MAKING THE MOST OF WHAT YOU’VE GOT

Thomas Bradshaw
- Fletchers Farm
- Fordham
- Colchester
- 570mm rain
- Mixed soil type

@ProagriLtd
Population Growth since 1 AD.

Each dot represents 1 million people

Roman Empire
<table>
<thead>
<tr>
<th>Year</th>
<th>Details</th>
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<tbody>
<tr>
<td>2001</td>
<td>130 cows at Fletchers Farm</td>
</tr>
<tr>
<td></td>
<td>110 cows contract farmed</td>
</tr>
<tr>
<td></td>
<td>80ac arable</td>
</tr>
<tr>
<td></td>
<td>100ac maize</td>
</tr>
<tr>
<td></td>
<td>170ac grass</td>
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2017

2950ac arable – contract farming

150ac grass

Equestrian centre
  • 70 stables
  • Riding School with 13 horses

50kw solar

BBC Harvest, AHDB Monitor Farm, NFU Crops Board, Nuffield Scholar
ARABLE BUSINESS CHALLENGES

1) The yield plateau
Yields have Plateaued
Wheat Yield 2002-2017

![Wheat Yield Graph](image)
CHALLENGES

1) The yield plateau

2) Sustainable intensification
Sustainable Intensification?
Wide vs narrow tire and axle load
Source: Sjoerd Duiker, Penn State University
CHALLENGES

1) The yield plateau
2) Sustainable intensification
3) Soil fertility
This satellite image, taken on 16 February 2014, shows where our soil goes once it's washed off our fields. Photograph: Dundee Satellite Receiving Station
CHALLENGES

1) The yield plateau

2) Sustainable intensification

3) Soil fertility

4) Rising Costs both FC’s and VC’s
Tractor running costs

550HP Tracked Machine
- £295,000
- 750hrs per year
- 70lts fuel per hour
- Wages
- Repairs and maintenance
- Depreciation
- 5yr warranty
- £115/hr

390HP Wheeled
- £157,500
- 1000hrs per year
- 40lts fuel per hour
- Wages
- Repairs and maintenance
- Depreciation
- 8yr warranty
- £58/hr
# IMPACT ON CAPITAL REQUIREMENT

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© Can Stock Photo
CHALLENGES

1) The yield plateau
2) Sustainable intensification
3) Soil fertility
4) Rising Costs both FCs and VCs
5) Politics, pressure groups and temperature change
Temperature anomalies

Data source:
NASA GISS Surface Temperature Analysis (GISS TEMP)
Land-Ocean Temperature Index, ERSSTv4, 1200Km smoothing
https://data.giss.nasa.gov/gistemp/

Antti Lipponen (@anttiliip)
PRIORITIES FOR THE FUTURE

1) Soil health
PRIORITIES FOR THE FUTURE

1) Prioritise soil health
2) Maximise harvesting of sunlight
Soil structure with cover crops
• We can’t sell worms
• Lots of work to do understanding termination timings
• Soil doesn’t dry on the surface but drier at depth
• Theory is great and I’m sure it is the future but difficult putting into practice
Aerial view of Spring Barley
PRIORITIES FOR THE FUTURE

1) Soil health

2) Maximise harvesting of sunlight

3) Reduce fuel usage from 80 – 50lts/ha
The Past

The Future