The Blood of Sheep. Composition and Function

Edited by M. H. Blunt
Springer-Verlag; Berlin, Heidelberg, New York, 1975
xiii + 244 pages. DM 72

I was thoroughly biased when I agreed to review this book! The blood of sheep indeed - how specialized can you become? Why ignore the blood of other herbivores, of goats or cattle or rabbits? However, when I started to delve into it I found it more interesting than I expected. It is certainly very specialized with 9 Chapters on:

Distribution and dynamics of body fluids in sheep (117 references);
Cellular elements of ovine blood (92 refs);
Carbohydrate and lipid metabolism (123 refs);
Mineral metabolism (149 refs);
Hormones (108 refs);
Genetic markers in the plasma and red blood cells (112 refs);
The haemoglobins of sheep (121 refs);
The ovine immune system (42 refs);
Pathophysiological mechanisms in ovine anaemia (122 refs).

I know seven of the authors to be well respected research workers and I have no reason to doubt that this applies to the remainder and clearly they are all people who really know their subjects. So is it a reference book? If so, how comprehensive and accurate?

The index gives over 100 major headings and many others could have been added, because the book contains values for concentrations of many things not mentioned in the index or in the comprehensive list of contents, so I tried searching for information that I either did or did not know the answer to. This was very hard going and I virtually had to scan the whole book, page by page. I found very little on pH and nothing on the contents of O_2 and CO_2 in arterial and venous blood, but I know papers that give extensive data on blood gases in sheep. Furthermore some of the inform tion I did find was sometimes so brief as to be mislea For example, it is not clearly stated in Chapter 2 (although Chapter 1 does better) that haematocrit values can be notoriously misleading, being markedly influenced by the state of tranquility of the animal. Laboratory-trained unstressed sheep have an haemato crit well below the lower limit of 30% quoted here (2 quoted in Chapter 1 is more accurate) and would be classed as anaemic if encountered in flocks sampled after being rounded up by shouting men and sheep d And I encountered a dangerous mistake – the dose o adrenalin suggested to contract the spleen (where red blood cells are sequestered in unstressed animals) to estimate the total body red cell count is 1000 times t high (15–30 mg/kg should be μg/kg); the fatal dose i lab. animals is less than 1 mg/kg intravenously!

I suspect that the authors have been asked to com their material too much and this is unfair to them an the readers and the result is that this book is not a reliable reference book, more a monograph which is a guide to the composition of sheep blood. So that any laboratory using sheep will find this book useful only if they have a really good library, but whether their library will be prepared to pay about £17 for it is a different matter.

J. L. Linz

†Died, 28 December 1