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Summary only

**BREED DIFFERENCES IN THE TISSUE PROPORTIONS
AND MUSCLE DISTRIBUTION OF MEAT ANIMALS**

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The proportion of fat, muscle and bone can be compared between breeds with sufficient accuracy only by a total dissection technique. By allometric analysis of the data drawn from such studies, the growth of these tissues and their component units can be compared, but, more importantly, since allometry accounts for the variation due to body size, the carcass components of breeds can be compared at the same body, carcass or tissue weight.

When breeding and management have produced a desirable level of fat in a carcass, the muscle:bone ratio becomes the trait of particular interest. Results demonstrated the difference in the muscle:bone ratio between the Belgian Pietrain and the British Large White pig, and the failure of modern pig selection to alter this ratio. Information available for cattle and sheep was also used for comparison.

The distribution of muscle between breeds was also compared by allometric analysis. The results of a study comparing the Pietrain with the Large White pig were presented, and indicated that there was a difference in the development of muscle groups relative to total muscle between the breeds, and that the greater proportion of muscle at the same body weight in the Pietrain was explained by preferential development of muscle groups in the hip region.

It was suggested that there is a need for adequate quantitative anatomical description of meat animals. In particular, the study of the genetic extremes available today will show how breed differences develop, and how to use these differences for the betterment of meat production.