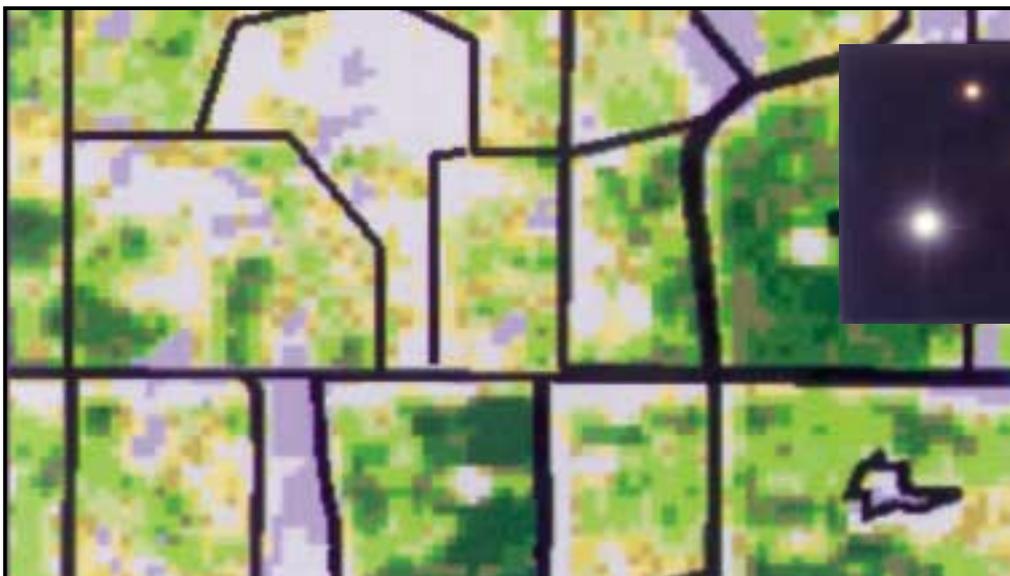


# Farming by Satellite

Satellite imaging can now provide farmers with information about the condition of their pastures over the Internet.

CSIRO Livestock Industries has developed technology that uses satellite images to measure the amount of feed on offer in pastures and how fast it grows.



Caption?



“When I saw the satellite images, I thought that for grazing management strategies, it was the most exciting bit of technology I’d seen.”

Roger Bilney, Kojonup

“Regional shires, government, agribusiness, banking and finance will also benefit from the technology, as it can assist them in rural strategic planning, land valuation and assessment, and insurance.”

Dr David Henry, CSIRO.

<http://spatial.agric.wa.gov.au>  
<http://www.foo.csiro.au>

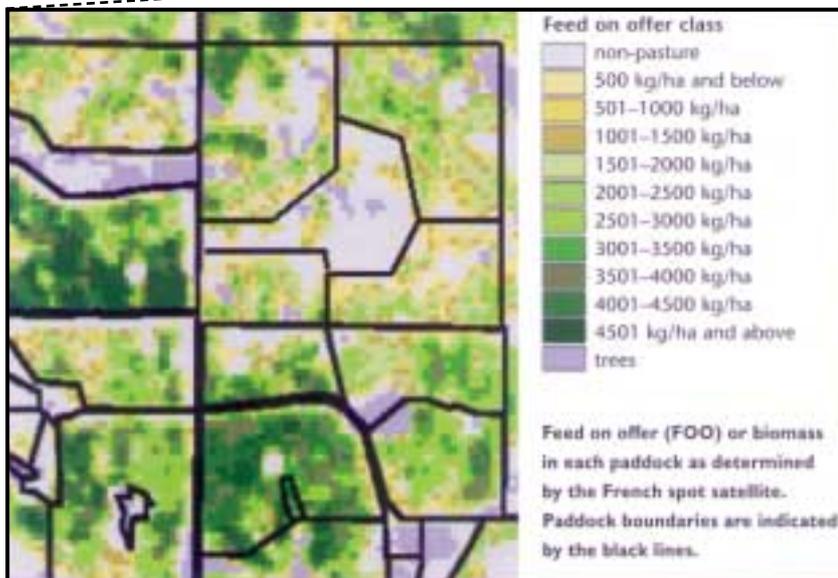


# Measuring Feed on Offer using satellite images

CSIRO Livestock Industries has developed technology to measure the growth rate and biomass of pastures using satellite images.

Two satellites are used to measure biomass or 'feed on offer' each fortnight, while a third satellite measures pasture growth rate on a daily basis. The satellite images are capable of measuring feed on offer (FOO) in paddocks in areas as small as 20 x 20 metres.

Instruments on board the satellites measure the reflectance of visible and invisible light from the Earth's surface. This produces images which can be converted to a 'normalised difference vegetation index'. An algorithm is used to turn the green index into a figure – for biomass (FOO), greenness is converted into kilograms per hectare. The more intense the green colour, the more grass there is. For pasture growth rates (PGR), the green index is combined with climate information to provide an estimate in kilograms per hectare per day.



This information is now being delivered via the Internet to selected farms across Australia and CSIRO is seeking partners to make the information available throughout the southern States.

Farmers can now download maps from the Internet showing FOO and PGR in their own paddocks.

*"My visual assessment of the FOO on my property indicated there was a tonne of feed on offer per hectare but the satellite imagery showed there was less than 500 kg. Working out how much food is in each paddock is the most difficult and important part of precision wool production."* Roger Bilney

This information is now available by regions and selected farms on the Internet:

<http://spatial.agric.wa.gov.au>

<http://www.foo.csiro.au>



Department names??



David Henry and Marion Barnes from CSIRO Livestock industries examine pasture growth rates across the south-west region of Western Australia.

[www.foo.csiro.au](http://www.foo.csiro.au)

Descriptive caption for the web site image.



"The satellite information will assist management decisions such as grazing rotations, feed budgeting, fertiliser application and other precision agriculture techniques."

Dr David Henry,  
CSIRO Livestock Industries

**For more information contact:**

Dr David Henry,  
CSIRO Livestock Industries  
Tel: (08) 9333 6000  
Fax: (08) 9387 8991  
Email: david.henry@li.csiro.au

Dr Stephen Gherardi,  
Department of Agriculture  
Western Australia  
Tel: (08) 9368 3572  
Fax: (08) 9367 8078  
Email: sgherardi@agric.wa.gov.au