Ultrasound Scanning Beef Cattle

What is ultrasound scanning? Ultrasound scanning is non-invasive technology that uses high frequency sound waves to "see inside" a living animal. The use of ultrasound scanning to measure carcase traits of economic importance in live beef cattle has become widely accepted. Carcase traits most commonly measured by ultrasound scanning are:

**Rump Fat (P8):** The P8 site is located at the intersection of the line from the high bone (third sacral vertebrae) with a line from the inside of the pin bone (Fig 1). P8 Fat will be reported to the nearest mm (eg 10 mm).

**Fat Depth 12/13th rib:** The site to be assessed is located on the longissimus dorsi muscle (eye muscle) between the 12 and 13th rib. Rib fat thickness will also be reported to the nearest mm (eg 7 mm).

**Eye Muscle Area:** Eye Muscle Area is measured as the cross sectional area of the longissimus dorsi muscle between the 12 and 13th rib (Fig 2). EMA is reported to the nearest cm² (eg.110 cm²)

Who do I get to scan my animals? It is recommended to use a BREEDPLAN accredited scanner as they are regularly and independently tested for their measuring proficiency. A list of accredited scanners can be found on The BREEDPLAN website (http://breeplan.une.edu.au) in the Technical section.

The value of “raw” scan measurements: Carcase traits measured by ultrasound are moderately to highly heritable, suggesting that a proportion of the differences found between animals will be passed on to their offspring. Ultrasound data is therefore useful in identifying animals that are superior or inferior for carcase traits of economic importance.

However, be aware that while any information can be useful “raw” measurements, be it scans or weights, take no account for environmental differences such as age or nutrition and therefore may be quite misleading in the selection of breeding animals.
For more beneficial selection information on carcase traits SBTS recommends using carcase estimated breeding values (EBV) which are generated by Red Poll BREEDPLAN. EBVs are more useful in the selection of breeding animals as they focus on the genetic component (i.e remove the environmental factors). BREEDPLAN uses ultrasound scan measurements to calculate carcase EBVs.

For further information on recording ultrasound scan data for genetic evaluation through BREEDPLAN please refer the “Tip Sheet” section on the BREEDPLAN website (http://breedplan.une.edu.au).

**The cost of scanning and data submission to BREEDPLAN:** Scanning technicians generally charge a call out fee and a scanning fee per animal. The scanning fee per animal generally ranges from $10 to $15, depending on the number of animals to scan and the traits to be measured. Contact an accredited scanner for more detailed information on scanning costs.

For details on BREEDPLAN processing fees for ultrasound scan data please contact the Red Poll BREEDPLAN staff.

For further information on ultrasound scanning beef cattle in general contact Christian Duff - Technical Officer, SBTS (02 6773 2472).

*Article compiled by Christian Duff for the Australian Red Poll Cattle Breeders Inc, July 2009.*