



Atikur Rahman
Teagasc Oak Park

Building the opportunities for Oats

National Tillage Conference 2024

Wednesday, 31st January | Lyrath Hotel, Kilkenny

www.teagasc.ie/tillagecon24

Benefits of oats are real



- ❖ Dietary fiber (beta-glucan) lowers blood LDL-cholesterol
- ❖ Reduces glucose levels in diabetic patients
- ❖ Naturally whole-grain and gluten-free

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- ❖ Oats as break-crop is as good as Oil Seed Rape & Beans (7 years data: Dermot Forristal)
- ❖ Low-nutrient requirement & low carbon footprint
- ❖ Allelopathy & suppressing weeds: benefit for organic



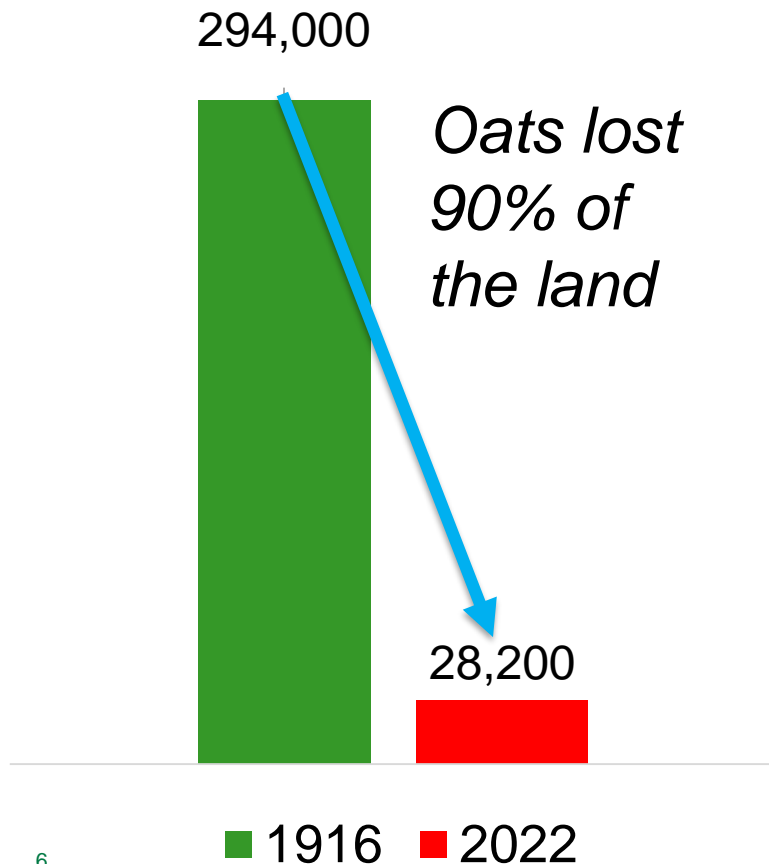
Forgotten past, challenging future

Oats adaptive to Irish climate: history of >1500 years

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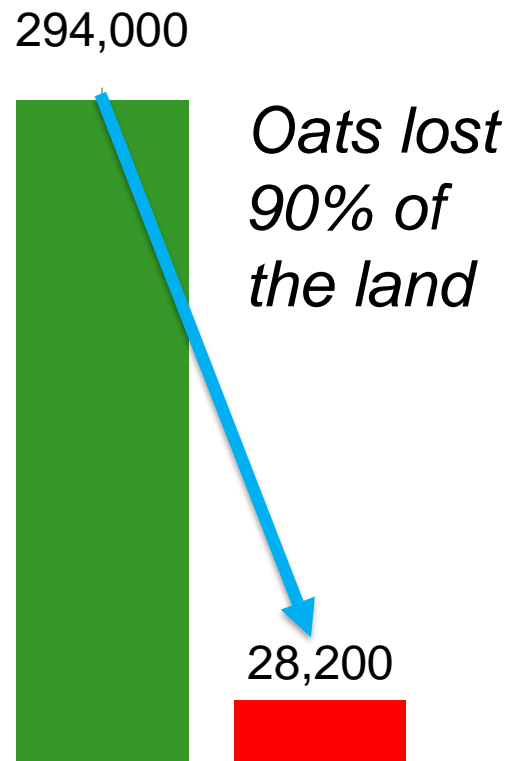
Area (hectares) under
production



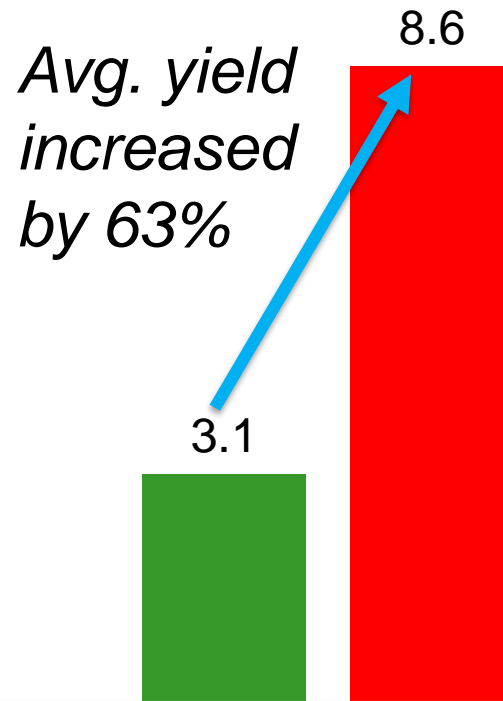
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Yield, t/ha



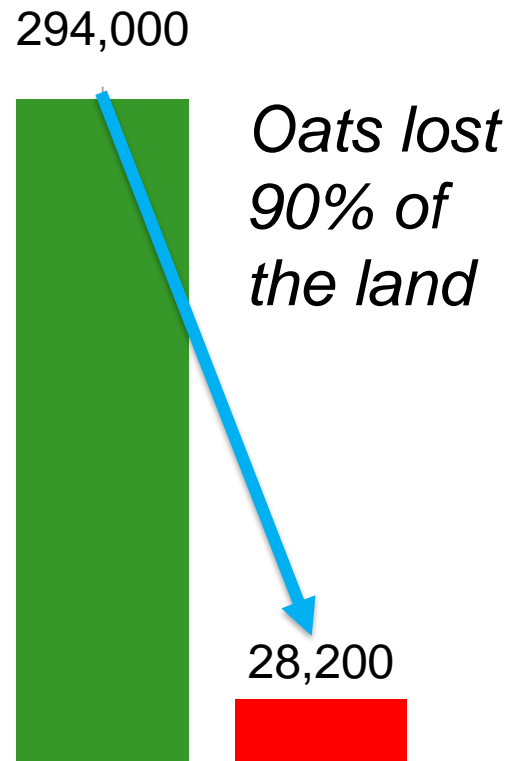
■ 1916 ■ 2022

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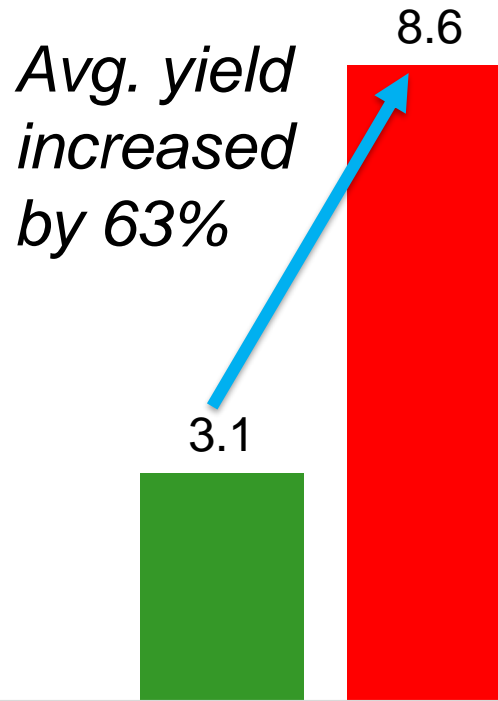
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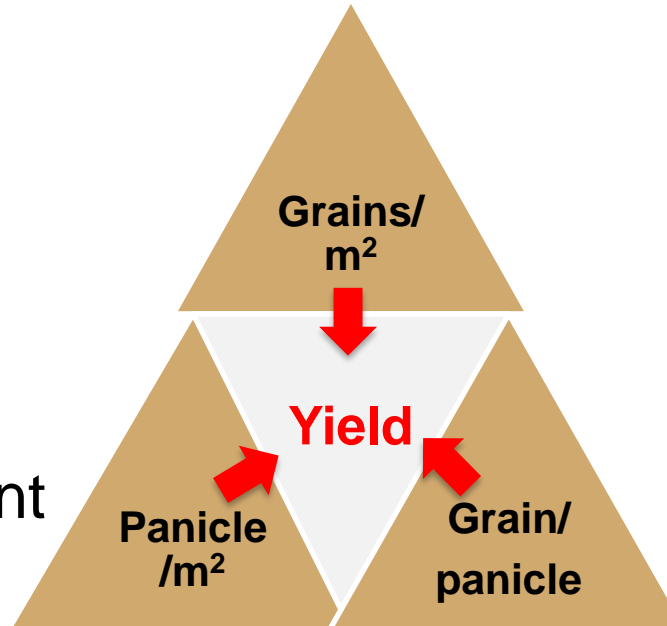
Country	Avg. Yield, t/ha
Ireland	8.6
UK	5.3
Finland	3.4

Future sustainability ?
yield constraints &
nitrogen response need
to be understood

Science behind the management: The Winter Oats Guide

What is expected:

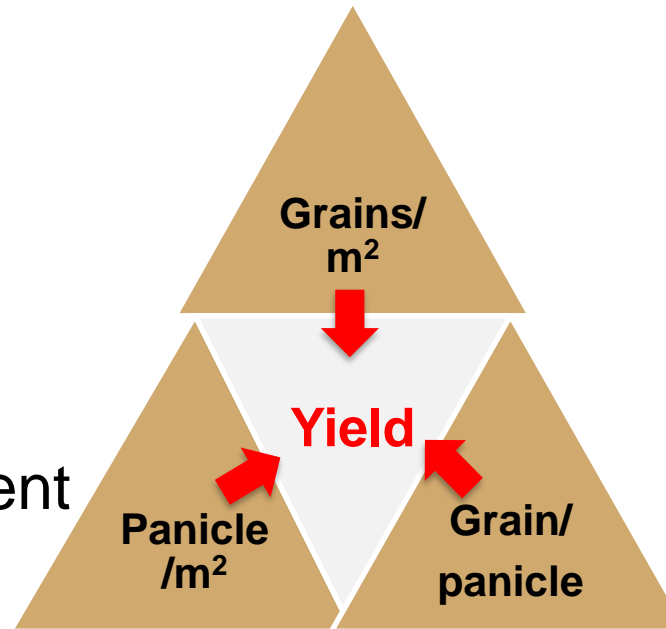
- ❖ Nitrogen uptake and partitioning
- ❖ Yield components
- ❖ Growth & development pattern



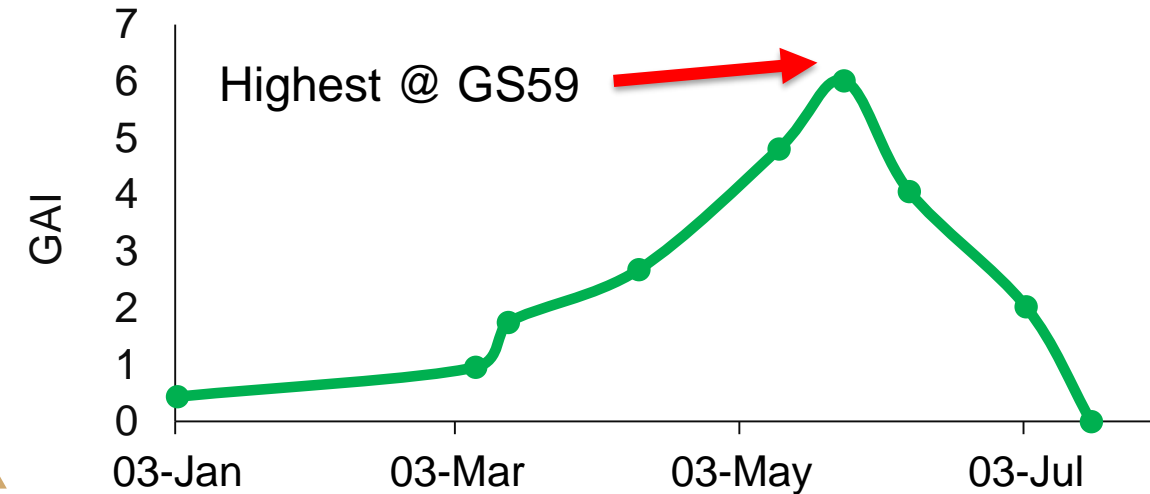
Science behind the management: The Winter Oats Guide

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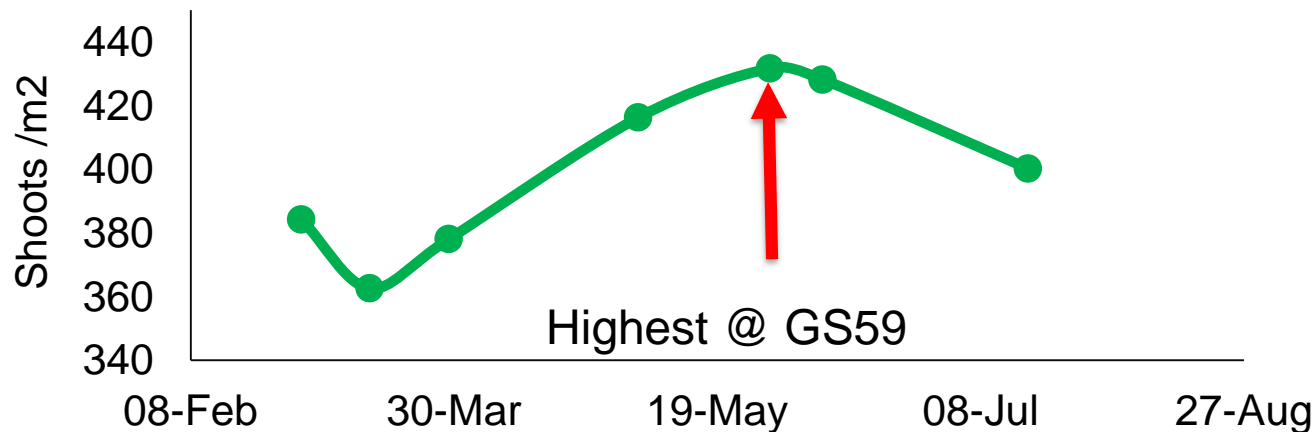
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Green Area Index

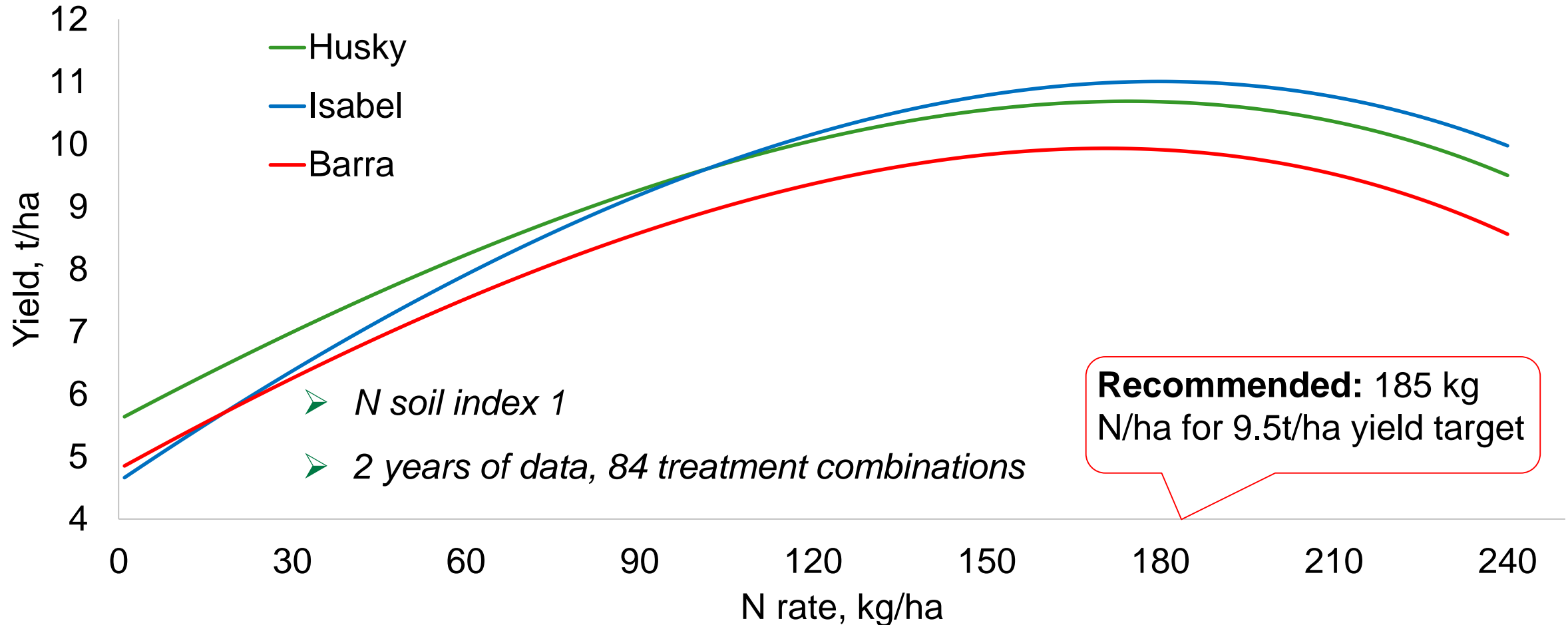


Shoots/ m^2 over growing season



- ❖ Meath, Carlow, Cork & 3 years
- ❖ > 3800 data points recorded in 2022 & 2023
- ❖ Delivery of guidebook @ NTC 2025

Nitrogen: stick to recommendation



- ❖ **Husky & Isabel: higher Yield potential than Barra but same N recommendation**
- ❖ **Higher Yield Potential attributed to better N uptake and utilisation efficiency**

Nutritional profile of Oats where Old is Gold



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Nutritional composition range (g / 100g DW) for 90 vars.

Fibre	11.9 - 29.3
β-glucan	2.8 - 6.7
Fat	2.45 - 10
Protein	11 - 22.3

**Heritage lines have rich diversity
for nutritional composition**

Nutritional profile of Oats where Old is Gold

574 Oat var.
(1850s to 2010)



Agronomic &
grain physical
characteristics



90 var. selected for
Farm-to-Gut project

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Ranking of varieties against Husky as standard

Variety	Nutritional Score %	Agronomic Score %
Husky	100	100
Dyfed	223.9	121.6
Tempo	199.3	98.9
Glasnevin Major	163.8	90.3
Ayr Bounty	188.4	70.8
Ayr Commander	164.7	128.8

New project ...

Oats Mosaic Virus in Ireland



- ❖ Aim to develop a rapid OMV detection and quantification method to study the prevalence of OMV in Irish tillage
- ❖ 4-year PhD project
- ❖ **Soil sampling starting this summer**

**I need info/samples from suspected OMV fields:
Contact atikur.rahman@teagasc.ie**

Acknowledgements



Tapiwa Zengeza
Teagasc, Oak Park



Project leader:
Daniela Freitas
Teagasc,
Moorepark



Host:
André Brodkorb
Teagasc,
Moorepark



PhD student:
Nefeli Lampoglou,
Teagasc, Moorepark

NutriOats



Interreg



Co-funded by
the European Union

Northern Periphery and Arctic



Landbúnaðarháskóli
Íslands



Norwegian University
of Life Sciences

