oak Park
Crops Research Centre

Crops Forum

Thursday, 10th September

www.teagasc.ie/crops

External Volatility: Grain Price



Mean of Tirlan and DairyGold ex-field prices at 20% moisture, 2017–2026

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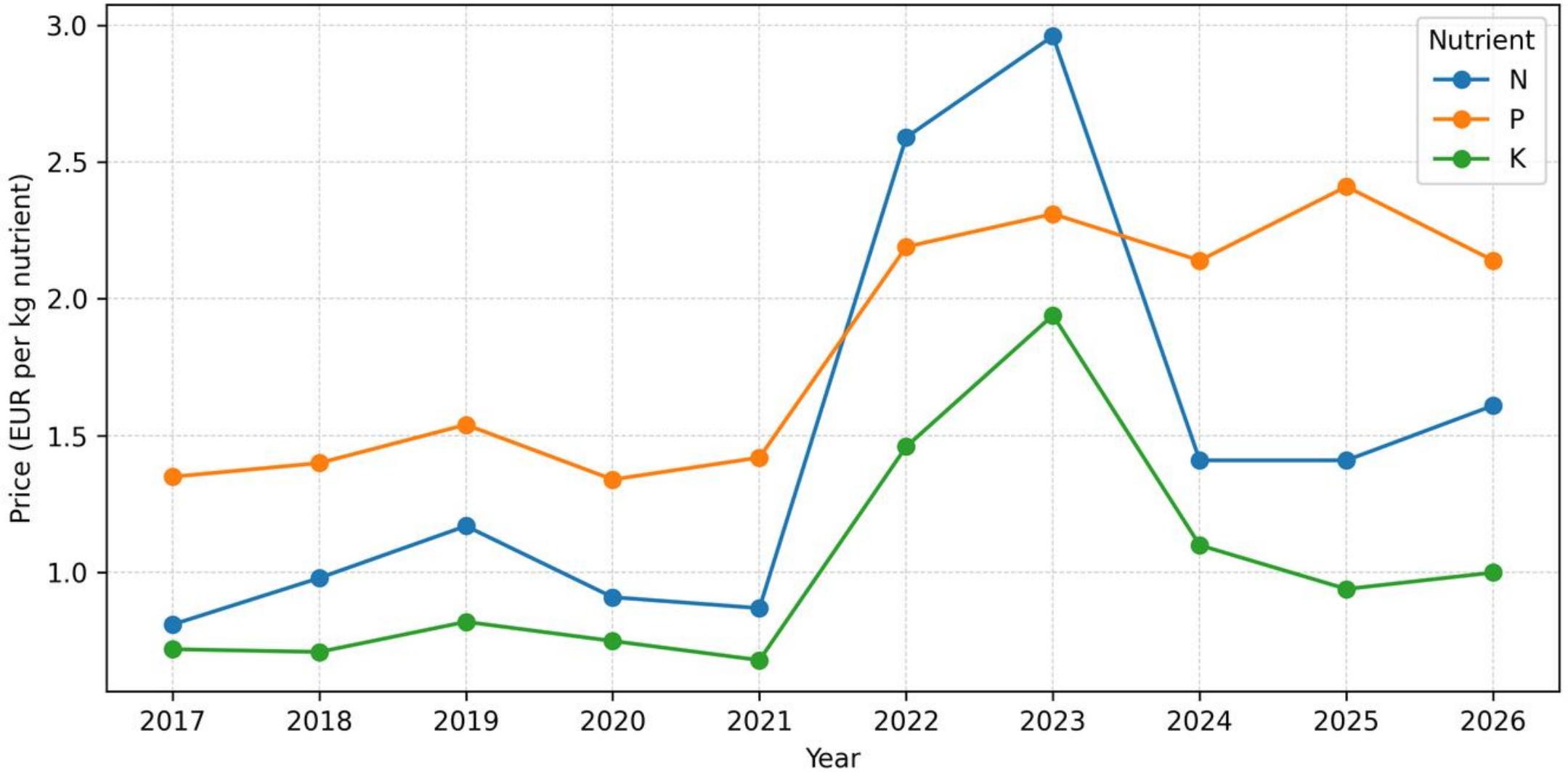
External Volatility: Fertiliser Price



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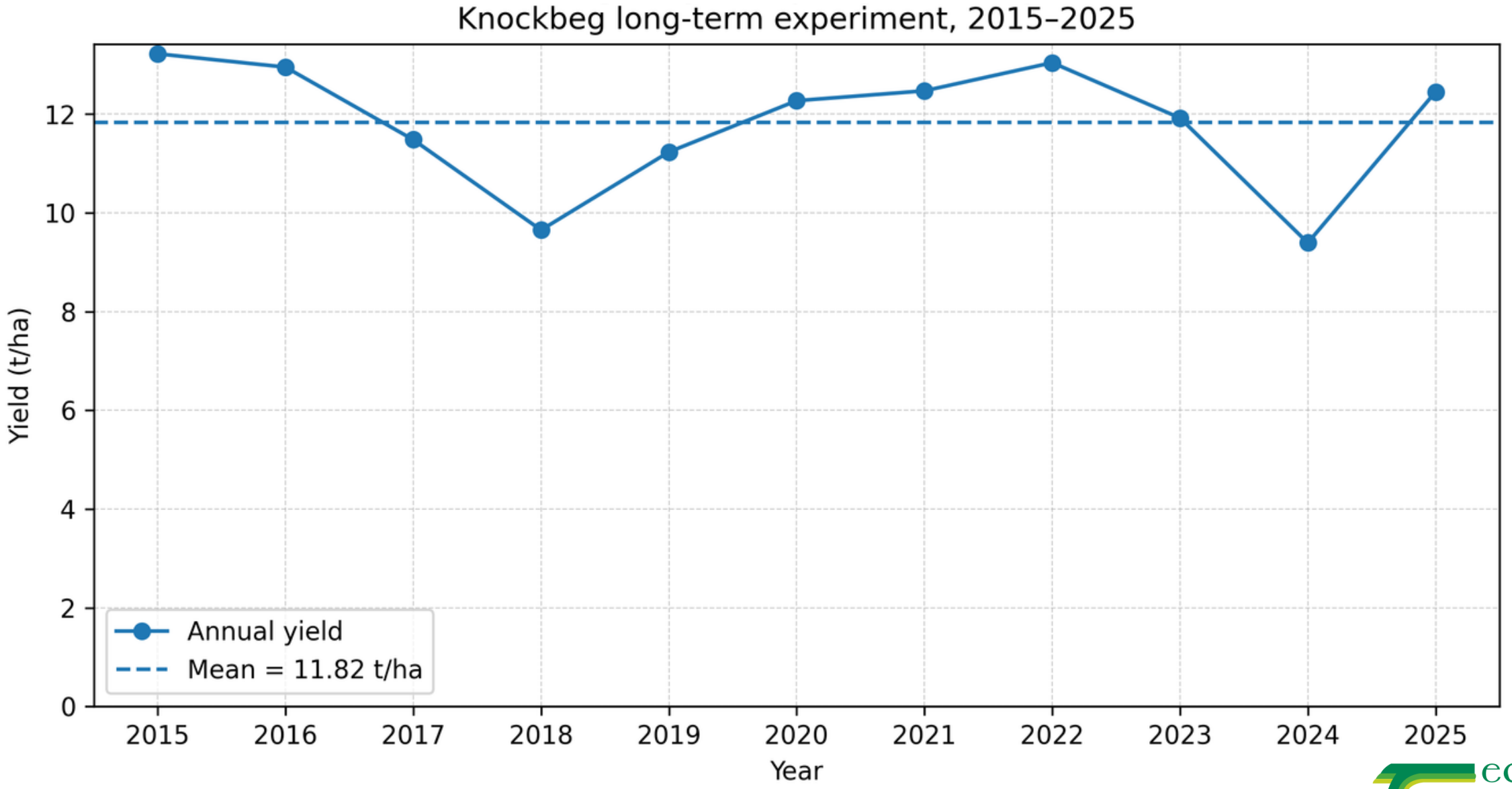
External Volatility: Weather (and yields)



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On-Farm Establishment Systems Study 2021-2023

- First winter wheat
- 3 years x 21 growers= 63 fields
- Crop development, management and yield data collected for each field.
- Originally looking at different establishment systems (Plough, Min-till and Direct Drill)

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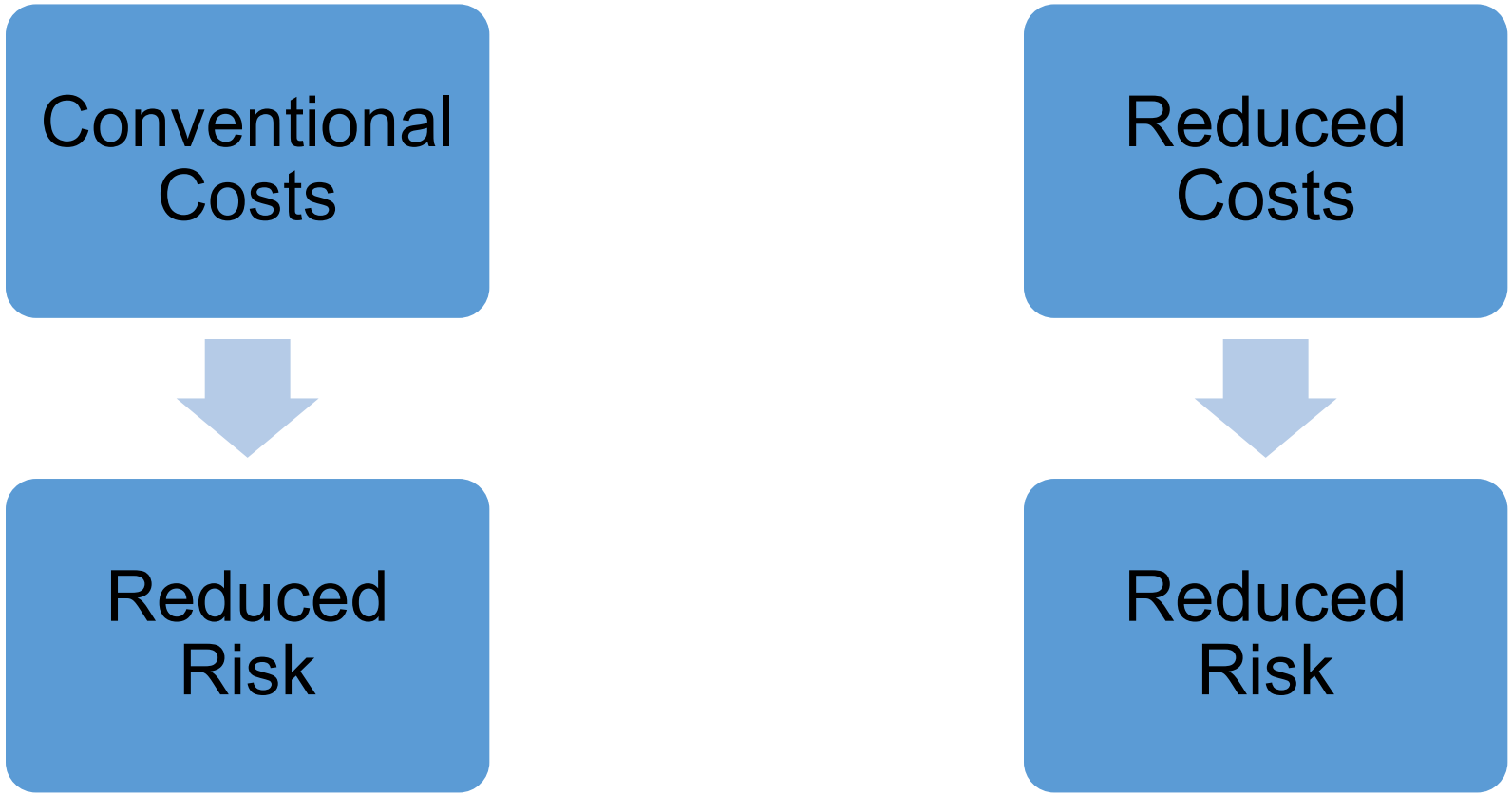
On-Farm Establishment Systems Study

Contrasting Production Cost Strategies



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On-Farm Study: Grower Yields and Costs

Metric/Cost Category	Conventional Costs	Reduced Costs	Difference
Average Yield (3 years)	12.29 t/ha	10.72 t/ha	- 1.57 t/ha(12.8%)
Crop protection, seed & other products	€940.60	€842.40	- €98.20
Total fertiliser	€478.70	€331.5	- €147.20
Crop establishment	€260.00	€78.00	-€182.20
Spraying	€127.50	€148.90	+ €21.40
Fertiliser application	€87.60	€70.10	- €17.50
Harvesting	€160.00	€160.00	---
Total variable costs	€2,058.20	€1,632.80	- €425.50
Fixed costs - machinery	€268.00	€268.00	---
TOTAL COSTS (excluding land rental)	**€2,326.30**	**€1,900.80**	**- €425.50 (-18.3%)**

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Teagasc Winter Wheat On-farm Margin Simulator

Real-Time Model Sync | Fullscreen

CLICK PRESET TO MOVE SLIDERS & RUN SCENARIO:

- ↑ High Grain Price
- ↓ Low Grain Price
- High Fertiliser Price
- Low Fertiliser Price
- High Yield
- Low Yield — 2024/2018 levels
- Worst Case Scenario — low grain price, high fertiliser price & low yields
- Best Case Scenario — high grain price, low fertiliser price & high yields
- 10 Year Average — 10-year mean for each slider

OR ADJUST SLIDERS INDIVIDUALLY:

Harvest Grain Price (€/tonne) — **€206.2**

10-yr low (2019 levels) — 10-yr high (2022 levels)

Fertilizer Price Index Shift — **+15.3%**

10-yr low (2017 levels) — Baseline (0%) — 10-yr high (2023 levels)

Weather Yield Fluctuation — **+4.9%**

10-yr low (2024 levels) — Baseline (0%) — 10-yr high (2015 levels)

NET MARGIN BY APPROACH

APPROACH

Conventional Costs

Net Margin
(excluding subsidies, incl. SIM)

+€510 / ha

APPROACH

Reduced Costs

Net Margin
(excluding subsidies, incl. SIM)

+€616 / ha

Low Costs Approach advantage: +€106 / ha

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OR ADJUST SLIDERS INDIVIDUALLY:

Harvest Grain Price (€/tonne) — **€316.0**

10-yr low (2019 levels) … 10-yr high (2022 levels)

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10-yr low (2024 levels) … Baseline (0%) … 10-yr high (2015 levels)

NET MARGIN BY APPROACH

APPROACH

Conventional Costs

Net Margin
(excluding subsidies, incl. SIM)

+€1,925 / ha

APPROACH

Reduced Costs

Net Margin
(excluding subsidies, incl. SIM)

+€1,850 / ha

Low Costs Approach disadvantage: -€75 / ha

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OR ADJUST SLIDERS INDIVIDUALLY:

Harvest Grain Price (€/tonne) — **€149.0**

10-yr low (2019 levels) … 10-yr high (2022 levels)

Fertilizer Price Index Shift — **+15.3%**

10-yr low (2017 levels) … Baseline (0%) … 10-yr high (2023 levels)

Weather Yield Fluctuation — **+4.9%**

10-yr low (2024 levels) … Baseline (0%) … 10-yr high (2015 levels)

NET MARGIN BY APPROACH

APPROACH

Conventional Costs

Net Margin
(excluding subsidies, incl. SIM)

-€228 / ha

APPROACH

Reduced Costs

Net Margin
(excluding subsidies, incl. SIM)

-€27 / ha

Low Costs Approach advantage: +€201 / ha

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Harvest Grain Price (€/tonne) — **€206.2**

10-yr low (2019 levels) — 10-yr high (2022 levels)

Fertilizer Price Index Shift — **+105.3%**

10-yr low (2017 levels) — Baseline (0%) — 10-yr high (2023 levels)

Weather Yield Fluctuation — **+4.9%**

10-yr low (2024 levels) — Baseline (0%) — 10-yr high (2015 levels)

NET MARGIN BY APPROACH

APPROACH

Conventional Costs

Net Margin
(excluding subsidies, incl. SIM)

+€80 / ha

APPROACH

Reduced Costs

Net Margin
(excluding subsidies, incl. SIM)

+€314 / ha

Low Costs Approach advantage: +€233 / ha

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Harvest Grain Price (€/tonne) — **€206.2**

10-yr low (2019 levels) — 10-yr high (2022 levels)

Fertilizer Price Index Shift — **-34.7%**

10-yr low (2017 levels) — Baseline (0%) — 10-yr high (2023 levels)

Weather Yield Fluctuation — **+4.9%**

10-yr low (2024 levels) — Baseline (0%) — 10-yr high (2015 levels)

NET MARGIN BY APPROACH

APPROACH

Conventional Costs

Net Margin (excluding subsidies, incl. SIM) **+€746 / ha**

APPROACH

Reduced Costs

Net Margin (excluding subsidies, incl. SIM) **+€787 / ha**

Low Costs Approach advantage: +€41 / ha

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10-yr low (2019 levels) — 10-yr high (2022 levels)

Fertilizer Price Index Shift — **+15.3%**

10-yr low (2017 levels) — Baseline (0%) — 10-yr high (2023 levels)

Weather Yield Fluctuation — **+11.8%**

10-yr low (2024 levels) — Baseline (0%) — 10-yr high (2015 levels)

NET MARGIN BY APPROACH

APPROACH

Conventional Costs

Net Margin
(excluding subsidies, incl. SIM)

+€686 / ha

APPROACH

Reduced Costs

Net Margin
(excluding subsidies, incl. SIM)

+€770 / ha

Low Costs Approach advantage: +€84 / ha

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10-yr low (2017 levels) … Baseline (0%) … 10-yr high (2023 levels)

Weather Yield Fluctuation — **-20.6%**

10-yr low (2024 levels) … Baseline (0%) … 10-yr high (2015 levels)

NET MARGIN BY APPROACH

APPROACH

Conventional Costs

Net Margin
(excluding subsidies, incl. SIM)

-€135 / ha

APPROACH

Reduced Costs

Net Margin
(excluding subsidies, incl. SIM)

+€54 / ha

Low Costs Approach advantage: +€189 / ha

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10-yr low (2024 levels) — Baseline (0%) — 10-yr high (2015 levels)

NET MARGIN BY APPROACH

APPROACH

Conventional Costs

Net Margin
(excluding subsidies, incl. SIM)

-€1,124 / ha

APPROACH

Reduced Costs

Net Margin
(excluding subsidies, incl. SIM)

-€736 / ha

Low Costs Approach advantage: +€388 / ha

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10-yr low (2024 levels) — Baseline (0%) — 10-yr high (2015 levels)

NET MARGIN BY APPROACH

APPROACH

Conventional Costs

Net Margin (excluding subsidies, incl. SIM) **+€2,431 / ha**

APPROACH

Reduced Costs

Net Margin (excluding subsidies, incl. SIM) **+€2,256 / ha**

Low Costs Approach disadvantage: -€175 / ha

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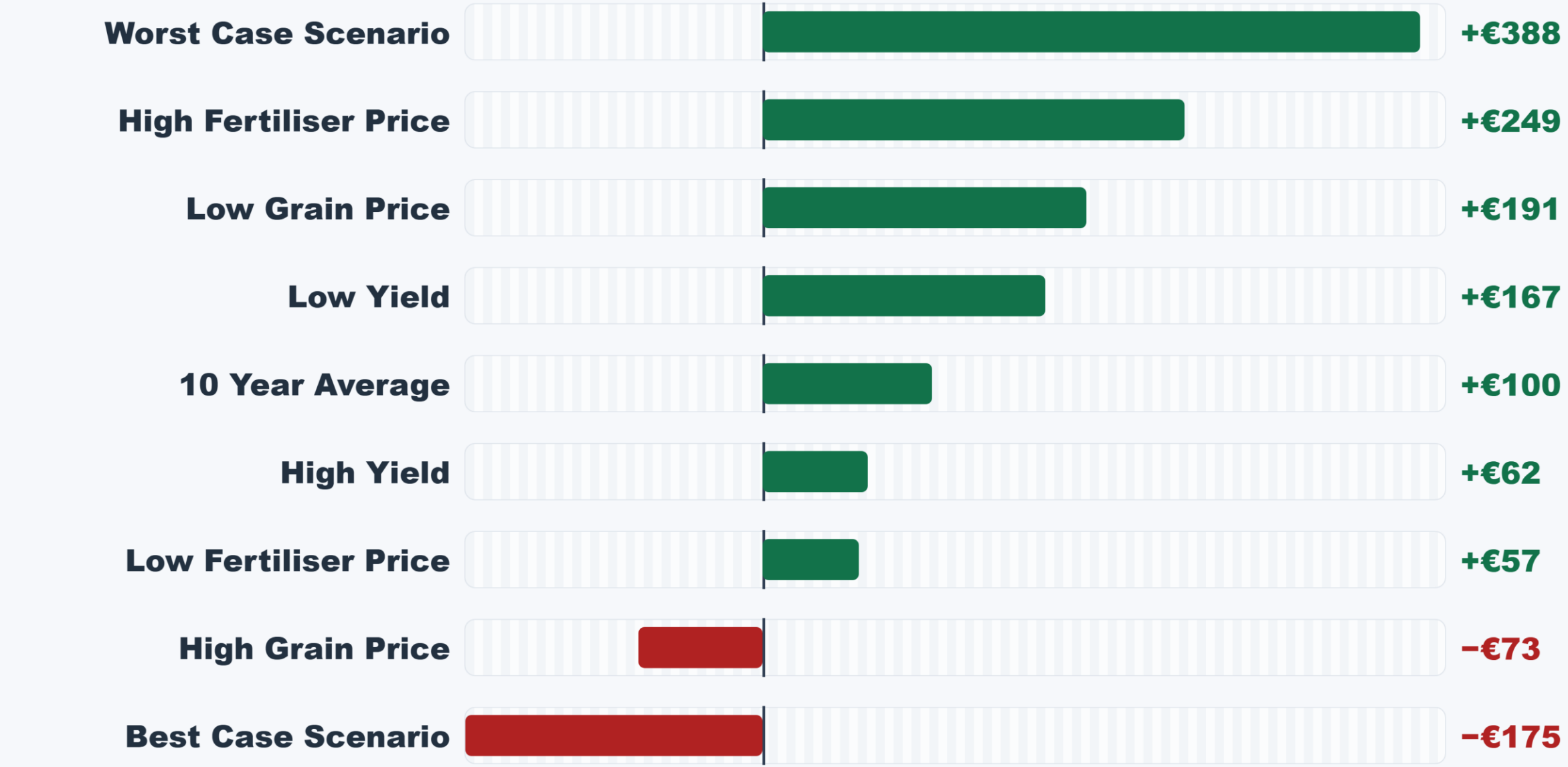
Which approach is most resilient overall?

Relative advantage of the Reduced-costs approach across scenarios — €/ha net-margin difference

Reduced costs leads Conventional leads



Thanks for listening!

Acknowledgments

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