

## Book review

### **PRACTICAL FARMING — Farm Water Supplies, Planning and Installation**

By NEIL SOUTHORN. Published by Reeds International Books Australia, 1995. 144 pp. Price \$29.95. ISBN 0 7506 8912 9.

This book is one of the 'Practical Farming Series' published by Reed International Books Australia.

Australia is a dry continent and rural producers have to obtain water for stock and irrigation from a variety of sources ranging from streams and dams to groundwater and even local town water supplies. Deficiencies in this supply both of quality and quantity can be the make or break of a farming enterprise.

As the title suggests, the book describes the planning and installation of water supplies for farms. It is intended for use by farmers to 'give information and advice' as a complement to expert advice from government departments, equipment suppliers and agricultural consultants. The book's emphasis is on stockwater applications; however, many references are made (in fact all the chapters on water sources and pumping) to areas where an irrigation user would benefit from reading this publication. Irrigation design is dealt with in another book of this series.

The book is laid out in an easy-to-read style with a wide margin on each page that would allow the readers to make comments pertinent to their farm situation. The book's 144 pages are liberally interspersed with graphs, tables and many black and white photos and figures of dams and pumping equipment.

The author uses this book's 9 chapters to give an excellent overview of the types of water supply that are used on farms, stock water use requirements, water quality issues, pipeline design principles and pump selection. An index is included and descriptions of any technical terms i.e. Top Water Level and Spillway are detailed throughout the publication.

Questions the reader will have answered are such ones as:

- What is the peak design water use for beef cattle?

- What factors can lead to an algal bloom?
- How do you test for dispersive soils?
- Should trees be grown on dam embankments?
- What are the types of Polythene pipe?
- How do you calculate the power required by a pump?

The information imparted by the author is of a high standard and in all except 3 cases agrees with the various State Government guidelines for dam construction and other relevant areas. The reader should note that the rainfall data and Licence requirements are given for NSW only and the requirements of other States should be checked before proceeding with a project. In Chapter 4, it is recommended that dispersive soil (i.e. one where the structure disintegrates in contact with water) should not be used for dam structures. This is not correct as, provided care is taken in the compaction and moisture content of the soil, this material can make a good watertight dam. Failure to take care in these regards is one of the major causes of dam failures and this may have been the author's reason for suggesting their exclusion.

One constant train of thought throughout the book is that the reader should seek professional advice where necessary before proceeding with schemes. The formulae given in the book (such as that to calculate storage capacity) are simple and easy to apply and this is consistent with the previous comment.

Farmers, not just those in Australia, will find this book an invaluable tool in understanding their farm's water sources, how they can augment their existing supplies and how they can supply this water to the stocking points. The information contained in the book is not polarised to any country but follows general engineering principles in use by both government and agricultural consultants. Students at agricultural colleges can use this book as a reference tool due to its accurate portrayal of the planning and installation of on-farm water supplies.

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