acres 22½ bushels per acre, which is 4½ bushels or ¼ of the whole in favour of weeding.

2. Barley. A 6 acre field was sown with barley in fine tilth and well manured. The weeding, owing to a great abundance of charlock, cost 12s. per acre. The produce of an unweeded acre was only 13 bushels; of the weeded 28. Difference in favour of the weeding 15 bushels per acre; besides the land being so much cleaner for succeeding crops.

3. Oats. 6 acres were sown with oats. 1 acre ploughed but once and manured—produce only 17 bushels: another 6 acres ploughed 3 times, manured and weeded—produce 37 bushels per acre. This experiment proves that oats require good management and will pay for it as well as other crops—10 bushels of the increased produce may be fairly attributed to the weeding, and the other 10 to the manure.

It is admitted that the labour and expense of weeding a crop is considerable, but if the difference be such as is here stated, and there is no reason to doubt it, as it is abundantly corroborated by other experiments, then it should be more generally and promptly attended to than it is. If our farmers could raise 4½ bushels of wheat, 15 bushels of barley and 10 of oats, additional to their usual crop per acre the effect would at once be sensibly felt.*

Diseases of Wheat.—Smut and Rust are the principal diseases that prevail to any extent in this country. They are both occasioned by fungi or excrescences which fasten on the plants and are very injurious to the crops. The smut appears to be of a highly contagious character, and it will be communicated to sound wheat if this be put into a bag which has contained smutty wheat, however short a time it may have remained therein, or into a barrel which has held flour manufactured from smutty wheat. As the disease is highly offensive and cannot but, in some degree, affect the health of those who eat bread made from wheat infested by it, no farmer, in preparing his wheat for seed, will disregard the effectual remedy which has been already mentioned. With respect to rust, early sowing is generally the best preventive against that as well as most other diseases. The rust seems to prevail least on heavy soils and in spring wheats. In case however it should appear, a very simple remedy is described in the Colonial Farmer for August—which it is to be hoped will be confirmed on trial. It is to give the wheat a dressing of salt and water. The salt is said to be instant death to the fungus. The safest quantity of salt is 8 oz. and then the application may be rendered more effectual by frequent repetition without any danger of injury to the plants. This pickle is thrown over the grain by a man carrying a pail in one hand and a white wash brush in the other, and making casts as when sowing grain or else with a common watering pot swung with great force. Two men will get over 4 acres a day—the one to spread and the other to supply the mixture. This should be applied at the first appearance of the rust. In conversing lately with one of our most intelligent farmers on this subject, he suggested that fine salt might answer as well if applied when the dew was on. This suggestion is certainly worthy of notice.

Time of Harvest.—August is generally our Harvest month, but the time of cutting the grain will materially depend upon the time of sowing and other things being equal, early sown grain always comes to maturity soonest. Much difference of opinion exists among our farmers as to the proper time for cutting wheat, but the practice of early cutting seems to be rapidly gaining ground. The Albany Cultivator for August last contains some very interesting remarks upon this subject. For the sake of experiment, Mr Hannam, an English farmer, cut a sheaf of wheat on the 4th of August, 1840, green and full of sap—another sheaf on the 14th August in the state called "*raw*," the straw one foot from the ground yellow and above that, though to appearance green still, it was turning yellow—and on the 1st September a third sheaf which was ripe and the straw uniformly yellow. After careful calculations, which are detailed at some length in the Cultivator, it appears that the raw wheat had the advantage over the ripe in every respect, and Mr. Hannam estimates the comparative value of the wheat on an acre of each kind as follows:—

Green.....	£11	11	10
Ripe.....	12	7	0
Raw.....	13	7	3

It may be added that early cutting gives much more time for securing the crop (for the ground being hot and the days long it cures very rapidly) less waste in harvesting from the shelling of the grain and a better quality of straw. It is also said that the wheat makes better flour than that which stands until it is fully ripe, for the grain being long exposed to the sun and weather, the shell or husk becomes dark and thick and the flour is consequently less in quantity and of an inferior quality. Wheat when struck with rust, if it cannot be cured by the remedy before mentioned, should be cut without delay, as it is well ascertained that the circulation is at once obstructed and the plant derives no more nourishment from the soil; and, if the rusted stalk be immediately cut the head of the wheat seems to absorb all the nutriment which is in it and the grain will thereby be much larger and heavier than if the cutting be delayed. In proof of this an anecdote is related of two of our farmers who owned adjoining fields of wheat which were struck with rust at the same time. One cut his immediately and had twice as much grain in the sheaf as his neighbour who waited ten days longer. In these cases, the wheat should be bound as soon as it is fit and the stalks placed in an upright position in order that all the nourishment in them may ascend to the head.

Mode of Cutting.—The sickle and the cradle are the two Implements in use among our farmers for cutting all kinds of grain. But the cradle is becoming more and more generally used where the crop is not too heavy nor lodged. It seems to possess a decided advantage over the sickle by cutting more straw, and by spreading the grain more thinly on the ground, by which means it may be earlier cured and housed—a consideration of no trifling importance when the weather is catching and uncertain. Strict attention should be paid to putting the grain up properly when cut and to doing the work in a neat and farmerlike manner. Many farmers suffer much loss from carelessness in this respect. There is a vast deal of wheat and other grain put into the barn or stack before the straw or the green matter the sheaves may contain are cured and in such a state that the central parts of the sheaf heat, mould, and become nearly rotten. This is also occasioned by hurrying in the grain too soon after rain and while the bundles are still in a damp state, and frequently also by binding up the wheat too soon after it is cut and in too large bundles, especially if the straw be pretty green. The result in all these cases is bad wheat and musty and poor flour. Now all this may be avoided by care in the several processes through which the crop passes. In these as well as other cases, the judicious farmer will take care to observe due caution. He will neither make his bundles too large, nor

* After this essay was read, Mr. John Johnston stated to the society that he perfectly concurred in the ssatements made respecting the injurious effects of weeds upon grain crops; that last year he had weeded 8 acres of wheat and considered that he had had 1-3 more grain in consequence of it, and that this year he had weeded 6 acres. The weeding was chiefly done by boys at a small expense and the young wheat was not at all injured by being trodden upon.