

"PLANS FOR BARNYARDS."

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Plans for Barnyards.

We need only to take a short drive through the country to see our present system of making barn yards. Everywhere the tendency is to crowd everything into as small a space as possible, too often using the fence corner as a machinery shed, or the machinery is cast in some out of the way place where it lies until time to use it again. Not only is room lacking to store machinery but many animals are left out to seek shelter on the leeward side of a tumbling down barb wire fence.

Feed, which was gotten after months of toil, expenditure of time and money, and the wearing out of costly machinery, in many cases, is left out in the open to receive all the rain and the sunshine until the forage is unfit for consumption by animals. I have one yard in mind, and this is not the only one I am sorry to say, which is one of the dirtiest yards when it comes a "wet spell". You wade around shoe top deep, in a slushy, soft, sort of a chocolate colored mass surrounding the barn for several yards as a result of throwing manure out of openings back of the horses, made for the purpose, or out of the nearest opening that is handy. Many farmers do not seem to have any taste for beauty or cleanliness. They have the front yard full of obnoxious weeds, brush strewn everywhere, post stubs lying around, worn and unworn out machinery to mar what might otherwise be a most beautiful view. In like manner I might go on and on telling of the faulty systems now in use, but it is not necessary, they are too conspicuous. The idea of this paper is not to take up each fault of the present system and tell how it should be overcome (which likely cannot be done) but to give a suggestion or two which may tend to

overcome some of the difficulties which must be met in the close competition we now have. When the trend of the times is the "almighty dollar" it is time we were stopping up the leaks of the pennies and dimes and do more economical and less shiftless farming.

A few remarks in regard to the situation of the barnyard. With many farmers the tendency is to pattern after our city brothers, by getting the barnyard too close to the house. The barnyard and the house should not be separated by too great a distance, however, as a great amount of time will be lost in going from one to the other. The barn should be on the down hill side from the house in order to drain the water away from the dwelling, so as not to have a bacteria infected home. Yet this arrangement is now always perfect, as an underlying strata of rock may slope in the opposite direction from the surface, which would direct the drainage of the barn toward the well.

No odors from the barnyard should reach the house. This is avoided by placing barns and yards on the opposite side of the house from the prevailing winds. In this country the north-west is probably the best. This would give a south front to the barn, which is preferable, as the sun would shine in the open sheds and open doors destroying many bacteria and warming the quarters in winter thus saving feed necessary to keep up the animal temperature.

The barn should be handy to the road.

The products of the farm to be taken to market necessitate a convenient route to get there. Each field should be easy of access from the barn. If the barnyard were in the center of the farm, each field would be handy but the home would be more isolated than if on a public highway, which helps to make country life more enjoyable. There should be not too many gates to go through as it takes time to

open and close them and it is very inconvenient if the team does not stand well. Another thing that is sadly neglected is shelter. Many farm yards do not have as much as a pretence to shelter except a small covering for half a dozen hogs and a hip roofed stable for the work horses. Some go as far as putting a straw stack in or near the yard where the cattle may find a little shelter from the wind. A remedy for this much neglected necessity is to plant a few rows of trees on the sides of the prevailing winds, the north and west sides of the yard. Common deciduous trees will afford considerable shelter but the evergreens are to be preferred as they keep their foliage the year around and therefore afford more shelter in the winter, which is advantageous. Trees will tend to break the bareness and bleakness of the place by presenting a growing, cheery effect. Some of the evergreen trees that do well in Kansas are the Austrian Pine, the Scotch Pine and the Cedar. If not set too close together the branches grow close to the ground and keep the wind from blowing under the trees. These trees will also make a good growth and it does not take many years after planting until they furnish considerable shelter from the Kansas north winds. Bulletin #120 of the Kansas Station reports on two lots of twenty-five trees, planted in 1896, measured in November, 1903. Among Aspens (Plat B) the height varied from 4'6" to 8', or an average of 5'9". Among Aspens and Catalpas (Plat D) the height varied from 4'6" to 7'6", or an average of 6'4". The report says: "The Red Cedars have made growth nearly equal to stock set at the same time in the nursery rows in very much better soil. The trees in plat D have not been shaded as closely as those in plot B and show somewhat better growths. They are fine vigorous trees". The same report gives for Scotch Pines planted in 1896, measured in November, 1903 the minimum growth of 8' and maximum of 13'9", and average of

10'6". The Jack Pine had not been previously planted here. "While not to be compared with the Scotch or the Austrian Pines as an ornamental tree, its present vigorous condition and its rate of growth make it worthy of notice and mark it as of probable value for forest planting and wind brakes." The trees were from 8'6" to 14'6" in height, or an average of 11'2". This gives an annual growth of nearly 11" for Cedar, 1 $\frac{1}{2}$ ' for Scotch Pine and 1'8" for Jack Pine. This might seem a long time to wait for a good shelter but the shelter when once secured will last for many years and add to the beauty and value of the farm.

As to the arrangement of the yards, it depends upon the needs of the farm, i.e. What lines of business are carried on, whether raising improved stock, hogs, cattle or horses, or whether general purpose farming is the occupation. The ideas present are more suited to general farming, since more Kansas farmers are engaged in that line of farming than in special lines. The lay of the land will also influence the yard arrangement. The bank barn is no longer looked upon as one of the most desirable plans. In former days when the idea was to get the barn somewhat below the surface of the ground so as to have the animals' quarters out of the reach of the winds, the side hill was the site chosen, which also forms an easy access to the second floor. The bank barn has the serious objection of nearly always being deficient in light and ventilation and, as made now, is inadequate. In a bank barn the yard generally has sufficient drainage, which is more likely to be poor with a barn built above the ground. In choosing a location it would be well to have one with sufficient slope to give it good drainage, but not enough that everything would roll to the bottom of the hill unless held. A slightly sandy soil is preferable as the mud does not stick to one's shoes and it becomes dry sooner, making a more

healthful yard.

Another factor in the arrangement is the economy of labor. With the growing idea of the shorter day and the scarcity of help which can be procured for general farm work, the labor question becomes more important. As the hours become shorter and the price of labor advances, it is time to make the doing of the chores as convenient as possible in order to get them done more cheaply. It would seem that every one with small buildings scattered about the yards should be criticized, yet they have a hearing in their favor. When they first moved into the country, while it was yet new, they put up a building that would best supply their wants with the means they had at command. As their business grew and they became more prosperous they needed a cow barn and as time went on they needed a granary and later a hog house and thus their many buildings were built. In many cases it might be wise to rebuild, making one large building, thereby saving much time in going from building to building. With the consolidated type of barn in Fig. 1 all objections are not overcome, as in case of fire everything would be burned while with several barns some of the buildings might be saved. Still such accidents occur at comparatively long intervals and would not be a very weighty objection.

Another item worth mentioning is the saving of the farm products. There is probably not a shiftless farmer that would not say a man was reckless if he carried a bag of money which was leaking out at the corners. Yet what is letting the feed go to waste after it is harvested and made ready for the animals but recklessness? The losses of a crop due to weathering amount to considerable. In "Feeds and Feeding" Professor Henry gives the loss in hay cured and left in the field thirteen days in alternate wet and dry weather as 12.5 per cent more than that which was gathered in three days. Again with alfalfa,

which remained out fifteen days and received three heavy rains. The hay lost 7% of protein, 5% of nitrogen free extract, and received a gain of 12% of crude fiber. Thus we see the loss caused by a few rains, and when we think of a season's weathering, we know the valuable portion of the crop is gone. If hay is well stacked there is only a foot or so that is damaged, yet that thickness over a stack amounts to considerable.

Another wasted product is the manure. Many farmers of the West claim that manuring the land is detrimental to it. All the manuring which these farmers do, more than likely, does do more injury than good. They let the manure lie back of the barn eleven months out of the year where it can leach and get all the soluble plant food washed out of it during the summer rains. When it is spread up on the land it contains mostly fibrous material and when this straw like substance is scattered twice as thick as it should be and plowed under, the thick mulch breaks the capillary connection of water between soil and subsoil and in consequence, the upper surface keeps dry and crops are a failure and the manuring of land in this way is injurious.

The value of manure depends upon: The kind of animal from which it is made. The food which the animal receives. The amount of bedding or litter in the manure and the way in which the manure is kept or housed. Manure contains valuable soluble constituents and must be housed to protect it from the rain. At Cornell, 4,000 lbs. of manure from the horse stable were placed out of doors in a compact pile and left exposed from April 25 to September 22 with the following results:-

Grass weight (See next page)

	Apr. 25	Sept. 22	Loss %
Gross weight	4,000	1,730	57
Nitrogen	19.66	7.79	60
Phosphoric acid	14.8	7.79	47
Potassium	36.	8.65	76

From Roberts "Fertility of the Land"

The housing of the manure to prevent this loss is not easily accomplished. The danger that manure will heat, if piled, is something to contend with. This may be partly overcome by the liquid being absorbed by the litter and thus keeping the manure cool. A covered shed furnishes a good place for making and keeping manure. The rain is kept off, thus lessening the expense of hauling surplus weight to the field, and the animals may have a comfortable place to lie down, if the bedding is sufficient. The manures from stables require different treatment.

Figure 2 taken from Roberts "Fertility of the Land" suggests a plan. Such an arrangement would at least give a convenient place for holding manure until an opportunity came for hauling it. The subject of barnyards is one of the most important the farmer has to deal with, yet, possibly, one of the most neglected. It is one which seems not to be given a great deal of attention by agricultural writers. A subject which seems of little consequence on first thought, but on which a volume may be written.