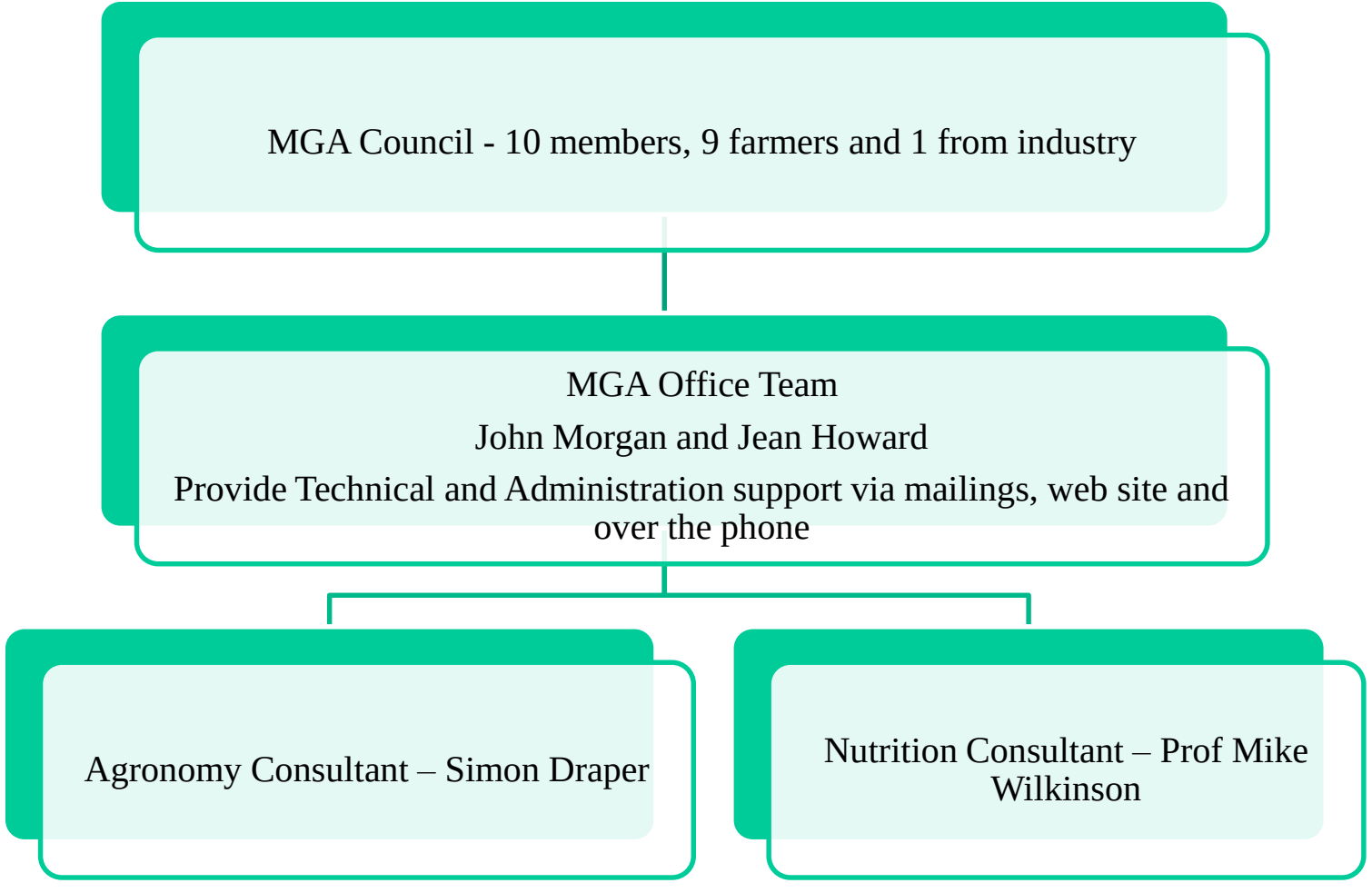
THE ACTIVITIES OF THE MGA OFFICE TEAM AND OUR ONGOING ROLE IN PROMOTING SUSTAINABLE MAIZE GROWING

John Morgan
MGA Office Team


MGA Council - 10 members, 9 farmers and 1 from industry
MGA Office Team
John Morgan and Jean Howard
Provide Technical and Administration support via mailings, web site and over the phone
Agronomy Consultant – Simon Draper
Nutrition Consultant – Prof Mike Wilkinson

Maize is a Great Crop

Strengths

- Less Nitrogen Needed - Pattern of nutrient uptake ties in with N release from soil and organic manures.
- Low agrochemical
  - Herbicide
  - Fungicide
- C4 crop – drought tolerant
- Agronomic Strengths – Break crop, spreads workload

Challenges

- Old chestnuts
  - Soil compaction at harvest leading to soil wash/runoff
  - Nutrient overload leading to surface runoff
- New pretenders
  - Nitrogen leaching
  - Phosphate
- Negative PR


Source Environment Agency

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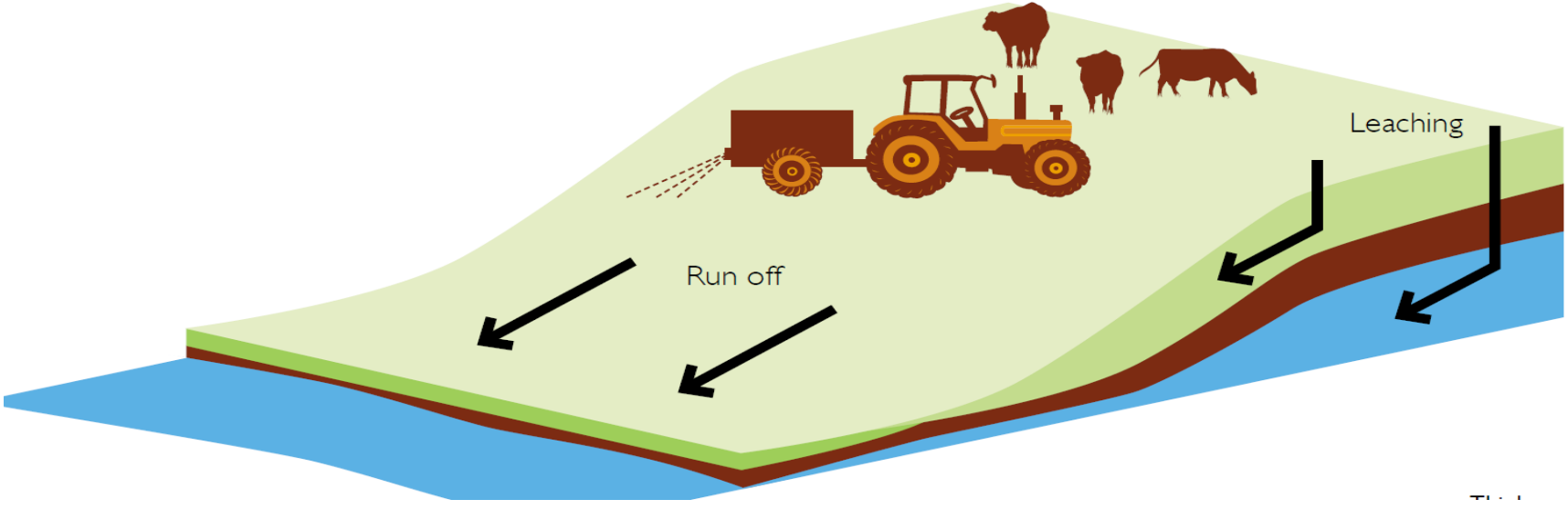
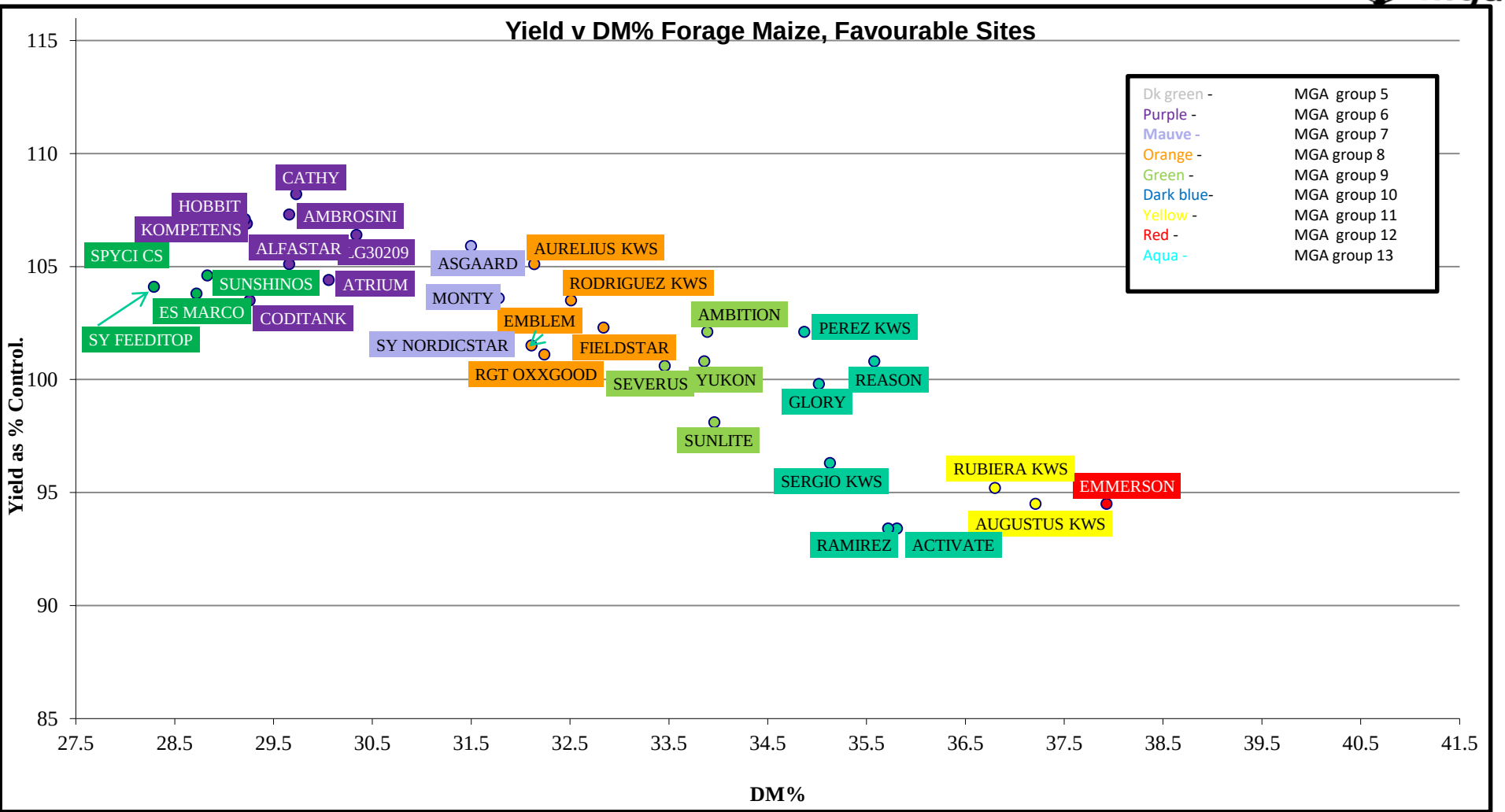
Nutrient Overload



Avoiding the issues
Growing Maize Appropriately

- Suitable site/variety – MGA Maize Charter
- Drilling date
- Use of film
- Minimising/avoiding compaction
- Nutrient planning
- Undersowing or Cover Crops
- Harvest at correct time
- Post harvest cultivation


Yield v DM% Forage Maize, Favourable Sites
Yield as % Control.
DM%
115
110
105
100
95
90
85
27.5
28.5
29.5
30.5
31.5
32.5
33.5
34.5
35.5
36.5
37.5
38.5
39.5
40.5
41.5
Dk green - MGA group 5
Purple - MGA group 6
Mauve - MGA group 7
Orange - MGA group 8
Green - MGA group 9
Dark blue- MGA group 10
Yellow - MGA group 11
Red - MGA group 12
Aqua - MGA group 13
CATHY
HOBBIT
AMBROSINI
KOMPETENS
ALFASTAR
SPYCI CS
ASGAARD
AURELIUS KWS
SUNSHINOS
ATRIUM
RODRIGUEZ KWS
MONTY
ES MARCO
CODITANK
EMBLEM
AMBITION
PEREZ KWS
SY FEEDITOP
SY NORDICSTAR
FIELDSTAR
RGT OXXGOOD
SEVERUS
YUKON
REASON
GLORY
SUNLITE
SERGIO KWS
RUBIERA KWS
EMMERSON
AUGUSTUS KWS
RAMIREZ
ACTIVATE

MGA Site & Maturity Group Selector

The aim of the selector tool is to identify if your field is suitable for maize growing and if suitable from which maturity group you should choose your varieties. Answer the field specific questions recording the score in the form set out in Step 9. Use the score generated to identify suitable varieties in the following tables and graphs.

Step 1

What is your target harvest date?	Your score
15th - 22nd September	3
23rd - 30th September	2
1st - 7th October	1
8th - 15th October	0

Harvest should be targeted at mid to late September to optimise the yield and quality of maize silage. The later the crop is harvested, the greater the risk of run- off and soil erosion. Earlier harvest also provides an opportunity to drill following crops in a timely manner. In cooler summers maturity will be slower and consideration should be given to this when choosing the most suitable variety.

Step 2

What is your target drilling date?	Your score
Before 10th April	0
10th - 20th April	1
21st - 30th April	2
1st - 10th May	3
After 10th May	4

Maize matures at a standard rate. As a consequence harvest date will be sooner for earlier drilled crops.
Note : Maize drilling date should be based on soil temperature and ground conditions at the time, in preference to date.

Step 3

What is the altitude of your field?	Your score
0 - 45m	0
46 -90m	1
91 – 135m	2
136m +	3

Altitude does have an effect on the maturity of the crop, but this can be outweighed with south facing slopes.

So, if you are growing in the more marginal higher areas, ensure that the crop is grown on a south-facing slope if possible.

What is the Aspect of your field?	Your score
North Facing	1
Highly exposed to wind	1

North facing and or exposed fields will be slower to mature than others.

Step 4

What are your likely field characteristics?	Your score
Light / Fine	0
Medium / Good	1
Heavy / Cloddy	2
V Heavy / V Cloddy	3

Soil type affects seedbed preparation and quality; the ability to retain moisture during the growing season will influence harvesting conditions. Therefore, fields that are likely to produce a cloddy seedbed or give rise to difficult harvesting conditions should be allowed for.

Step 5

What is your annual rainfall?	Your score
Low (250mm-675mm)	0
Medium (700-975)	1
High (1000mm+)	2

When soil becomes wet it generally gets colder leading to slow maize growth.

In high rainfall areas soil wash and erosion is also more of a concern.

Step 6

What is the average gradient of your field?

	Your score
<3° Slight	*0*
4 – 8° medium	*1*
>9° steep	*2*

While water will run off any compacted field whether flat or sloping, the speed built up when running off steeper fields can result in more damage being caused.

(For slightly sloping, free draining fields Step 7 can be ignored)

Step 7

How close to the lowest edge of your field to a watercourse, and or gateway onto a road, and or building, and or other environmental feature eg SSSI etc?

	Your score
More than 100 metres away	0
10 – 100 metres away	1
Within 10 metres with buffer/hedge	2
Within 10 metres no buffer/hedge	3

While soil movement within your own fields is not ideal, such, within field movement, is not as challenging to the environment as that which leaves the farm.

Post harvest cultivation, plus the establishment of a green cover, either within or after maize, will go a long way to reduce soil and water movement, both within and beyond the field boundaries.

Step 8

Which county are you in? ***Please select from the table***

County	Score	County	Score
Berkshire	0	Lincolnshire	1
Buckinghamshire	0	Norfolk	0
Cambridgeshire	-1	Northamptonshire	1
Cheshire	1	Nottinghamshire	1
Cumbria	2	North & Mid Wales	2
Devon & Cornwall (North)	2	Northumberland	3
Devon & Cornwall (South)	1	Oxfordshire	0
Derbyshire	2	Scotland	3
Dorset	0	Shropshire	0
Durham	2	Somerset	0
Essex	-1	Staffordshire	1
Gloucester	0	South Wales	1
Glamorgan	1	Suffolk	0
Gwent	1	Surrey	0
Hampshire	-1	Sussex	-1
Herefordshire	0	Warwickshire	1
Hertfordshire	0	Wiltshire	0
Kent	-1	Worcestershire	1
Lancashire	1	Yorkshire (North)	2
Leicestershire	1	Yorkshire (South)	1

Maize Charter Proposals

Farmers ‘sign up’ to the Charter. In return for this commitment they will receive:

- **FREE** advice during which
  1. Site suitability will be assessed and depending on suitability given.
     - Independent variety choice advice.
     - Alternative crop advice.
  2. Commit to some form of over winter. management for maize fields.
  3. Certificate showing there commitment to sustainable crop production.

Drill your maize based on:

- Soil conditions
- Soil temperature
- Weather forecast
- Date

Tyres

90 PSI in the tyre and
on the ground!


SAMCO
SAMCO

Use of film!

Crop Performance 'With' and 'Without' Plastic Mulch

	Silking Date	Total Yield t/ha	DM Content %	Starch Yield t/ ha	Starch Content %	ME Yield GJ/ha	ME Content MJ/kg
Plastic Mulch	30 Jul	15.6	35	5.8	37	172	11.1
Open Established	15 Aug	12.8	30	3.6	28	135	10.6
Plastic Gain	**16 days**	**2.8**	**5**	**2.2**	**9**	**37**	**0.5**

Northern Ireland Maize List 2015

Avoiding Nutrient Overload

What does the Maize require?

180 kg/ha (145 units/acre)

What can the soil supply?

What does slurry/solid manure/digestate supply

What is needed from inorganic fertiliser to balance crop requirements

Harvest When DM is 30-34%

Conclusions

- Recognise the positives for maize
  - Inherent
  - Agronomic
  - Economic
- Grow maize appropriately
- Shout about what you are doing!

Conclusions

“We have nothing to fear apart from our own lack of real action in the maize field and positive action in letting people know we take our environmental responsibilities seriously”