



32nd Annual Cambridge Potato Conference, 2021

Robinson College, Cambridge 14 & 15 December



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Practical steps to reducing emissions in the potato supply chain



James Young - Agriculture Director



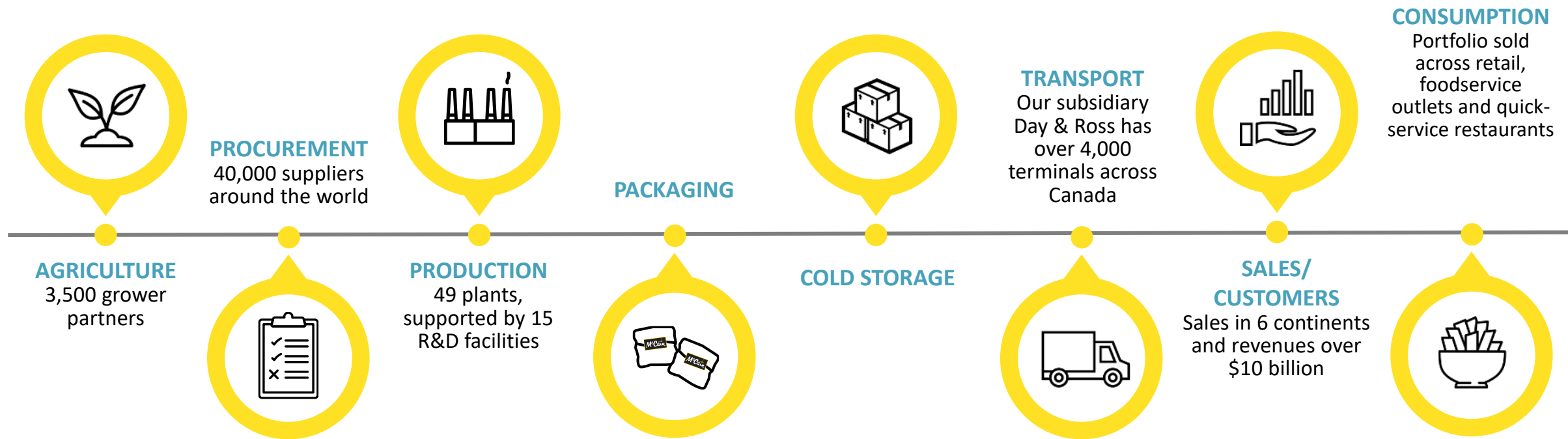
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McCain Foods – a global company with a global supply chain



Here in the UK...

250

British Growers

£25M

Pledge to support our Growers

c1,300

Company employees

5 plants

Located in rural communities

Seed business

Located in Montrose, Scotland

All information is confidential. © of McCain Foods



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McCain – a family company with a clear purpose



Celebrating real connections
through delicious, planet-
friendly food

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Sustainability is an integral part of our business and supply chain

Food that is created using less of nature's resources in farms



Food that is created using less of nature's resources in factories



Food that answers the needs of increasingly health and planet conscious consumers



Food that allows us to contribute to positive change in the rural areas where we operate



SMART & SUSTAINABLE FARMING



RESOURCE EFFICIENT OPERATIONS



GOOD FOOD



THRIVING COMMUNITIES

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Smart and Sustainable Farming – our targets

TARGETS

Smart & Sustainable Farming

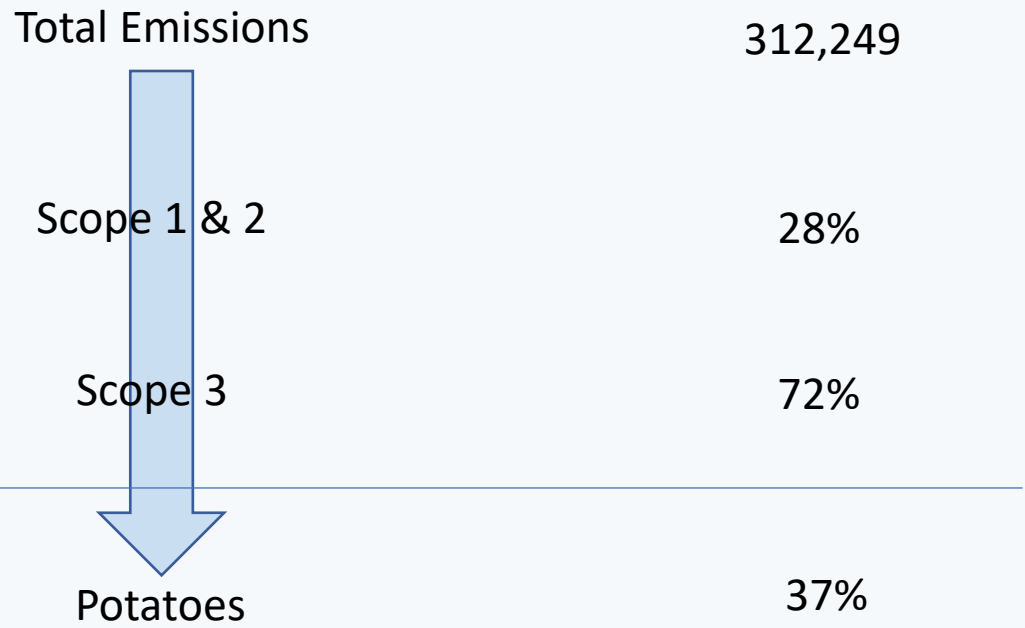
- Implementing regenerative agriculture practices on 100% of our potato acreage by 2030
- Operating three Farms of the Future in different growing regions around the world by 2025
- Reducing CO₂/tonne from potato farming, storage and freight by 25%
- Improving water-use efficiency by 15% in water-stressed regions by 2025



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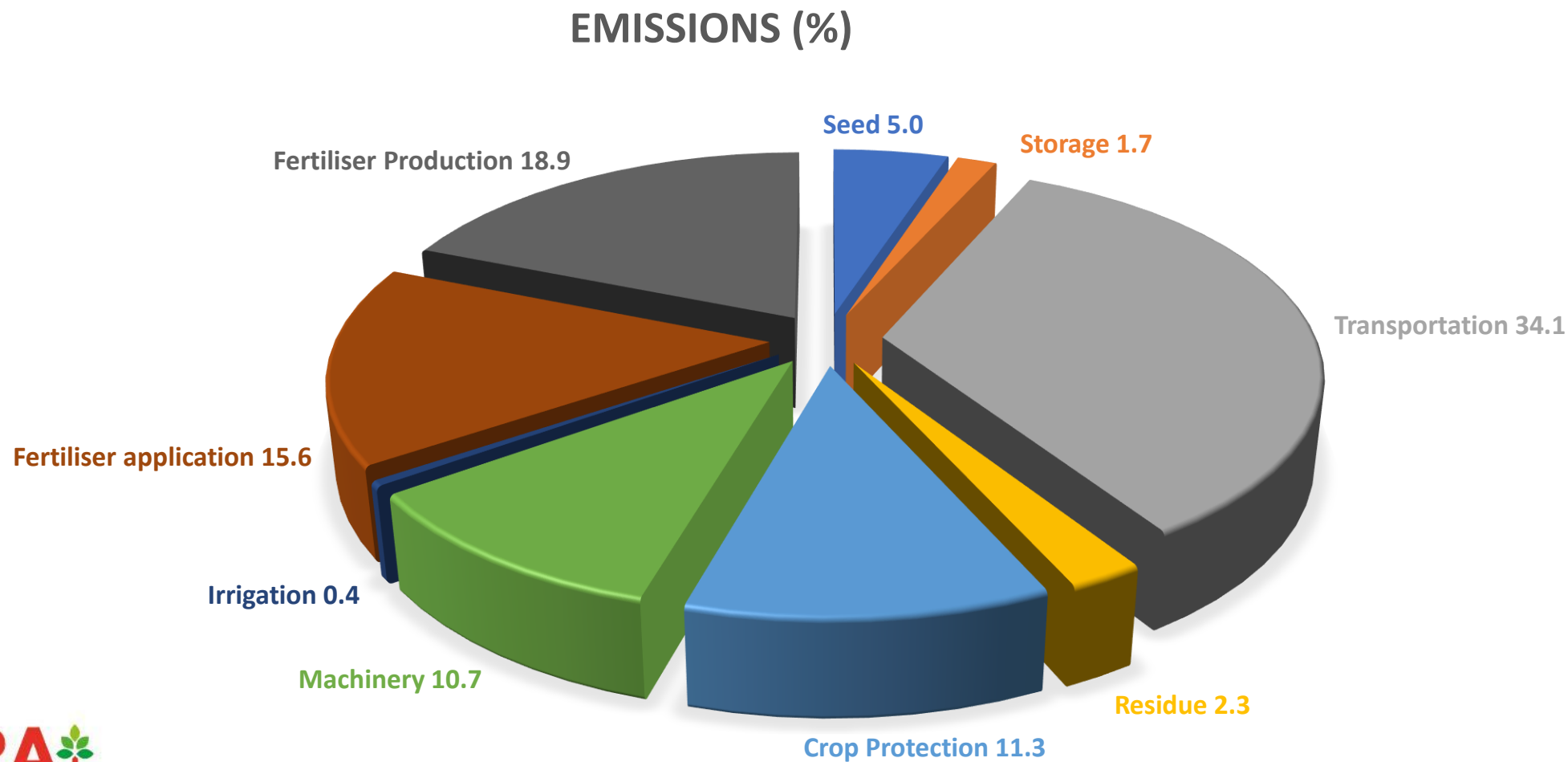
Our carbon footprint today



NB – 2020 data tCO2e



Carbon footprint – potatoes



The first task – increase marketable yield

Agronomic actions targeted at emission reduction
needs to increase marketable not reduce yield

New Variety Development will play a
key role in reducing emissions



Processing the
whole crop



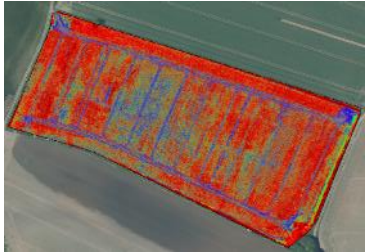
5% > Marketable Yield = Reduction of approx. 37kg/N/Ha (AN)

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Note: numbers are estimated reductions: current, 5 years, 10 years

Reduce emissions from fertilisers



?%

Variety profile compliance

5%

DSS models
Placement/ fertigation?
Organic amendments?
Methane & legislation

7.5%

Remote sensing
Variable application

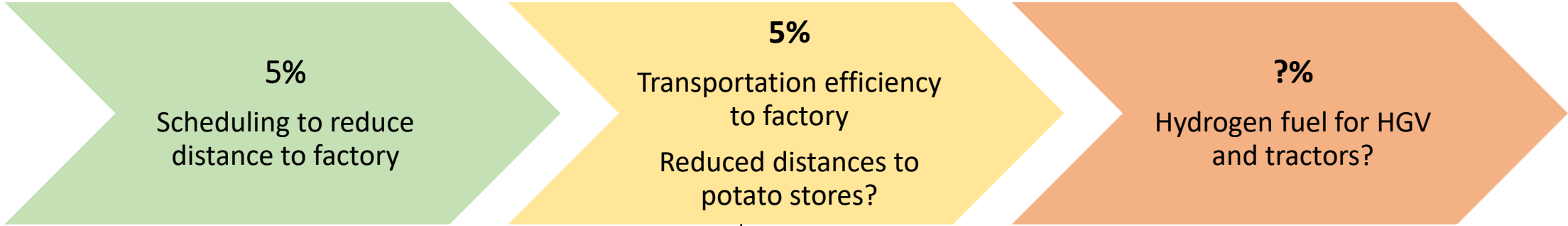


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Note: numbers are estimated reductions: current, 5 years, 10 years

Reduce emissions from transport

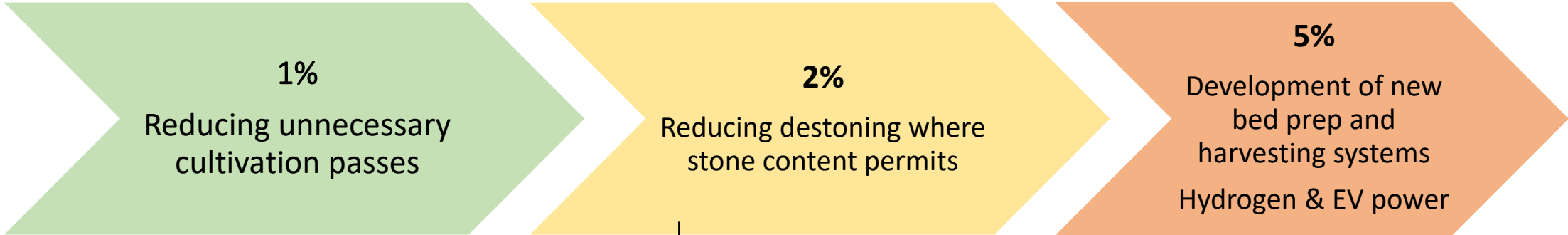


20 ha field 20 miles from base
= 180 road miles/ha approx.
1,000 kg Co_2e /ha



Note: numbers are estimated reductions: current, 5 years, 10 years

Reduce emissions from farm machinery



Requirement for determining reduction in emission from reduced soil disturbance and water infiltration



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Note: numbers are estimated reductions: current, 5 years, 10 years

Reduce emissions from crop protection



1%

Change in current variety mix

2%

DSS and new pesticide
actives reducing
applications and AI

4%

Variable application
Spot spraying
Hydrogen & EV power

Further development accurate DDS
systems required

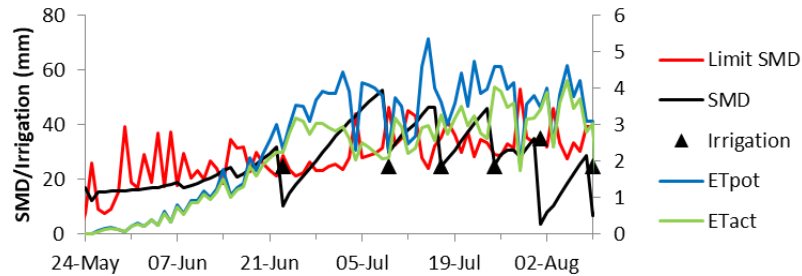


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Note: numbers are estimated reductions: current, 5 years, 10 years

Reduce other emissions



<0.5%
Ethylene replacing CIPC

1%
Irrigation scheduling,
drip irrigation
Seed rate optimization
Renewable energy

>2%?
Cover crops
Variable rate planting
Reduce in store shrink

Further development accurate
DDS systems required

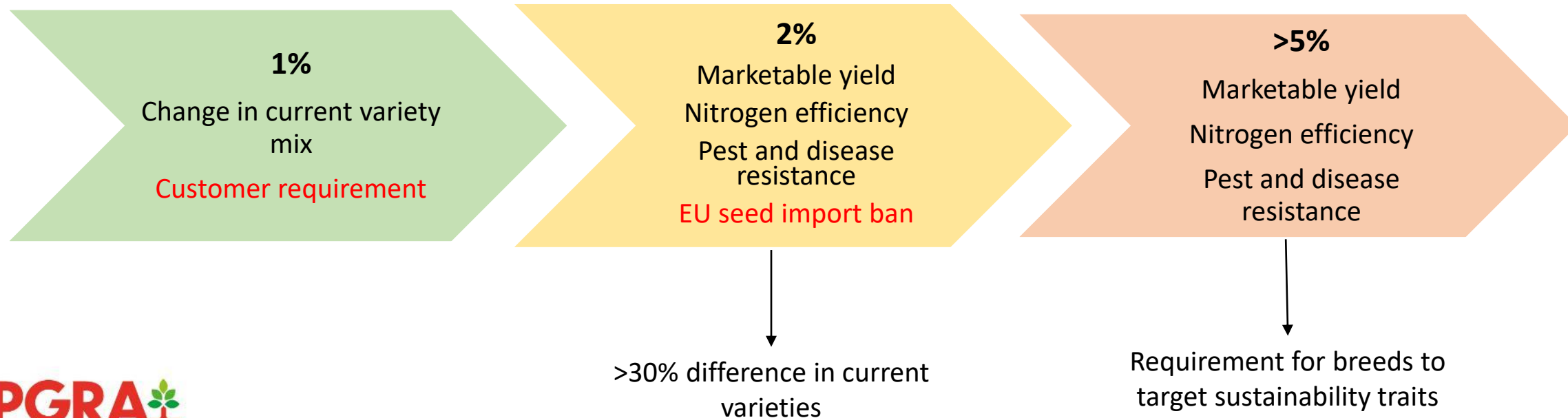
Ability measure the impact of
cover crops accurately

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Note: numbers are estimated reductions: current, 5 years, 10 years

... And varieties again!



Note: numbers are estimated reductions: current, 5 years, 10 years



Thank you