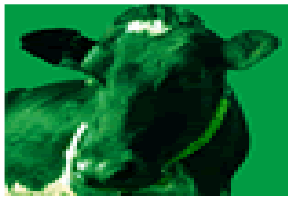

DAIRY SCIENCE 2007

Meeting the challenges for pasture-based dairying

Nitrogen efficiency of annual pastures in Western Australia: Preliminary results from the Greener Pastures project

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Dairy InSight

DAIRYAUSTRALIA

Delivering for the dairy industry

More Nitrogen = more pasture = more milk = more profit?

Greener Pastures is investigating this relationship using a dairy system approach with 5 separate herds to accurately quantify pasture, milk and profit responses

Previous trials grazed by common herd / at common biomass do not account for

- N transfer/recycled through cows from H ⟷ L treatments
- interdependence between N rate and grazing management (defoliation stage)

Results

- Nitrogen efficiency reduced above 1 kg N/ha/day
- High rates of N can cause “canopy closure”
- Managing canopy closure by grazing earlier creates nutritionally imbalanced pasture

Industry needs to reduce environmental impact without reducing production

Greener Pastures is quantifying the potential nutrient losses as dairy intensifies from deep leaching, shallow leaching, surface runoff and gaseous losses

Results

- N & P leaching into deep (drinking water) aquifers is not a problem under our duplex soil type
- Significant N leaching into shallow groundwater
- N runoff economically insignificant but environmentally significant (no relation between N inputs and N runoff)

Greener Pastures publications at www.agric.wa.gov.au