

# Agricultural Buildings and Structures

James A. Lindley  
James H. Whitaker

Revised Edition

# Contents

*Preface* vii

## Part I: Farm Building Construction

### Chapter

1	Introduction .....	11
2	Structural Lumber and Plywood .....	21
3	Concrete and Masonry Construction.....	55
4	Manufactured Building Materials and Paints.....	85
5	Wood Fasteners .....	109
6	Loads on Buildings.....	135
7	Foundations, Footings, and Floors .....	155
8	Building, Framing, and Bracing.....	169
9	Roof Framing .....	183
10	Selection of Structural Members.....	199
11	Plans, Cost Estimating, and Economics.....	233

## Part II: Environmental Control of Agricultural Buildings

12	Fundamentals of Heat Transfer and Psychometrics .....	249
13	Animal Thermal Environment.....	271
14	Heat and Moisture Control in Buildings .....	285
15	Ventilation Systems .....	315
16	Heating and Cooling.....	347
17	Solar Energy .....	357
18	Product Storage .....	377
19	Waste Management .....	399

## Part III: Housing Systems

20	Farmstead Planning .....	417
21	Shops and Non-product Storage .....	429
22	Hay, Grain, and Silage Storage .....	447
23	Greenhouses .....	463
24	Swine Housing .....	485
25	Beef and Sheep Housing .....	509
26	Dairy Cattle Housing.....	529
27	Poultry Housing.....	565
28	Housing for Alternative Livestock Enterprises .....	591

*References* 605

*Appendix A: Conversion Factors* 613

*Appendix B: List of Tables* 619

*Appendix C: List of Figures* 623

*Index* 629