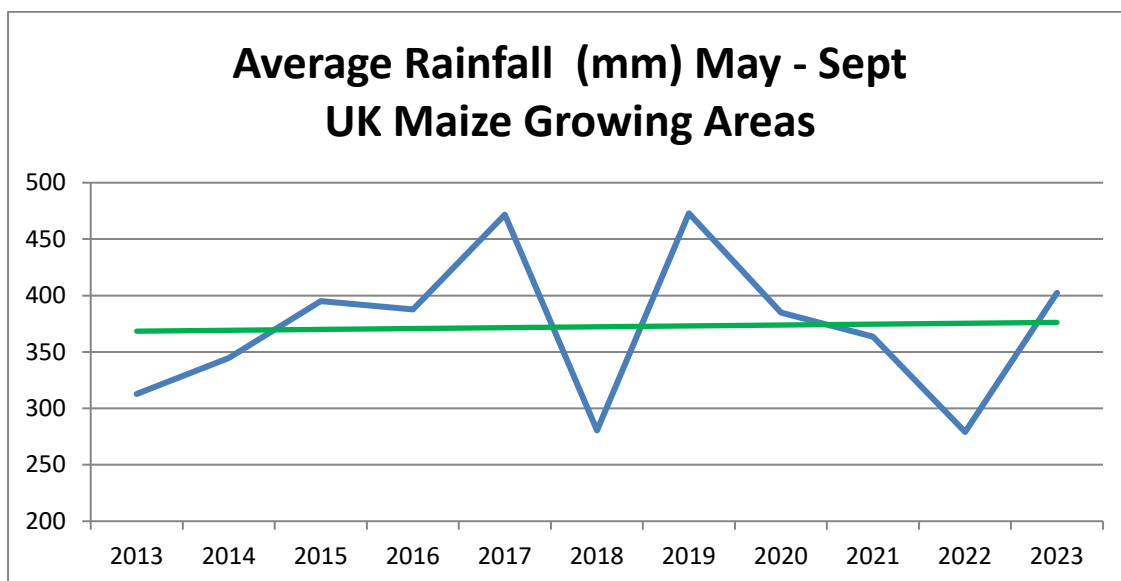
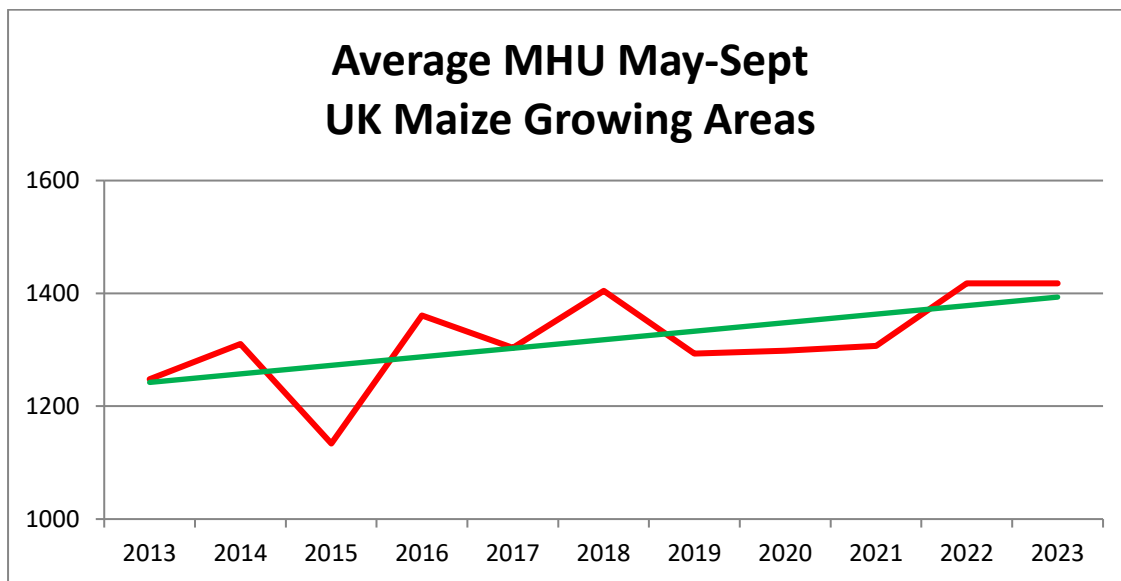


MAIZE CROP 2023

WEATHER ANALYSIS MAY – SEPTEMBER 2023

“More 20 tonne+ per acre crops than I’ve ever seen before ”

As the trend line shows below, we continue to accumulate more than satisfactory levels of maize heat units enhancing crop potential. 3 years in the last 11 the average in UK maize growing areas has exceeded 1400MHU, including twice in the last 2 years. Only once has it fallen below 1200MHU, a level required to mature the earliest of maize varieties in the stated period. With the increasing heat units, it would suggest we require more rainfall than previously to accommodate good maize growth and in my opinion if I had to suggest a figure, perhaps around 350mm spread over the growing period can unleash the true potential of this great crop.



Summary of Year

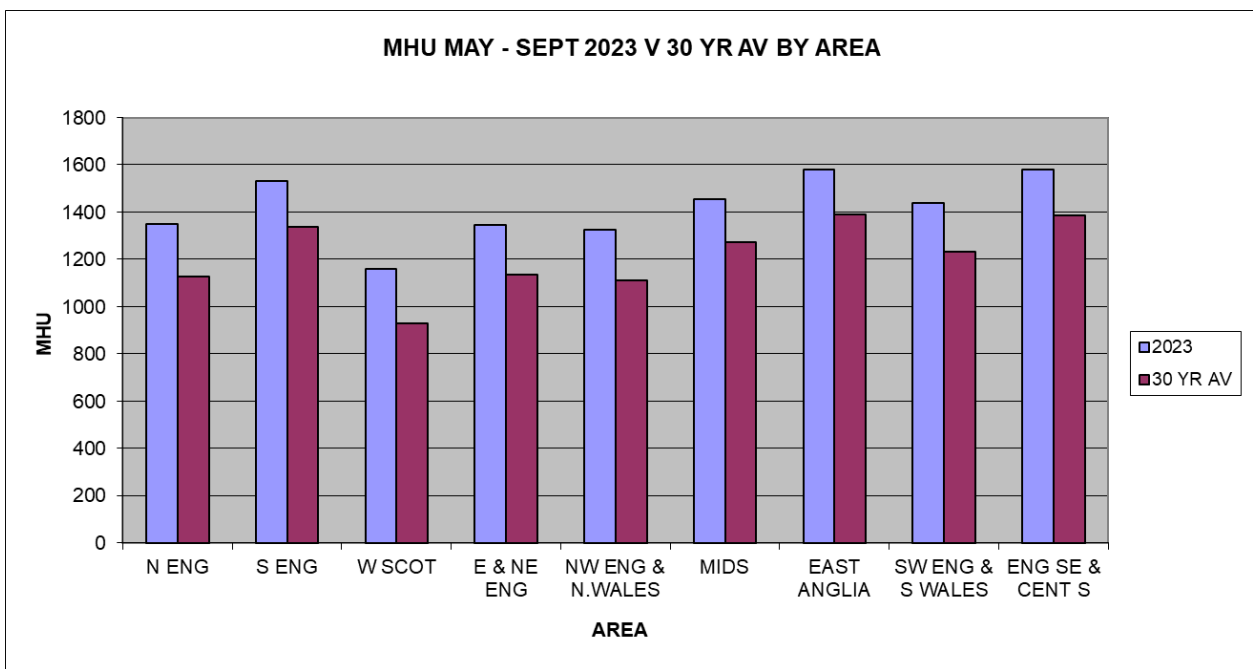
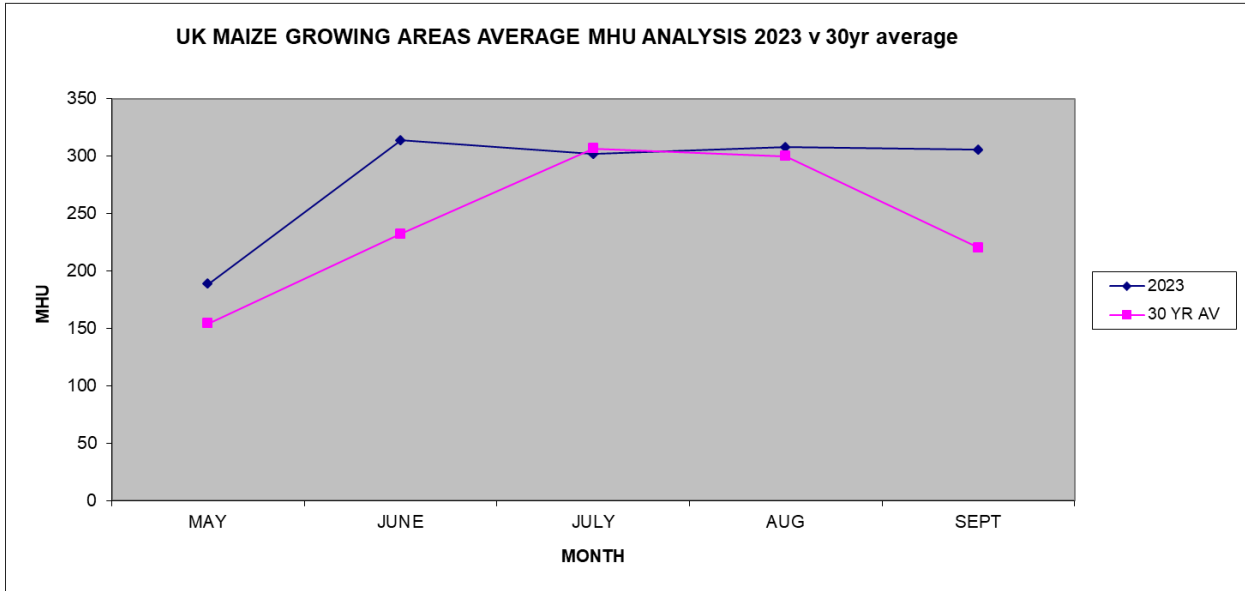
A very wet March with continued damp weather in April led to a difficult and later drilling window in many areas of the UK. In many cases only the real light land could be drilled towards the end of April, but the majority were drilled throughout May and indeed some well into June. When the warm sun came out in May and the rain virtually stopped, some of the more bodied land produced poorer seed beds and difficult seed placement conditions.... so far from an easy start!

However post drilling, the warm and sunny weather generally gave maize crops a very good start, allowing plants to access that all important phosphate and set them on their way. In the past, “knee high by 4th July” was often a good barometer of crop progress, but many crops were shoulder high by this date, so perhaps we should aim for at least waist high by 4th July going forward!! By this time the main concern was the lack of rainfall following a very dry May and June. Many crops were just beginning to show signs of drought stress, and indeed some had already been irrigated when the crucial rain arrived in July. This enabled plants to access more nutrient and generally they were in very good condition pre tasselling, resulting in a successful pollination period giving us high grain potential. The excessive rainfall in July didn’t seem to hamper the maize crop as we continued to accumulate decent heat units in this month and August, and maize crops progressed well. It is always a good sign when crops exhibit a cob which shows the same stage of maturity as the plant itself, a situation where plants have matured in a natural manner.



Harvest began in earnest in early September but many of the later drilled crops were not ready until October and the spells of wet weather has made harvest very much a stop start operation, and a difficult time for contractors. But these crops have been worth the wait, some of the yields have been phenomenal to say the least and on many farms maize will be the crop producing the best margin again this year. The actual maize plants have been of great stature this year and this along with large cobs and excellent grain set have produced yields exceeding 20 tonnes per acre in many areas. Early signs are that those growing maize for grain production will also have excellent yields. I have already heard of a crimped crop producing over 5 tonnes per acre. Early maize silage analyses also show excellent levels of starch but with variable levels of ME.

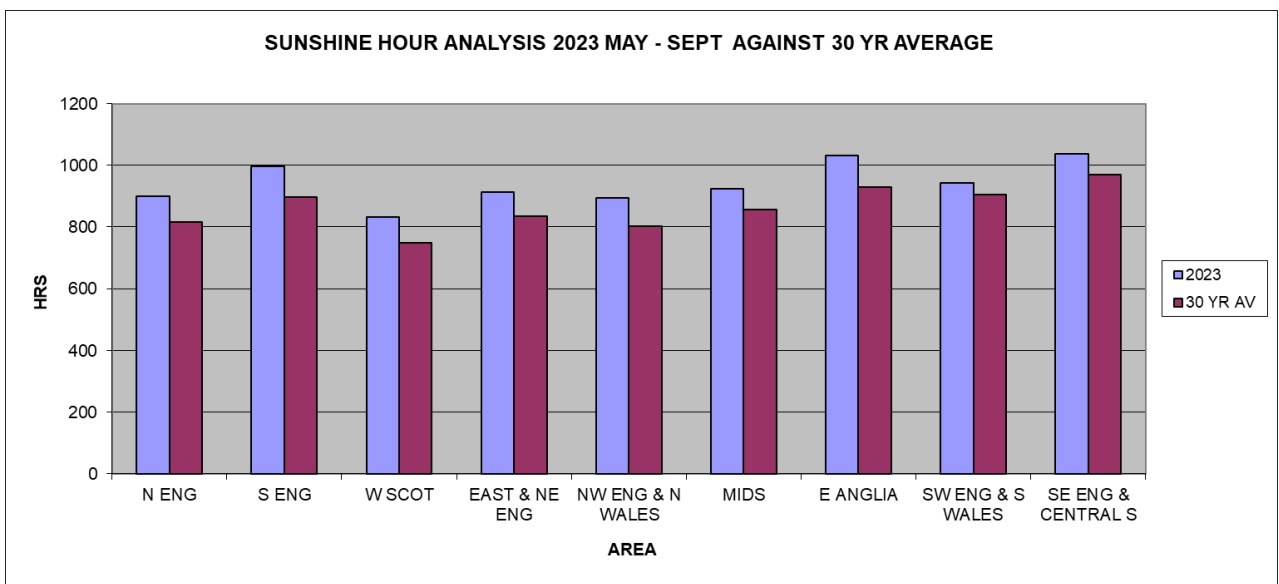
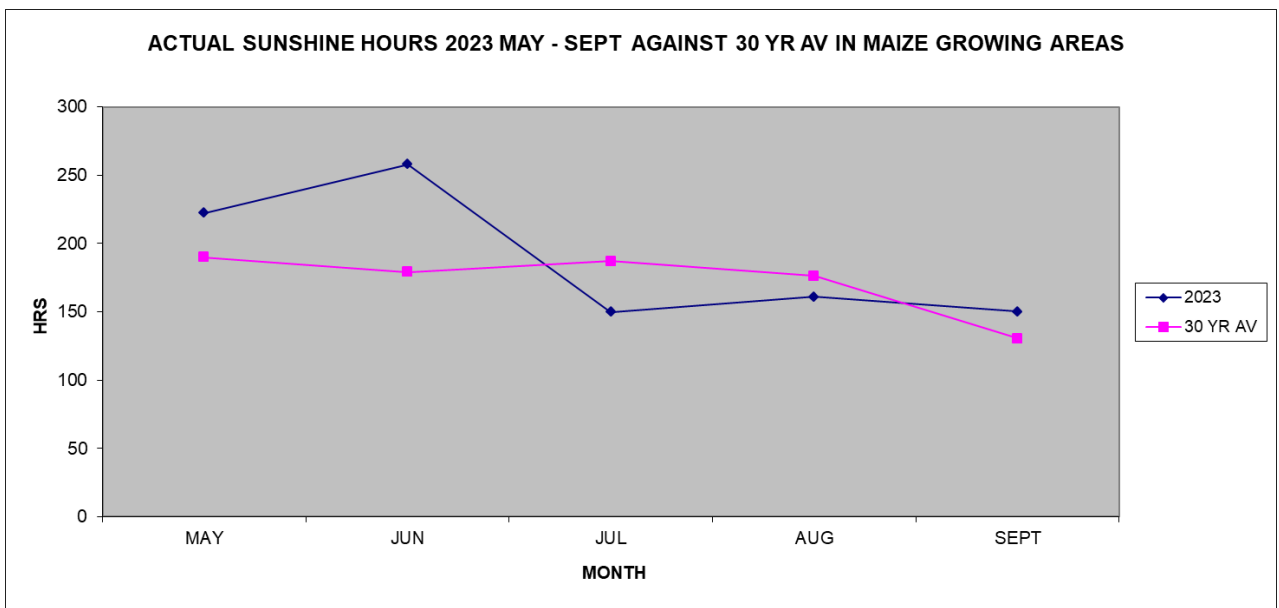
Maize Heat Units/Distribution May-Sept 2023



In 2023, overall maize heat units (MHU) exceeded the 30 year average in UK maize growing areas by 16.8%, with exactly the same overall level as in 2022, but with the distribution very different. June and September were exceptional months, both exceeding the 30 year average by 35% and 38.7%

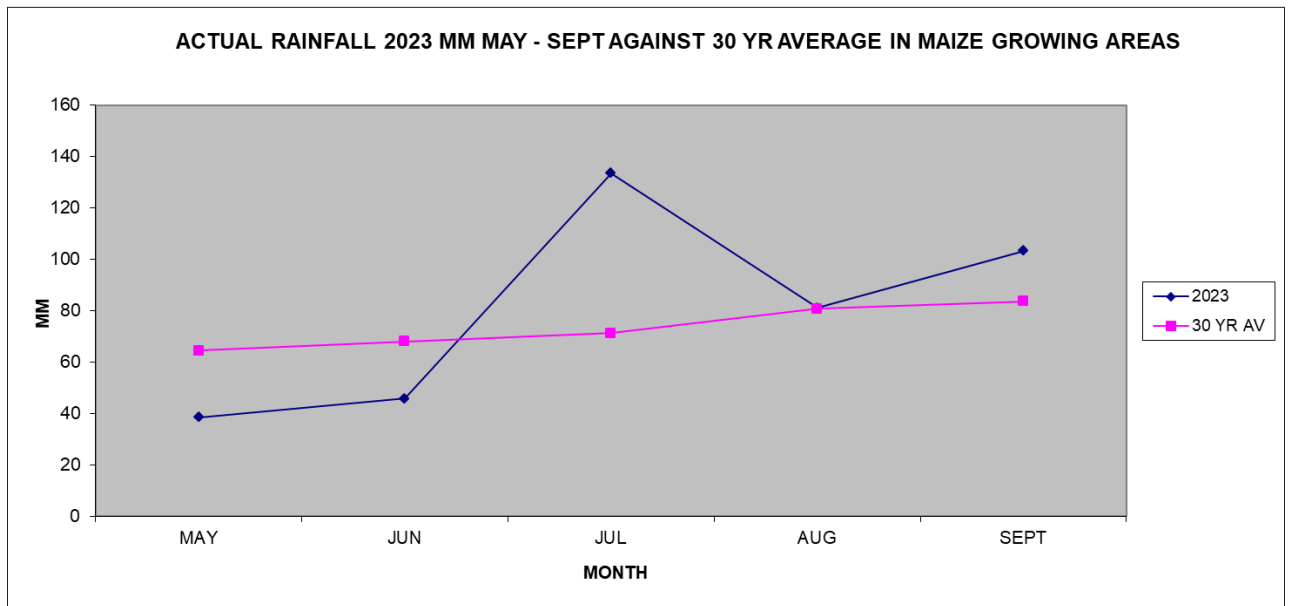
respectively, and very unusually September actually delivered more heat units than July! It is also interesting to see that in June, July, August and September, these months all delivered very similar levels of heat units. Every region except the West Of Scotland comfortably exceeded the magical 1200MHU mark, but even here this region produced 1158MHU, a level 24.8% above it's 30 year average, enabling the production of massive crops grown under plastic. Again East Anglia topped the table with 1580MHU accumulated over the stated period. Other regions producing over 1400MHU included South England, Midlands, SW England & South Wales and SE England & England Central South.

Sunshine Hours/Distribution May-Sept 2023

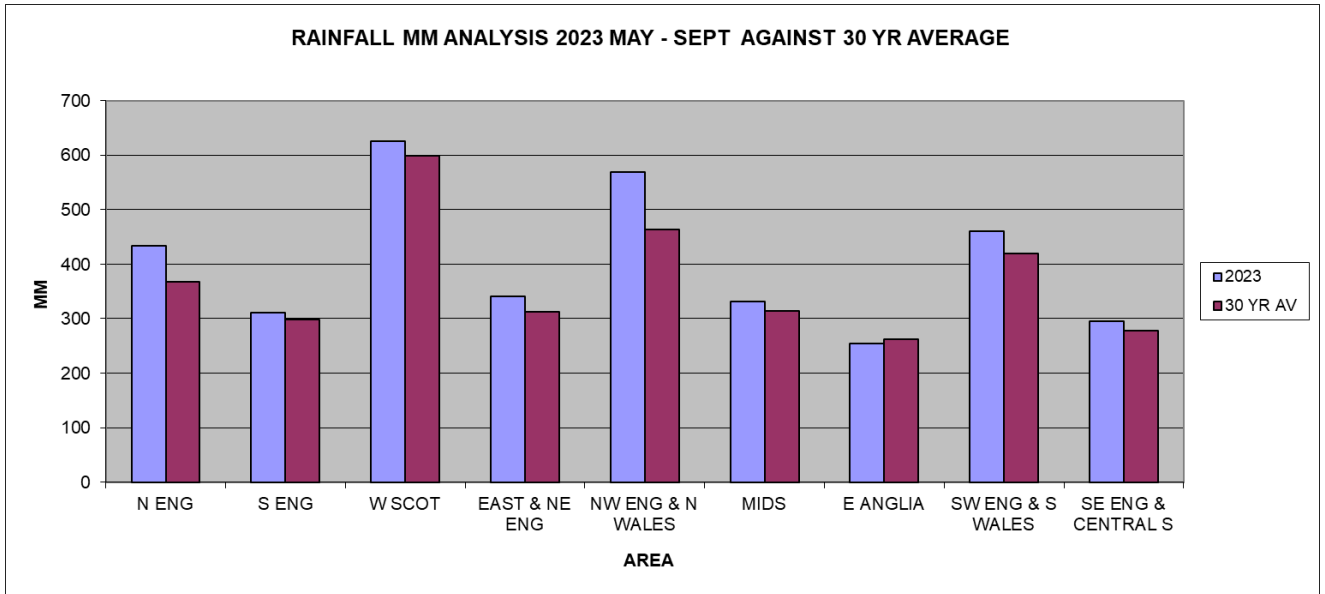


In the stated period, overall sunshine hours were 9.2% above the 30 year average. It is no surprise that with record average high temperatures in June, this month delivered a staggering 44.2% more sunshine hours than the average. Throughout the maize growing areas of the UK, all regions produced well above 800 hours of sunshine for the stated period. From May to September, East Anglia and SE England & Central South England actually received more than 1000 hours of sunshine.

Rainfall / Distribution May-Sept 2023



The peaks & troughs of rainfall distribution is clear to see. Overall from May to September we received 9.2% more rainfall when compared with the 30 year average. The average of all the maize growing regions was 402.34mm in 2023 compared with 279.1mm in 2022, but this didn't tell the full story! The dry May and June combined only produced an average of 84.4mm rainfall with July alone giving us 133.5mm (87.2% above the 30 year average). As mentioned previously these rains in July were critical for moving crops on and producing a healthy plant with good cob formation and subsequent high yields. Following this rainfall levels were average for August and 23.4% above the 30 year average for September.



Looking at the UK maize growing areas all received rainfall levels above the 30 year average except East Anglia which received 3.1% less. Geographically, and broadly speaking there again has been an East/West and North/South divide with regards to rainfall distribution. The West Of Scotland again topped the table with 625.4mm of rainfall in the stated period but North England experienced 17.8% more rainfall above the 30 year average, NW England & North Wales region 22.7% more and the South West England & South Wales region 9.8% more.

Conclusions



Again maize has more than significantly contributed to overall feedstock security for many. Due to wide weather variations there have been large regional/localised differences in feedstock production, with some Western areas unable to forage summer grass due to continued wet weather, but generally wherever I have been, maize crops have delivered and will provide quality feed for the months ahead. Although quite a drought tolerant crop, it is clear with our increasing heat units and subsequent increasing surface water evaporation we do require decent levels of soil moisture to maintain the larger maize crops that we can now grow. Eastern regions especially are prone to droughts that can hamper maize crops at various times of the season. In my opinion, as well as maximising moisture preservation at drilling time, especially on lighter land in these regions we must lower seed rates to reduce moisture competition between plants to get the best out of the conditions here. For example, in sandy fields in Eastern regions, reducing seed rates to say 36,000 seeds per acre may give more consistent favourable results. Variety selection in these situations is also very important, some varieties are clearly more drought tolerant than others and knowledge of this is becoming increasingly important.

Maize breeders are obviously facing similar if not more difficult challenges regarding moisture, and some are already increasing varieties' drought tolerance purely by selection or indeed trying to change root structure to intercept more surface moisture from between the rows. There is an argument that drilling in 50cm rows will utilise moisture more efficiently than drilling at 75cm rows, but there are other factors involved and perhaps more work needs to be done regarding drilling methods and moisture utilisation/preservation. In my opinion access to irrigation in some regions will be essential to continue to produce good consistent crops of maize in the future. And don't forget those fields with higher organic matter levels definitely cope with longer periods of dry and longer periods of wet more efficiently and we must all strive to increase organic matter in our soils. I feel this should be top of every farmer's list !!