FARMING FOR PROFIT: LIVE STOCK AND DAIRY FARMING: A NON-TECHNICAL MANUAL FOR THE SUCCESSFUL BREEDING, CARE AND MANAGEMENT OF FARM ANIMALS, THE DAIRY HERD, AND THE ESSENTIALS OF DAIRY PRODUCTION

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Farming for Profit: Live Stock and Dairy Farming: A Non-Technical Manual for the Successful Breeding, Care and Management of Farm Animals, the Dairy Herd, and the Essentials of Dairy Production by Frank D. Gardner

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Trieste

TEAM OF PERCHERONS.[1]

This type of draft horse is noted for its great power, good action and intelligence. Its native country is France.

[1] Courtesy of "The Field. Illustrated," N. Y.

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AND
DAIRY FARMING

A NON-TECHNICAL MANUAL FOR THE SUCCESSFUL BREEDING, CARE AND MANAGEMENT OF FARM ANIMALS, THE DAIRY HERD, AND THE ESSENTIALS OF DAIRY PRODUCTION

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PREFACE

This book is written for amateur as well as professional livestock and dairy farmers. It makes a popular appeal to all men engaged in animal and dairy husbandry.

Ages of farm experience have given us a vast store of practical knowledge on the raising of crops and animals. This knowledge is scattered through many volumes on different phases of the subject, in experiment station bulletins, agricultural journals and encyclopedias. The important facts on which the most successful livestock and dairy farming is based are here brought together in orderly and readable form. Not only are directions given for the management and care of farm animals but the business end of the problem is fully discussed, showing why some achieve success and why others fail.

The subject-matter is arranged in several parts of a number of chapters each, and by referring to the Table of Contents any subject may be quickly found. Each department has been prepared by a specialist in the subject presented. The name of the author appears at the beginning of each chapter. Those unacknowledged have been prepared by myself.

The illustrations have been secured from many sources. Due credit has been given these.

Special acknowledgment is due the publishers of this volume and the other volumes in the series for its conception, and for many helpful suggestions in the presentation of the subject-matter.

I wish also to especially acknowledge the valuable editorial assistance of my wife in the preparation of the manuscript.

FRANK D. GARDNER

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CHAPTER 1

ADVANTAGES AND DISADVANTAGES OF KEEPING LIVESTOCK

Without the aid of domestic animals as beasts of burden, man would have a sorry existence. The horse, ass and camel have been of great service in past ages in aiding man to conquer new regions, and by their aid he has been enabled to very materially increase his productive power.

Animals have also been a great aid to man as a source of food and clothing. Those countries that depend upon animals and animal products the most are, as a rule, the most productive and highly civilized. In North America animal products, such as meat, milk, butter, cheese, lard, eggs, etc., constitute fully one-half of the value of the products of human consumption.

A large part of the vegetation on the earth is unsuited for human consumption. Of this, such by-products as straw and stover are converted into milk, butter, cheese, meat and animal fats. It is estimated that 80 per cent of the corn produced in the United States is consumed by livestock in the county where produced. This conversion of crude farm products adds greatly to the quality of man's diet.

The essential characteristics of domesticated animals are: (1) their ability to convert food into energy and animal products for human use, (2) the readiness with which they become subject to the will of man, and (3) their prolificacy or ability to breed abundantly.

Value and Importance of Livestock.—The United States and Canada with 28,000,000 horses, 63,000,000 cattle, 51,000,000 sheep and more than 62,000,000 swine, is pre-eminently a livestock country. South America leads in the production of sheep with 115,000,000 and ranks third in cattle with 48,000,000. It falls to India to lead in cattle production, which, including the water buffalo, numbers 125,000,000 head. The United States, however, far outranks all other countries in its numbers of horses, mules and swine. It is second in production of cattle and sheep.

During the past half century, the livestock in the United States has increased about three times in numbers and about six times in value. While numbers have not quite kept pace with increase in population, the value per capita has steadily increased. This increase in value has been due chiefly to two factors: (1) the improvement in livestock, and (2) the increased value per unit of weight of animals and animal products. In 1850 the average fleece of a sheep weighed 2.4 pounds; in 1900 it had increased to 6.9 pounds. During the fifty years sheep nearly doubled in number, while the yield of wool increased five times. This increase was due chiefly to breeding rather than feeding. If statistics were available,

we would doubtless find that the increase per cow in milk, and particularly in butter-fat, would not be less striking.

Thirty-five years ago, the usual work-team in the corn belt consisted of two 1000-pound horses. Today, the prevailing team is three 1500-pound horses. This increase in the size of the team has been an important factor in increasing the man unit of production on the farm, and has undoubtedly been one of the factors instrumental in the increase in land values in that region. The following table gives the numbers, value per head and total value of the principal classes of livestock in the United States for 1880 and 1915, as reported by the Bureau of Statistics of the United States Department of Agriculture:

NUMBERS AND VALUE OF LIVESTOCK ON FARMS IN THE UNITED STATES IN 1915 AS COMPARED WITH 1880.

Class of Animals.	1880.			1915.		
	Number.	Value per Head.	Farm Value.	Number.	Value per Head.	Farm Value.
Horses	11,202,000	$54.75	$613,297,000	21,195,000	$103.33	$2,190,102,000
Mules	1,730,000	61.26	105,948,000	4,479,000	112.36	503,271,000
Cows	12,027,000	23.37	279,889,000	21,262,000	55.33	1,176,338,000
Other cattle	21,231,000	16.10	341,761,000	37,067,000	33.38	1,237,376,000
Sheep	40,766,000	2.21	90,231,000	49,956,000	4.50	224,687,000
Swine	34,034,000	4.28	145,782,000	64,618,000	9.87	637,479,000
Total			$1,576,908,000			$5,969,253,000

From the above table it will be noted that the total value of livestock in the United States increased from a little more than $1,500,000,000 in 1880 to nearly $6,000,000,000 in 1915. During that period, horses and mules doubled in number and quadrupled in value. The increase in numbers of cows and other cattle did not quite double, while the value per head of the former considerably more than doubled and the latter slightly more than doubled. The increase in numbers of sheep and swine was slightly less marked, but in both of these classes the value per head slightly more than doubled.

ADVANTAGES OF LIVESTOCK

Animals Furnish Food, Labor and Clothing.—Even when not profitable to rear anmals for market, the cost of living on farms may be greatly reduced by the judicious production of livestock and livestock products for the home food supply. The difference between the purchase price of animals and animal products and the price which the producer receives has materially increased during recent years. The value of these products to the farmer for his own consumption is equal, whether bought or produced on the farm. Furthermore, animals and animal products may be produced on a small scale on most farms on what otherwise would be wasted.

The acres of land cultivated by each horse depends on the size of the horse, character of farming, the type of soil and the topography of the land. In England, two horses are generally required for 80 acres of light, sandy soil or 60 acres of heavy, clay soil. In the United States, there is about one horse or mule of working age to each 30 acres of improved land. Formerly, many oxen were kept for work, but these have been largely replaced by the horse and mule because of their more rapid movements and consequent greater efficiency. The draft of the ox is larger in proportion to his weight, but his slowness has caused his displacement with the increase in the value of human labor.

With the introduction of cotton and silk, the value of animal products as sources of clothing decreased relatively. The value of leather, wool and

UTILIZING WOODLAND FOR PASTURE.[1]

hair is very large, however, and plays an important part in the clothing of the human race.

Animals Make Use of Land Otherwise Unproductive.—According to the last census, only about one-half of the farm area in the United States was improved land, and only about two-thirds of the improved land was in farm crops, including meadows. The other one-third, together with considerable of the unimproved portion, is utilized as pasture for animals. On most farms there are areas more or less extensive which may be steep, stony, partly wooded, undrained or otherwise unprofitable for cultivated crops, that may be utilized for grazing purposes.

Animals Utilize Crops that would be Wholly or Partly Wasted.—The straw of the cereals, the stover of corn, have little value on most farms except as roughage and bedding for livestock. Low grades of hay, damaged

[1] Courtesy of E. K. Hibshmann, Pennsylvania State College.