

# MGA TIMES



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## MGA LOBBYING PAYS OFF (WE HOPE!)

- ◆ European Maize Meeting report—John Morgan.
- ◆ Grain maize survey.
- ◆ Cross Compliance Review.
- ◆ Demonstration meeting—November 15th.
- ◆ Mineral reminder.
- ◆ Analysis reminder.
- ◆ MGA Germany trip.

### GRAIN MAIZE SURVEY REQUEST

John Burgess, a research student at the Royal Agricultural College, is conducting a grain maize survey and is working with the MGA to carry out a detailed report. It was felt a concise survey of individual grain maize growers would be a valuable exercise, not only to establish a consensus on aspects of crop agronomy, but also to present the findings in a logical and detailed report. John has sent questionnaires to some MGA members already, but if you are a grain maize grower and would be interested in helping with this survey, please contact the MGA Office and we will send you on a survey form. It is very encouraging to have enthusiastic students wanting to investigate different aspects of the maize crop, so please help if you can, John and the MGA team would be grateful. The results of the survey will be available to MGA members when it is completed.

Members will hopefully be pleased to know that following serious lobbying from Simon Draper and the MGA office team, the NMAX crop group maximum for maize in the proposed Nitrate Vulnerable Zones (NVZ) rules, has been set at 150 kg/N/ha (120 units/acre). This 150 kg/ha figure is also likely to be proposed as the new maximum in the revised RB209, the DEFRA guide to Fertiliser Recommendations for Agricultural and Horticultural Crops and is set to replace the 120 kg/ha (96 units/acre) maximum currently listed. Please remember these figures include contributions from the soil and manures and do not equate to just bagged N limits.

The 150 kg limit is closer to the figure of 180 kg (absolute maximum where residual N is extremely low) used for several years in the MGA Nitrogen Predictor software which, using the answers to agronomy, soil management and organic manure usage questions, produces a bagged Nitrogen recommendation for individual maize fields.

As always we are keen to receive feedback on the performance of fields where the Nitrogen Predictor software was used. If the results from the three nitrogen treatments on the MGA/Catchment Sensitive Farming demo site are anything to go by, we still have lots to learn! On this site, which still had residual N from sewerage sludge applications in the past, RB209 recommended an application of 80kg/ha (64 units/acre) of bagged N compared to the N Predictor of 125kg/ha (100 units/acre). Subsequent sampling of the crop revealed a significant increase in dry matter yield from the N predictor plots, but the highest N rate plots (180kg/ha) showed little extra dry matter yield and delayed maturity.

Simon, Jean and Dave showing typical plants from the RB209, MGA nitrogen predictor and host farmer Nitrogen recommendations plots at the



**CHOP LENGTH – ALTERING IT IS NOT THAT DIFFICULT!**

Members attending the September demo site meeting in Exeter, were treated to an excellent summary of the maize forage chop length options on a Class forager, by someone who has harvested many acres, including that at Town Barton. Jamie Hyde from Machinery dealers Hambllys, who has since moved on from driving foragers to selling them, talked through the options available to drivers for adjusting silage chop lengths to the farmers requirement.



Mr Hyde explained to those present that there is a fixed optimum cutting drum speed the forager needs to work at to ensure efficient work. He went on to explain that chop length is altered by adjusting the speed at which the crop is fed onto the blades via the header of the forager. The slower the feed into the blades, the longer the chop and visa versa. The gearing options to alter the feed speed were discussed and demonstrated, as was the only other option to increase chop length, that being the fitting of half blades to the cutting drum. While adjusting the gears to alter feed speed appeared to be very simple, the fitting of alternative blades is obviously a much bigger job. Jamie also warned that too fast a work rate at harvest may mean too much crop passes through the cracker rollers undamaged.

**MGA GERMANY TOUR 2007**

Arrangements are well under way for our MGA Trip to Germany. The theme of the study tour is biogas production and utilisation. The dates for the trip are from 3rd—5th December and the itinerary with booking slip is enclosed with this mailing.

The tour includes visits to on farm biogas plants, a Research Institute and a guided tour of Munich.

At the moment we have 18 delegates booked in, so if anyone else is interested, could they please return the booking slip ASAP as flights and Hotel rooms need to be booked.

**CROSS COMPLIANCE SOIL PROTECTION REVIEW – HAVE YOU UPDATED YOURS?**

Members will no doubt recall completing your Soil Protection Review as part of your Cross Compliance requirements during 2006. During 2007 you need to stick to the commitments made in that review AND review the review! Yes, you need to note down the soil problems that have occurred on your farm during 2007 and come up with actions that you believe will reduce the likelihood of repeated problems in 2008.

The review, to be found on pages 33 and 34 of your green soil protection review booklet, asks you to tick a yes or no box when answering the question.

**Have you had the following problems in 2007?:-**

- ◆ Low soil organic matter – as indicated by soils that cap and slump easily or are difficult to cultivate?
- ◆ Compaction due to cultivations?
- ◆ Damage due to other mechanical operations on wet ground?
- ◆ Runoff or water erosion from arable land?
- ◆ Runoff or water erosion from grassland?
- ◆ Wind erosion?
- ◆ Poaching of soil by livestock?
- ◆ Any other issues of note?

If your answer is yes to any of the above you are then asked to identify which blocks of land the problems occurred on and what you intend to do differently in 2008.

Pretty self explanatory but a cross compliance breach if not completed by 31<sup>st</sup> December 2007.

Your livestock partner



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Silage Master—NIAB mixture trials, Dartington 2006

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**GRAIN MAIZE HARVEST GUIDE**

The interest in grain maize continues to grow especially as the £10 – 25/tonne premium over wheat continues to exist, even with the current high prices. With this in mind it seems timely to review our guide to grain maize harvest notes.

**When to harvest?**

The leaves covering the cob, shortening days and cooling weather, mean that the moisture content of maize grain rarely drops below 30% in the field. With this fact in mind, most growers target this moisture level at harvest and either dry down the crop to a safe storage moisture level (14 – 16%) the same as for other grains, or crimp the wet crop. In the absence of grain meters capable of testing moisture contents of 30% or above, the best method of assessing grain dry matter is the oven/microwave test. Grain is dried down and the difference between the dry weight and wet weight is divided by wet weight and the result multiplied by 100.



$$\frac{\text{Wet Weight} - \text{Dry Weight}}{\text{Wet Weight}} \times 100 = \text{Grain moisture content (\%)}$$

A simpler, field assessment can be attempted, by gripping a peeled cob between two hands and twisting. If the grain ‘rattles’ then it is ready for harvest. In general, grain maize is usually ready for harvest between 3 and 6 weeks later than maize harvested for silage, so expect to be out in November this year as a result of the long growing season.

**Harvest**

Maize cobs are harvested using a conventional combine harvester. While some have tried to harvest with a standard header, the vast majority of grain maize is now cut with purpose build maize ‘stripper’ machines. Rollers within the header strip the cobs from the stalks. Cobs then enter and pass through the combine in a similar manner to other grains/pulses. Stalks are either left whole in the field or increasingly are cut and spread by blades fitted below the strippers on the maize headers. The ability to take grain to a headland based trailer, alongside the fact that the combine is travelling on a mat of chopped maize stalks, is claimed to reduce the risk of soil structure damage.

**Storage**

Maize grain with 30% moisture content will need treatment if it is to remain in top quality until feed out. Drying has proved difficult and expensive and has, along with the lack of suitable varieties, been the main limiting factor on grain maize growing in the UK for many years. While drying technology improves, following imports of suitable equipment from more experienced grain maize growing countries, the cost at approx £15/tonne, before the recent hikes in fuel prices, is likely to limit the amount of grain drying that goes on. The majority of grain maize is currently stored as a crimped product. Maize is crimped via a high output tractor mounted roller mill, through which a specialist additive, (most commonly a blend of organic acids) is added. The treated maize is clamped in a similar manner to silage and fed out as any other moist feed.

**For those keen to learn more about grain maize and hopefully see harvesting and crimping live! please come along to the fourth of the Demo site events at the MGA/Catchment Sensitive Farming meeting on 15th November. The meeting will start at 10.30 am at Clyst St. Mary Village Hall. After lunch we will go to the site next to the M5 at Junction 29 and see some practical demonstrations of harvesting and crimping. Drying options will also be discussed. Please phone the office for more details. 01363 775040**



**SILAGE ANALYSIS**

The MGA, in conjunction with NRM Laboratories, are offering a discounted silage analysis service again this year. The price includes sample kits and first class postage service, so results are received promptly. Please give Jean a ring on **01363 775040** and she will send on the sample pack right away.

**MGA MINERALS**

For those members who require a no non-sense mineral for feeding to Dairy or Growing cattle on maize based diets, then you need look no further than the MGA range of minerals, specifically formulated to balance these rations. The most popular product is the MGA SUPERSPEC 200, originally formulated by Gordon Newman and subsequently updated by Chris Savery and the team at Mole Valley Farmers. To complement this product, there are also Dry Cow, youngstock and grazing minerals available. For full product specification and prices, please contact the office on **01363 775040**, or order directly from Mole Valley on **01278 444829**. For those members already using these products, the prices have gone up by £15 - £20/tonne, but rest assured this is only due to an increase in ingredient prices and not on the margin of the MGA or MVF.

**WINTER RUNOFF – CUT IT OUT!**

**DEMO MEETING REPORT**

While the weather remains kind to most of us, this year’s late maize harvest inevitably means we run a greater risk of damaging soil structure when heavy harvest machines and trailers run over vulnerable soils. With this risk in mind, we feel it may be worth reminding you of the potential for post harvest cultivation of maize stubbles to reduce water runoff.

To best illustrate the point, we would refer you to a trial, funded by the Environment Agency and Environment Committee of the MGA, carried out at IGER North Wyke in Devon several years ago, which compared the amount of water lost from set plots of maize stubble subjected to four different replicated treatments.

As the photograph shows, run off from stubble was measured at 228 litres. Establishing a simple cover crop after maize harvest cut runoff to 179 litres. The quick “green up” achieved by the undersown cover crop proved even more effective by reducing runoff to only 53 litres, however by far the best, cutting run off to only 1 litre, was the chisel ploughing of stubbles immediately post harvest.

While individual field circumstances mean individual field decisions will have to be made, the trial clearly illustrates the potential for post harvest cultivation to increase the water infiltration potential of the soil and to reduce the short term water loss.

**Measuring run-off at IGER**

<b>Under sown</b> 53 Litres	<b>Chisel Plough</b> 1 Litre	<b>Stubble</b> 228 Litres	<b>Cover crop</b> 179 litres
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Creedy Associates

One of the only seriously wet days in October managed to fall directly on the demo site on the afternoon of the 16<sup>th</sup> – the day of our 3<sup>rd</sup> meeting. Around 40 or so members and non – members braved the elements to review the various plots and picked up some valuable pointers towards growing the right crop, whether it be for forage, grain (the main focus of the event) or for the emerging energy market.

Simon Draper highlighted several key points from the plots, to reiterate much of the MGA research and development work over the years, the more significant ones being: -

- ◆ Drilling date – The plots drilled in mid May, although looking well, were a month behind in maturity and a good three to four weeks away from harvest when compared to the April drillings. The earlier drilled plots were not far off grain harvest, the grain being around 32 –36% moisture.

- ◆ Nitrogen rate – Plots receiving more nitrogen than the MGA Nitrogen predictor recommended rate, had little if any grain dry matter yield benefit, with grains less mature giving higher moisture contents. The RB209 calculated N rates (40kgs N/ha less than N predictor) had significantly less grain DM yield.

- ◆ Seed Rate – Seed rates were demonstrated from 32,000 to 45,000 seeds/acre, with the lowest rates showing greater cob maturity and cob yield. However, this had to be balanced out with plant density, to predict actual yield of grain/acre. The final figures appeared to show little yield advantage with the higher seed rates and a delayed harvest the inevitable outcome.

- ◆ Variety – There were significant differences in grain yield from the vari-

ous varieties grown on the plots. Using specific Grain varieties showed better grain yield over forage or energy types. However, as these were not fully replicated trial plots, it would be wrong to draw conclusions from these observations, far better to use the Grain Maize trial figures from the variety booklet for variety decisions. Interestingly, the observations across the plots were as you would expect from the variety tables.

- ◆ Saved seed – One of the plots on the site was drilled with seed that had been left over from the previous year. This particular batch of seed spectacularly demonstrated the risks associated with doing this without germination testing, giving only a 25% plant establishment in this situation.

- ◆ Drilling under plastic – On this favourable site, the maize drilled under plastic showed a yield advantage and increase in Dry Matter over the conventionally drilled plots, but not justifiable considering the extra costs involved in this situation. Establishment and early growth was excellent and reports from members on less favourable sites have shown plastic to be the difference between achieving a mature crop of maize or not. Further evaluation work for the MGA in the future.

As always at these events, it was great to see first hand how maize can be manipulated to suit various situations and tap in to Simon’s valuable knowledge. The next event on the 15<sup>th</sup> Nov will focus more on the harvesting, processing and economics of the grain maize crop.

