When Should Hay be Cut?

Very few agricultural questions have led to greater controversy than this one. We once heard a farmer say that he could make no practical use of knowing when hay should be cut, for he was always forced to cut when he was ready, or when the season was favorable. We dare say that this view is taken by a large majority of farmers; but we think this is a very contracted view of the question. Even if this knowledge were of no practical use, so far as cutting is concerned, it still becomes important to know the comparative values of hay cut at different stages of ripening and cured under the varied conditions of the season; for in each case the hay will have a different feeding value, should therefore be devoted to specific purposes, and fed with different kinds of concentrated foods according to the amount of nutriment lost in late cutting or defective curing. By knowing these facts the farmer will be in a position to calculate the value of a little extra exertion or pains in the hay field, and will realize the importance of keeping the different qualities of hay separate for the various animals and the various feeding purposes.

Although the question has not yet been thoroughly investigated with reference to the comparative feeding values of hay cut in different stages of ripening, yet much valuable and reliable information has already been brought to light. In the early stages of the investigation, when analyses of early and late cut hay were made, it was ascertained that the loss of an enormous quantity of nutrition took place as the stage of ripening progressed, as will be seen by the following table, the analyses having been made in England at the Rothamstead Experiment Station:

COMPOSITION OF HAY HARVESTED AT DIFFERENT DATES.

Date of Cutting.	Albuminoids.	Fat.	Soluble Carbohydrates.	Fibre.	Ash.
May 14.....	17.65	3.19	40.86	22.97	15.33
June 9	11.16	2.74	43.27	34.88	7.95
June 26	8.46	2.71	43.34	38.15	7 34

It will seem from this table that the albuminoids or flesh-forming portion of the hay decreased with every date of cutting; so did the fat and also the ash or mineral portion, while the fibre and carbo-hydrates, or heat-producing portion of the hay, increased, the crude fibre and the carbo-hydrates being the least valuable of all the constituents mentioned in the table. In the last cutting the hay was over-ripe, the seeds having been formed.

But in the feeding value of all foods there are two important points to be considered: (1) The composition, and (2) the digestibility. A food may contain valuable constituents, but if a large percentage of them is indigestible, the value becomes lessened. The same hay was fed to sheep for the purpose of ascertaining its digestibility under the different dates of cutting, and the following table shows the results:

DIGESTION OF HAY BY SHEEP.

Proportion of each constituent digested for 100 supplied.

Date of Cutting.	Total Organic Matter.	Albuminoids.	Fat.	Soluble Carbohydrates.	Fibre.
May 14..	75.8	73.3	65.4	75.7	79.5
June 9...	64 3	72.1	51.6	61.9	65.7
June 26..	57.5	55.5	43.3	55.7	61.1

These tables prove that a great loss is sustained in the digestibility of late cut hay as well as in its composition. Before further investigation took place, many writers entertained the idea that the earlier the cut the better; but there are other considerations which modify the results as shown by analysis. It was next ascertained that 20 to 25 per cent. more hay could be obtained by late cutting. But if a second crop is taken, it is still questionable if there will be much difference in the totals of the two crops. These considerations, however, are governed by the seasons in each particular case. If the second crop is not taken, then the extra value of the aftermath may sometimes make up for the loss in weight sustained by the early cut hay. The true principle is to cut when the hay contains the most digestible nutriment, and this gradually diminishes after the seed begins to form, the strength of the stem and the soil being exhausted in the formation of the seed. The increased fibre then retards the digestibility of all the constituents of the hay, as well as being less digestible itself, and the flesh-forming constituents are converted into less valuable forms of nutriment.

The reason most farmers give for late cutting is that the hay "spends" better. Now this is a palpable absurdity, for by mixing the early cut hay with straw, it will spend still better, more nutritive value can be obtained, and this is the best means of using up straw which would otherwise go to waste. It is true that early cut hay wilts considerably in curing, but if well cured little or no substance is loss except the water, and the hay is then the nearest equivalent of grass, which is the natural food for domestic animals. Investigators are now at work endeavoring to ascertain when hay should be cut for the various purposes for which it is designed, such as growth, milk, butter, etc., but the experiments so far have been conflicting, and no reliance can yet be placed upon them. From what has been definitely ascertained the farmer will now see that during bloom is the preferable time for cutting; but this is rather indefinite, for this period sometimes lasts about two weeks, as some heads bloom before others. At any rate it is safer to cut too early than too late. If the hay is much and the hands few, commence cutting even before bloom, keeping the hay separate in the mow for favorite bites, for mixing with cut straw or other coarse food, or for feeding to stock which receives no grain or other concentrated foods, early cut hay being itself a food of considerable concentration. A knowledge of the science of hay making has led many farmers into the growing together of grasses or clovers which ripen about the same time, or the sowing of the different varieties separately, which tendency will eventually supercede the existing practice of growing timothy and red clover together.

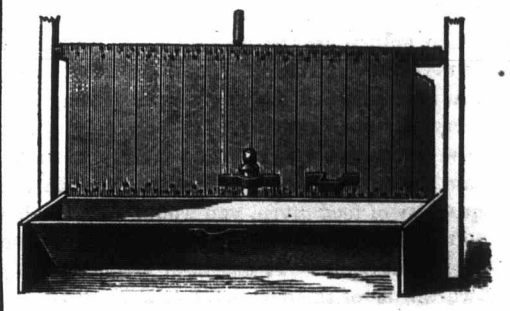
A Western dairyman says that he invests $30 a year in newspapers and finds this the most profitable investment he has ever made. He calls it his "tobacco money," meaning that his neighbors who spend the same sum in this weed have no newspaper fund. He encourages his men to read the papers and keep posted in their several departments, by which means he gets more than ten times the value of the investment out of the men, besides pleasing them and making them more anxious to remain with him.

Stock.

A Convenient Hog-Trough Arrangement.

The great drawback in pig feeding is that the hogs won't let you give them what they so vigorously squeal after. You can never fatten a pig by pouring slops on his bristles. Any contrivance by which the feed can be safely and quietly landed in the trough, instead of being used as a bath for the frequenters of the pen, would certainly be a boon to the hog-raiser.

The accompanying cut shows how this object can be effectually accomplished. Let it be supposed that your swine house is divided into pens with a passage in the front. Instead of the partition between the passage and the pen being a fixture, as is almost invariably the case, let that portion of it which fronts each pen be attached to the posts in such a manner that it will swing, as is shown in the cut. By pulling or shoving the handle in the centre of the top cross-piece, the partition will swing in any desired direction. Instead of this handle a catch, which answers the same purpose, may be attached to the lower portion of the partition, as is also shown in the cut. The trough is placed under the partition in such a manner that when the partition is swung into the pen and latched behind the trough, which position is represented in the cut, the slops or feed can be poured into the trough from the passage without interruption by the hogs; and when the feed is spread evenly in the trough, the partition can be swung outwards and latched on the passage side of the trough, in which position the hogs have free access to their food.



HOG-TROUGH CONTRIVANCE.

This is also an excellent contrivance when it is desirable to clean out the trough, and besides it serves all the purposes of a door. It is a saving of lumber, and, all things considered, it is much cheaper than the ordinary fixed partition.

It has long been supposed that milk from different cows should not be mixed together for butter making, but no special experiments have been conducted until recently. The milk from a young and an old cow was mixed, and upon churning the cream it was found that the quantity of butter was proportionate to the cream of the old cow, but upon churning the buttermilk, a second batch of butter was obtained equal to the first. In connection with this experiment it must be remembered that old cows, or any cows that have not recently calved, even of the same breed, produce less cream, or cream that rises slowly and requires much churning.