



### **What is Computed Tomography (CT)?**

Computed Tomography (CT) provides a welfare friendly way of assessing the total muscle, fat and bone yield in a live sheep using whole body X-ray image analysis. This near perfect predictor of carcase composition can also be used to measure the muscling in different parts of the carcase, such as the gigot. Texel flocks can make 20% faster genetic progress in improving gigot shape using CT and 6% faster progress in increasing lean meat yield compared to the use of weight recording and ultrasound scanning alone.

CT is a successful tool for identifying outstanding animals within the breed, but it has also had an equally important wider impact on breeding improvement. The use of CT has enhanced our understanding of the relationship between on-farm ultrasonic measurements and lean and fat in the carcase. This has improved the efficiency with which superior animals can be identified using on-farm ultrasound and strengthens the breeding evaluations produced across the breed. CT scanning is a great tool to identify superior genetics within terminal sire flocks and can assist the marketing of recorded rams.

### **The economics of using CT**

It will never be economically or logistically possible to scan all potential breeding animals. In the UK a two-tier approach is used to identify candidates for CT scanning. All lambs scanned using ultrasound and the best are then sent to the CT scanner. If the right Texel rams are selected for measurement the impact on the breed of measuring this subset of animals can be massive.

### **What will CT scanning tell you?**

Raw CT measurements will show the:-

- Weight for fat, muscle and bone in the carcase
- Percentage of fat, muscle and bone in the carcass
- Killing out percentage (total tissue weight / liveweight)
- Ratio of muscle to bone and muscle to fat in the carcass
- Distribution of muscle in the carcase - including the percentage of muscle in the leg, loin or chest
- Gigot shape

The accuracy of Estimated Breeding Values for growth and carcase traits will be greatly enhanced through the incorporation of CT data into the evaluation of your flock. Indexes and EBVs will be increased if CT measures prove an individual or family to be genetically superior.

### **What does CT scanning cost?**

In 2010 SAC charged £55/lamb for lambs scanned at Edinburgh and £85/lamb for lambs scanned by the mobile scanner (subject to numbers). Levy body subsidy was available worth £55/lamb (EBLEX & HCC) and £50 / lamb (QMS).

Current Levy Subsidy is subject the following conditions:

- Lambs are male and scanned using ultrasound at an acceptable age.
- At least five ram lambs must be sent per participating farm.
- Lambs must have been reared under similar conditions.
- Lambs must have an individual identification that can be readily linked to information on the Signet database.