

portion appears to be vegetable matter; but the amount of chlorine is also remarkably large, upwards of 9 grains, and the albuminoid ammonia amounts to .266 parts per million.

No. 7 shows much less of solids, 4½ grains per gallon, 3½ of which are organic and volatile matter; the chlorine amounts to only a quarter of a grain per gallon; but the albuminoid ammonia is high, .69 to the million. These waters are not pure, the first containing an excess of free ammonia and the second of albuminoid.

(To be continued.)

LORD CARNARVON is urging the English farmers to feed their sheep liberally if they wish to obtain any profits from them. The same principle runs through every department of agriculture. The profit comes out of the liberal hand, whether in field crops, calf-raising, cattle feeding, or any other operation. We have argued all this over and over again in years that are past, and we hope not entirely without effect. Lord Carnarvon puts the matter, as regards sheep, in a very simple, sensible way, and we reprint his remarks as equally applicable to all other animals of the farm, especially in this climate, and at this particular season:

"The plain moral, therefore, of what I have now said is this—that those who desire to avoid any great loss and to make considerable profit, must spare no expense in feeding their ewes now. With a slight verbal alteration one may say, as the Father of Agricultural Poetry has well sung eighteen hundred years ago:—

"Now minister the cake with bounteous hand,  
And open let the stacks all winter stand."

The temptation to economise in these small matters is greater than would be supposed. I have seen many sheep kept, and their food stinted; I have seen on neighbouring land, and under identical conditions, a few sheep kept and generously treated. In the first case there has been heavy loss; in the second, large profit.

Of course money spent on feeding, without general good management, will be money wasted. There is no magic in food if it is not judiciously used and seconded by other precautions. Moreover, they who have let their sheep go down may find it too late now to bring them into a satisfactory condition.

I have of late had some experience of what I am now writing about, and have had interesting illustrations of the truth of what I say; and, simple and commonplace as the observation may seem, I am convinced that generous feeding at this season is one, at least, of the secrets of successful sheep-farming; and that for want of it more money is sometimes wasted than is supposed. This is my

excuse for stating what to many will appear a self-evident truth."—CARNARVON, Highclere Castle, Jan. 11."

### COST AND PROFIT OF RAISING WHEAT.

*Eds. Country Gentleman.*—In a talk with one of the most intelligent farmers in this vicinity, not long since, he remarked that the great difficulty in the way of improved farming, or larger crops (he was speaking of the wheat crop in particular), is that generally farmers are unwilling to believe that there is any more net profit in the large crop than in the small one. In other words, they think the extra crop raised will no more than pay for the extra labor, care and manure that it takes to produce it, leaving them no better off at the end of the year in the one case than in the other.

This is all wrong. As well might a railroad company, having a good track and plenty of cars, say it would not pay them to increase their gross receipts by paying out more money for brakemen, engineers and coal. Capital invested in labor and manure, on the farm, will pay as large a net profit as the same capital would invested in any other legitimate business, provided it is under as skilful management in the former case as in the latter. The truth of the matter is that there is not much net profit in farming, railroading, manufacturing, or any other business that is only run to half its capacity. If a man raises thirty bushels of wheat per acre, under good management, there will be more net profit in the last fifteen bushels than in the first. But mere assertions amount to little; let us try and get some facts to back them up.

A writer in the last Ohio Agricultural Report says that, according to carefully collected reports of official figures of the Agricultural Department in Washington, and the single States, and of reliable practical farmers, the cost of production for one acre under wheat is to the average American farmer—

To plowing, harrowing, &c.....	\$2.00
Manure, or higher expenses on the rent of land, taxes, &c.....	2.00
Seed .....	1.50
Sowing .....	.50
All harvest work, threshing and marketing.....	2.50
Land rent .....	2.00
	\$10.50

He also states that the last agricultural report of Illinois, Indiana and Ohio concur perfectly with him in these estimates, and that the average yield from 1870 to 1880, inclusive, on one acre under wheat, in all the States of the Union, has been fixed at thirteen bushels, and that the average price for the same time was about \$1.06. The money value, then, of an average acre of wheat in the United States for ten years has been \$13.78.

Take from this the cost of production, and we have a net profit of \$3.28 an acre.

But there are many thousands of good farmers in the United States who are applying manure and labor freely to their wheat land, and raising much more than an average crop. If their crops were taken out of the general average, it must be evident to every one that there are millions and millions of acres, which, even at the very low estimate given above for labor and rent, would show no net profit at all. I have searched agricultural reports, books and papers in vain, to find any statements of cost of production and net profits that covered a series of consecutive years, where labor and manure were applied so as to raise a crop two or three times as large as the general average. There are plenty of statements showing the net profit for a term of years on the same farm. In the absence of any other figures, I will give some from my own farm, although they do not cover as many years as I wish they did. The average cost of raising an acre of wheat, for the last four years, has been—

Plowing.....	\$1.50
Working land:	
6 harrowings, Thomas harrow, \$1.88 }	
4 cultivations..... 2.00 }	3.50
2 rollings..... .50 }	
Seed.....	1.84
Harvesting.....	2.69
Drawing in.....	2.16
Threshing .....	2.16
Manure .....	5.00
Use of land.....	6.00
Use of barn .....	1.00
Marketing .....	1.41
Interest .....	.50
	\$29.16

The average yield for the four years has been 35½ bushels. The average price, sold right from the machine (no speculation), was \$1.17. I have found no difficulty in getting \$8 an acre for straw by feeding it out with grain, but as some have been used for bedding I will put it in at \$6 an acre, which is less than it has actually brought. We have, then, the average yield in dollars for one acre, for the last four years—

Wheat .....	\$41.24
Straw .....	6.00
Total.....	\$47.25
Cost of production .....	23.16
Net profit.....	\$18.08

In these figures hand labor is counted at cost, and a man and team at \$3 per day, which covers cost, use of tools and depreciation. There is no charge for drilling, as the seed is sown by an attachment to the cultivator while working the land. No manure was applied directly to the wheat crop, but a fair proportion of what was put on preceding hoed crops is charged. So then we have the bulk of the wheat crop raised at little or no profit. In an average crop, by taking a very low price for our labor and use of land, we can squeeze out a net profit of \$3.28