

CloverCheck 2010 - Monitoring white clover performance

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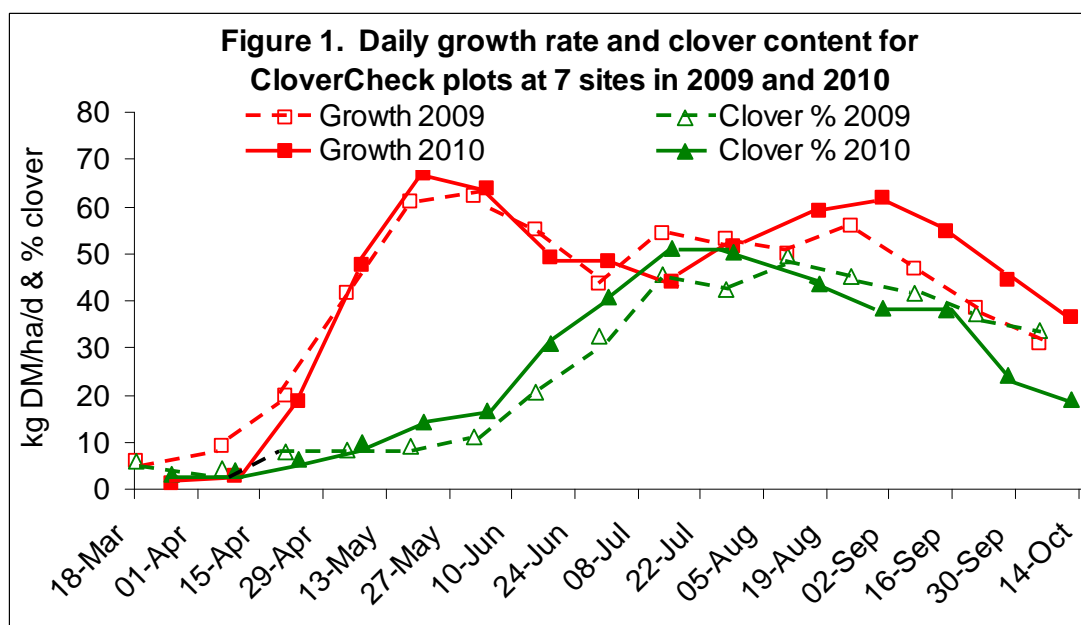
Despite a late start to the growing season, 2010 was still a good year for grass/white clover swards

Production from grass/white clover swards is perceived to be too variable for clover swards to be relied on. To overcome this perception and as a management aid to farmers keen to maximise benefits from grass/clover swards AFBI and CAFRE have been publishing results from monitor plots on farms throughout the Province in fortnightly bulletins during the past three growing seasons. In 2010 herbage growth and clover content were monitored fortnightly on grass/clover plots on 7 farms throughout the Province. Four of the farms were organic dairy and three were beef and sheep, one of which was organic. In addition in 2010, reports on grass and clover management from one of four beef/sheep farms in turn were included in the Farm Focus section of the bulletins each fortnight.

The CloverCheck plots received slurry, along with the rest of the field either in the autumn of 2009 or February /March 2010. Plots on the two conventional beef/sheep farms also received urea at 30 kg N/ha in early April.

Grass-clover growth and clover content 2010

The average growth and clover content from plots at the seven CloverCheck sites are presented in Figure 1. Corresponding data from the seven CloverCheck plots in 2009 are presented for comparison.



In 2010, air and soil temperatures were well below average until early April at all sites and this was reflected in negligible average herbage growth in the plots until mid April. However, clover growth is usually slow until late April/early May anyway so it

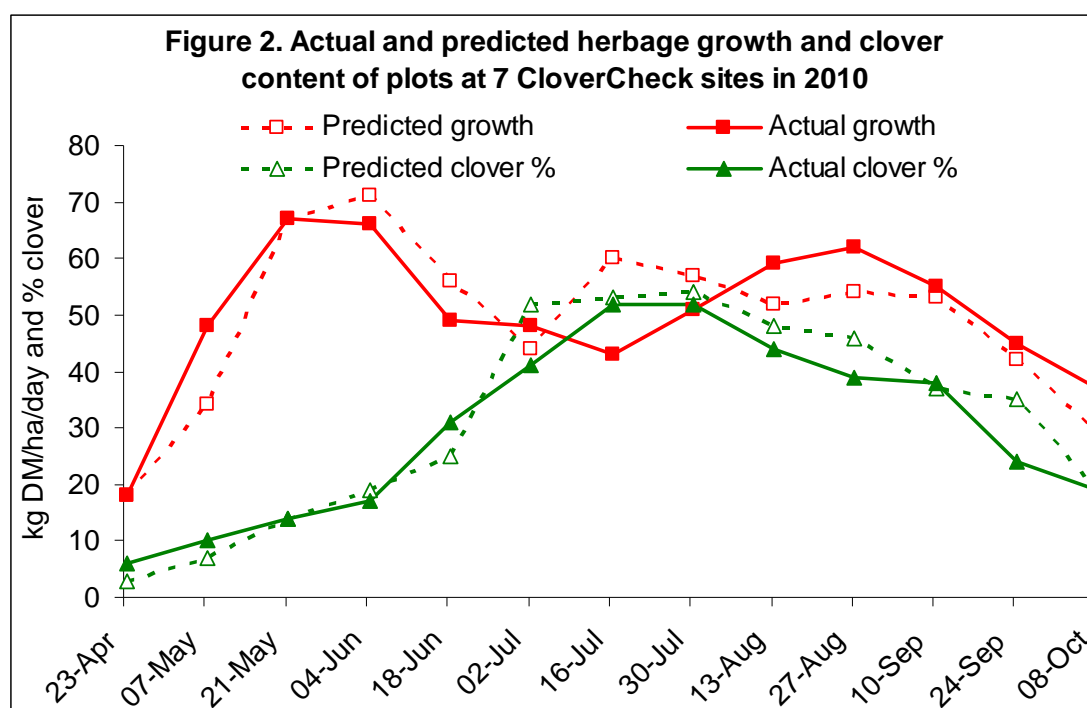
was not markedly affected by the late spring. Indeed, clover content was marginally higher this year than in the CloverCheck plots in 2009 and reached a maximum in late July-early August at over 50% of the total sward production. Total herbage production in late spring was similar to 2009 with maximum rate of production of 65-70 kg DM/ha/day in late May.

Clover content was particularly low by late September, possibly due to persistently heavy rain. Consistently wet soils can have a detrimental effect on clover – more so than on perennial ryegrass.

Compared to plots on organic dairy farms the two conventional beef/sheep farms had a faster growth rate in spring (due to the application of urea in early April) but a lower growth rate, by about 15 kg DM/ha/day in summer. Clover content was consistently lower in the plots on beef/sheep farms than on the organic dairy farms.

Testing the model's predictions

As part of CloverCheck, growth and clover content on the monitor plots were predicted for the following two weeks applying information from weather forecasts to a growth model for grass/clover swards. To test the reliability of the predictions they have been checked against the growth rates and clover contents which were measured at the end of the two weeks. The comparisons at each date are presented in Figure 2.



Overall the model predicted herbage growth and clover content in the plots reasonably well. However, compared to actual growth rates, the model predicted a slower increase in spring and a faster recovery from the dry period which ended in early July. Other than on these two occasions, the difference between actual and predicted growth rates was less than 10 kg DM/ha/day. The predicted clover content followed

the measured seasonal pattern closely. The main divergence of forecasted from actual content was due to predicted content increasing at a faster rate in late June than actually happened. There was also an over-prediction in content in late September, when clover content was following its usual pattern of decline at that time of year.

Conclusions

- Averaged over the whole growing season, growth and clover content for grass/white clover swards were as high in 2010 than 2009, despite exceptionally low growth rates until mid-April in 2010.
- Average growth rate in spring on plots on the beef/sheep farms was higher than on organic dairy farm plots, especially those on the two conventional beef/sheep farms presumably due to nitrogen fertiliser applied in spring.
- Clover content was consistently lower on the beef/sheep than organic dairy farms especially until late summer.
- Growth and clover content of grass-clover swards in plots can be forecast with a reasonable degree of confidence.