

It to proceed on the spot where it was wanted, and to trust to the falling rain to dilute it near, or on the surface of the ground, and convey it to the hungry organs which were waiting to receive it.

Manure which remains in bulk in barn yards during the summer months, becomes rotten and loses much of its nutritious properties by being frequently washed with drenching rains, and when it is spread on the soil and ploughed in deeply in the autumn, the falling rains carry much of the soluble parts to a much greater depth and place it beyond the reach of the absorbing fibres of the plants, so that some estimate, from this course of procedure, a loss of one half, and others suppose that it exceeds this estimate.

Now if such a rotation of crops can be suggested as will admit of the manure in its partially decomposed state in the spring, being spread on the soil before it has lost its nutritious qualities, and then be kept on or near the surface of the ground, so that the decomposed portions as they are successively produced, can be dissolved and carried to the roots of the plants, where it is needed gradually during the season, and not all at once; it is supposed a great advantage would result from the adoption of such a course. It is believed that this mode of application being made to the Indian corn crop would generally double its produce, but some difficulty may arise in adapting a suitable rotation, so as on the whole to increase the aggregate result of the series of crops that follow in succession. Should any of those who may read this be enabled to suggest a routine of crops compatible with the plan of putting the manure on the Indian corn ground in the spring, so as to make a consistent profitable rotation in the whole, he would much oblige one who has long regretted the great loss of manure during its summer decomposition in the barn yard.—*Far. Cabinet.*

HORSES AND OXEN FOR TEAMS.

I have observed that in many places horses have taken the place of oxen, are used for the purpose of farming, introduced, I suppose, under the impression that they are better adapted to the service, and more profitable to the owner. I am not about to contradict the truth of this supposition, or prove that a man cannot plough and harrow as fast and as well with horses as with oxen, but shall merely mention a few of the comparative merits and demerits of these animals, that may determine which is most useful and profitable.

The horse, when put to service, must have arrived at his full strength and value, consequently there is no gain on the capital invested, besides what arises from service, and as he is good for nothing at the end of service, there will be a discount at last equal to the amount of his cost.

The ox may submit to the yoke when young and partly remunerate his owner for cost of keeping while obtaining his growth, when he may be sold to the butcher, and the money invested in younger stock, thus there will be a constant gain in growth while the service will be sufficient for the purposes of farming. The horse, if kept on hay alone, must have his masticating powers in almost perpetual motion; the ox reserves some of his time for rumination, hence there may be a difference in the cost of keeping. The cost of equipping a horse for the regular farm service is greater than that of an ox, and more time is required to put on and off these equipments.—In shoeing, the difference of cost is in favor of the ox, as also it is in the quality of the manure they make. The ox has an intrinsic value arising from the good qualities of his flesh and skin, the one being good for food, the other for leather, whereas very little can be made out of a dead horse. For some kinds of farm service the horse is preferable to the ox, such as light ploughing and harrowing, but for carting, hauling stones, and other heavy work he is not so good. He

is better adapted to the road service, and is useful for milling, marketing, and *meeting*; he also may be used journeying, and visiting.—It is convenient, and, perhaps, profitable to keep both these useful animals as well as cows, sheep, and other stock, but when the number of horses greatly exceed those of oxen, or even cows, it is time to begin to count the cost, which may be done by opening account current with each animal, keeping debt and credit, or what you give or receive from each.—*Maine Farmer.*

RAIN WATER CISTERNS.

The importance of having a supply of water in the barn yard for cattle is a subject which cannot be too strongly impressed on the minds of farmers. The quantity of manure lost by driving stock twice a day to water, is much greater than is generally supposed, for the droppings are most copiously deposited immediately after drinking. In many situations water is easily procured from wells of moderate depth and at little cost, compared with the benefit derived; and in all situations cisterns may be built, and the water from roofs conveyed into them, at a very small expense, when contrasted with the advantage resulting from them. In this climate the average fall of rain annually is about three feet, which furnishes about twenty gallons of water for each square foot of surface during the year, and from these data it is easy to estimate the quantity which may be collected from a building of any given dimensions. A cistern will cost from twenty-five to fifty dollars, built after the best manner, and the best is always the cheapest in the end; the interest on this is from 1.50 to 3 dollars a year, being a sum far below the expense and trouble of taking the cattle to water, without reference to the great loss of manure.

The following table shows about the number of gallons of water contained in cisterns of the following diameter in the clear for each foot of their depth, viz:

Diameter.	Gallons.
5 feet	120
6 feet	170
7 feet	230
8 feet	308
9 feet	390
10 feet	480

By multiplying the number of gallons here stated by the depth of the cistern in feet, the product will be the number of gallons it will contain sufficiently near for any practical purpose.

The circular form is preferable to any other for a cistern, as it possesses greater strength with less materials; the principle of the arch keeping the parts combined together. Where they are constructed with brick, the width of a brick is sufficient for the thickness of the wall; where stone is used, the wall must necessarily be thicker, but the main matter is to have the mortar well made of the best clean sand, and not too much lime, and great care must be taken that all the intersices are well filled in, so as not to admit the water to escape. A coat of plastering well put on, of common mortar made in the best manner, with no more lime than is absolutely necessary to coat the sand and cause it to work evenly, has been found to be a complete protection against leakage, but the whole should be executed in a masterly manner by a careful, conscientious workman; otherwise, you will have a broken cistern, holding no water.—Those who are disposed to incur a little more expense, may procure Roman cement, or water lime, such as is much used in the construction of locks for artificial navigation for plastering, and when used, it should not be put on thick, but as evenly as possible; and in the use of this article a second coat should never be applied over the first; all that is done should be done at once; it will not adhere well, and would soon peel off, and endanger the stability of the coat over which it is applied.

Cisterns have been in use from the earliest periods of which we have any historical account, and in modern times many have been constructed, which have been long in use; and which their owners would not dispense with for ten times their original cost; therefore let those who are destitute of other means of furnishing water to their stock in their barn yards, proceed at as early a period of time as practicable, to construct a cistern in the best manner, and in two years the saving of time, trouble and manure, will repay the cost.

TILLING THE EARTH.

In tilling the earth, some people go upon the same principle that regulates their business intercourse with men. They must be sure to get the advantage of the trade; and if this cannot be secured without, they must cheat and deceive the person with whom they deal. And they think to practice the same artifice upon old mother Earth. You will see them on their grounds in the spring, as sly as dogs, apparently calculating that Earth has forgotten the exhausting crops that were taken from her the last year—perhaps they will give a sprinkling of manure, and throw it on so as to make the Earth think there is a noble lot of it. Well, they go to work. But the Earth won't be cheated. She will reward every man according to his works, and *tell the truth in the autumn.* You cannot get the advantage of her, as you can with human customers.—Treat her well, and she will reward your expenditure and toil; but attempt to cheat her and she will make you sorry for it when harvest comes.

CURD.

Curd, which may be separated from cream-milk by rennets, has many of the properties of coagulated albumen. It is white and solid, and when all the moisture is squeezed out, it has a good deal of brittleness. Curd is used in making cheese, and the cheese is the better the more it contains of cream, or of that oily matter which constitutes cream. It is known to cheese-makers, that the goodness of it depends in a great measure on the manner of separating the whey from the curd. If the milk be much heated—the coagulum broken in pieces, and the whey forcibly separated, the cheese is scarcely good for anything; but the whey is delicious and butter may be obtained from it in considerable quantity. Whereas, if the milk be not too much heated, (about 100° is sufficient) if the coagulum be allowed to remain unbroken and the whey be separated by very slow and gentle pressure, the cheese is good.

A CHAPTER ON FLOWERS.—Flowers, of all created things, are the most innocent and simple, and most superbly complex; playthings for children, ornaments for the grave, and the companion of the cold corpse in the coffin. Flowers, beloved by the wandering idiot, and studied by the deep-thinking man of science! Flowers, that of perishing things are most perishing, yet of all earthly things are the most heavenly. Flowers, that unceasingly expand to heaven their grateful, and, to man, their cheerful looks—partners of human joy, smoothers of human sorrow; fit emblems of the victor's triumph, of the young bride's blushes; welcome to crowded halls, and graceful upon solitary graves.—Flowers are in the volume of nature, what the expression "God is love" is in the volume of revelation. What a dreary desolate place would be a world without a flower! It would be a face without a smile—a feast without a welcome. Are not the flowers the stars of the earth, and are not flowers the stars of heaven? One cannot look closely at a flower without loving it. They are emblems and manifestations of God's love to the creation, and they are the means and the ministrations of man's love to his fellow creatures; for they first awaken in his mind a sense of the beautiful and the good.