



DAIRY SCIENCE 2007

Meeting the challenges for pasture-based dairying

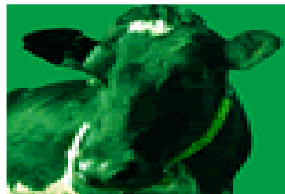
Managing maize precisely: Testing a decision support tool for managing crops for silage production

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The AmaizeN Calculator

- A simulation model-driven DSS
- For optimising N fertiliser and irrigation management of maize crops
- To achieve:
 - Overall profitability
 - Environmental sustainability

Functionalities:

- Selecting hybrid and sowing date;
- Recommending N fertiliser and irrigation schedules;
- Predicting silage (or grain)
 - yield
 - quality (crude protein%)
 - harvest dates
- Financial analysis
- N-leaching risk



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Experimental crops:

- 15 maize crops on farmer's properties or experimental farms during 2005-06 & 2006-07 seasons
- Four N fertiliser treatments:
 - Farmers N application *versus* AmaizeN recommendation (on all crops);
 - Low N and High N

Validity & effectiveness

- Good silage yield prediction (→)
- Cost-effective N management:
82 kg N/ha less N applied as per AmaizeN. No yield reduction.
- Silage crude protein % prediction
- Prediction of the 1/3 ML date as an indication for silage harvest

