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Clever Cover Crops Lead to Success

A well attended workshop was held in early June to look at the results of the cover crop trial at Parklands Farm, Galleywood, following the establishment of 12 different plots after the combine last year. The cover crops had been sprayed off with glyphosate in mid February, with a follow up one week prior to sowing, and spring barley drilled in mid April. The results following the cover crop and the differences between them were clear to see, along with further effects noticeable due to a trial using alternative drills – Vaderstad Seed Hawk, Vaderstad Rapid, Mzuri Pro-Till, Claydon Direct Drill and Horsch Sprinter ST.



There was a noticeably significant difference in canopy height and colour between the control stubble plot and the adjacent oil radish plot.

The cover crops had enhanced the organic matter levels and soil structure in the field, captured N and reduced leaching, there were more worms visible with more root fibres at depth and alleviation of compaction in some plots (see picture). The cover crops had also helped to manage and control moisture levels, which had made drilling slightly, or more significantly better, depending on drill type and cover crop. Christy Willett’s comments following the trial, were that a combination of cover crops would be the best way forward on the farm with a possible mixture of oil radish and vetch being used in the future.



Mzuri drill in the oil radish plot – note the good root fibres present at depth

Philip Wright, soil and machinery specialist, was interested in the differences between the drills and said, the “drill principle of having a straight cutting disc and options for low surface disturbance loosening, plus good consolidation aligned to the drilled zones is key here”. However, it is important to note that cover crops, the varieties and combinations that are used on-farm will vary along with their management - Philip added “flexibility to vary or adjust the elements according to conditions is also needed”. For more information about cover crops, the trial or soil husbandry, please contact Teresa on 07792 169545.

Catchment Challenge for Water Quality



As we move towards the end of the year and the start of harvest, we begin to review the year – the successes, lessons to be learnt for next year and what we might do differently in the year to come.

We have carried out a similar process for water quality in the Chelmer and Blackwater catchment and wanted to share with you the results, focussing on two of the main active ingredients found in watercourses: metaldehyde and propyzamide (eg. Kerb). The results below, from the Essex & Suffolk Water abstraction at Langford, show how the last few years compare, based on the percentage of the number of times the water quality sample exceeded the EU Drinking Water Directive of 0.1µg/l and the maximum concentration annually between 1st September and 31st August in the Rivers Chelmer and Blackwater.

Metaldehyde

Metaldehyde Concentration Results from Langford Water Treatment Works

		2009/10	2010/11	2011/12	2012/13	2013/14	2014/15
% Number of Samples >0.1µg/l	River Chelmer	12%	8%	6%	58%	27%	20%
	River Blackwater	2%	6%	6%	36%	12%	18%
Maximum Concentration	River Chelmer	0.16	0.51	0.48	4.9	0.42	1.4
	River Blackwater	0.14	0.13	0.77	3.4	0.43	0.69

The table above, clearly shows that the 2012 wet summer and autumn had a big impact on metaldehyde results, as is well known and has been previously discussed. Last year, high levels of metaldehyde were found in the rivers from the end of

August through to October, due to the heavy rain storms and subsequent surface run-off. However, these peaks receded, with little metaldehyde seen in the rivers from the end of November.

This, combined with Essex & Suffolk Water's abstraction management programme, taking water to fill Hanningfield Reservoir when the metaldehyde level in the Chelmer or Blackwater is as low as possible, also enabled the concentrations in the reservoirs to remain low and as a result there were only 2 drinking water compliance failures last autumn compared to 30+ in 2012.

Propyzamide

Propyzamide Concentration Results from Langford Water Treatment Works							
		2009/10	2010/11	2011/12	2012/13	2013/14	2014/15
% Number of Samples >0.1µg/l	River Chelmer	29%	23%	11%	40%	27%	50%
	River Blackwater	18%	15%	4%	31%	17%	38%
Maximum Concentration	River Chelmer	0.84	0.6	0.26	1.4	0.81	3.5
	River Blackwater	0.22	0.46	0.16	1.3	0.58	1.6

In contrast, propyzamide concentrations in both the Rivers Chelmer and Blackwater and their tributaries this year, were the highest results on record, due to the length of time that concentrations exceeded the 0.1µg/l standard and the maximum concentrations recorded. Drinking water treatment methods, designed to remove a range of pesticides, are challenged by very high peaks of propyzamide. This was evidenced by a drinking water compliance failure in the network for propyzamide in January 2015. The levels seen in the rivers could well be linked to the differing rainfall pattern over this autumn / winter or a number of other factors.

However, can we challenge ourselves? Can we aim for the water quality results at this time next year to be the best yet for metaldehyde and propyzamide concentrations? Working together with precision application and adhering to best practice, this can be achieved, safeguarding drinking water and important pesticide products for the future.

Remember to pay close attention to:

- ✓ Look at weather forecasts and avoid pelleting where rainfall is predicted in the next 48 hours,
- ✓ Buffer strips next to watercourses and leaving an appropriate width when using pesticides,
- ✓ Filling and cleaning of equipment away from drains and watercourses
- ✓ Keeping machines calibrated, especially when changing between pellets or products.



Dates For Your Diary

Ongar Ploughing Match

Saturday 19th
September

New House Farm, Leaden
Roding, Ongar CM6 1RE

Ongar E-mail:
opmsecretary@tiscali.co.uk
Secretary: Miss Helen McTurk
01277-372252 or 07831-138403

Rochford Ploughing Match

Saturday 26th
September 2015

Rochford Hall Farm, Rochford,
SS4 1PD

Rochford E-mail:
d.milbourn@whirledgeandnott.co.uk
Secretary: David Milbourn
01702-783377

Greenstead Green and County Ploughing Match

Sunday 4th October
2015

Greenstead Farm, Greenstead
Green, Halstead CO9 1QY

Greenstead Green E-mail:
paulgoodchild@hotmail.co.uk
Secretary: Ken Vince 01376-325363

Look out for the next catchment newsletter: Autumn 2015