

Imperial Learning. We used an Ohio cutter with elevator driven by gasoline engine. I hire the engine, but own the other machinery. The engine cost \$60 for the nine days' work. It took an average of about eleven men, or to be exact ninety-seven days' labor to run the corn cutter and binder and deliver the corn to the cutter and pack it in the silos. The men were paid \$1.50 per day. We did not weigh all the corn but weighed several loads and from this weight estimate that we put in the three silos 450 tons of ensilage. The ensilage corn was grown right along side of our field corn that gave us as near as we can calculate sixty bushels of shelled corn per acre, which at this writing is worth fifty cents per bushel, and estimating the corn stalks to be worth \$5.00 per acre we have the following:

97 days' work at \$1.50 per day.	\$145.50
3 teams per day, or 45 days at \$1.50	67.50
1 engine	60.00
Use of other machinery	20.00
30 acres of corn, estimate 60 bu. per acre, equals 18000 bu. at \$50.00, amount	900.00
Stalks on 30 acres, at \$5.00 per acre	150.00
	\$1,343.00

Making a total of \$1,343.00 the cost of 450 tons of ensilage, or a fraction over \$3 per ton. I figure it this way because the land on which we raised our ensilage would have raised just as good corn as the land where we raised our field corn would, with no more labor, and the cost of gathering one crop, I think, would be as much as the other. This would seem to make ensilage in New Jersey cost more than in some other places, but even at this cost I find it a very cheap and satisfactory feed.

Pasture for Hogs

Prof. C. F. Curtiss, of Iowa Agricultural College, in a recent address gave the following advice on pasture for hogs:

Three pounds of rape and five pounds of clover seed per acre sown with the small grain crops will afford an abundance of good feed on the stubble fields after harvest, at a merely nominal cost. The utilization of this feed for grazing hogs or sheep often affords more profit than the crop of grain. As high as \$10 per acre has been obtained by Iowa farmers from the rape and clover aftermath following a crop of small grain in the manner indicated. Western lambs or yearlings can be finished for market by this method without grain. This crop is equally valuable for finishing hogs, or growing pigs.

The old-time pig-sty should be banished forever. There is no place for it on the modern farm. It has given the hog his reputation for filth. They are breeders of disease.

Even the permanent or central hog barn is of questionable value. The same money invested in movable hog houses and hog fences about the fields will give much better returns for all purposes, except for fattening hogs, and fattening sows and the larger buildings are not necessary even for fattening. The movable houses permit the brood sows and pigs to be moved out into the ideal surroundings afforded by a clean pasture, or a clover or alfalfa lot. They make it possible to distribute the hogs over the farm in clean, fresh quarters, thereby utilizing grass and forage crops to the largest degree, and at the same time reducing the

danger of disease to a minimum. They favor economical production. They promote the health and thrift of the herd and insure greater fecundity and more profitable breeding qualities. Thirty-five sows of different breeds on the college farm farrowed 312 pigs during the present season and raised 280 to weaning time.

According to the last census there are 220,000 farms in Iowa. It is a moderate estimate to say that there is on an average an acre of unused and feed lots on each farm throughout the state. These lots almost invariably lie idle. Experiments conducted at the experiment station show that an acre of rape has a feeding value equivalent to the production of 300 pounds of pork. If we calculate this for the number of farms in Iowa and rate pork at four cents a pound, we have a product amounting to over \$4,500,000 annually that might be realized from idle ground at almost no appreciable expense. An acre of alfalfa is even more valuable than an acre of rape for grazing hogs, though it cannot be grown as a catch crop for a single season.

On the college farm we sowed some ground adjoining the hog yards to alfalfa last August and I think we have had the best returns from it of any crop we have ever grown for hogs. We expect to largely increase the acreage of alfalfa on the college farm during the present season. In a bluegrass pasture we have pastured 30 prospective show barrows since the first of May. These hogs have had no grain whatever since the date named, yet they are in excellent condition, and growing, though making but little if any increase in weight.

The principle which I wish to emphasize in feeding hogs is that in order to insure the best health, vigor, fecundity and profit in hog raising the herd should be handled as largely as possible in the open field and pasture and that during a period of six or seven months of the year, alfalfa, clover, rape and other forage crops should constitute an important adjunct to the grain ration and at times the green fields may furnish even the major part of the ration with marked advantage and profit.

Cleanly Milking

The milking is the starting point of most of the trouble with cream.

The milker sits down since the pasture is open at the top, and begins to milk. Any dust, straw or manure that may be hanging to the udder is gradually dislodged and finds its way into the milk pail. Every particle of such dirt carries with it a quota of germ life, which consists of minute plants or bacteria, so small that they can not be seen without the aid of a microscope. The functions of this plant growth is to cause decay. All decay is brought about by the action of bacteria. Germ life requires certain things to promote growth, just the same as does corn, wheat, or any other plant with which the farmer is familiar. The corn requires food, moisture and warmth to make it grow and thrive. These must be furnished at the right time and in the right form or the corn does not thrive. It is just so with germ life.

In order to grow the germs require proper food, warmth and moisture. All of the conditions which best promote the growth of these minute, invisible plants are found in warm milk as it is drawn from the udder. Thus while the dairyman milks he unconsciously plants; he plants the seed

of destruction in the very product he is going to market. The destruction begins at once and is carried on very rapidly so long as the proper temperatures are maintained.

The remedy would naturally suggest itself. Stop the dirt from getting into the milk. This can be done easily and quickly. After milking will carry with him a damp cloth, and carefully wipe off the udder and the parts immediately around it, the trouble will to a great extent be prevented. All of the coarser particles of dirt will be rubbed off, and the finer particles of dust dampened, so that they will not fall into the pail. This work will require but a few moments of extra time and prevent much after trouble in the way of sour and ill-flavored cream. The cow should be milked in a place in which the air is free from dust. In the winter, or when the cows are kept in the stable, never feed, or move hay, or feed rubbers, or do anything to stir up dust or strong smells just before milking.

The cream should be separated at once after milking, while the milk still has the animal heat in it. The work of the day should be arranged so that this can be done. Do not use a cloth strainer. The separator will remove all the solid dirt that may be in the milk much better than it can be done with a strainer. There never was a cloth strainer used that would not in a few days become yellow and smell bad. Under the best conditions, where steam can be used to help in cleansing, the cloth strainer is a source of danger rather than a benefit. A well-made wire strainer might be used, but there is no need of any strainer. Pour the fresh, warm milk directly into the supply can and send it through as quickly as possible.—U. S. Dept. of Agriculture.

Telling the Horses' Age by the Teeth

The horse has twenty-four temporary teeth. The male has forty permanent teeth; the female thirty-six or forty. The smaller number is more usual in females, due to the lack of tusks. The temporary teeth consist of twelve incisors and twelve molars; their centre front teeth, two above and two below, are called pinchers; the next four are called intermediates or laterals, and the next four corner teeth. The permanent teeth consist of twelve incisors, four tusks and twenty-four molars. The dental star is a yellowish ring appearing next the enamel on the table or crown of the tooth. The following table shows approximately the changes of the teeth with age:

Three to ten days: Temporary pinchers and three molars cut.

Forty to sixty days: Temporary intermediates or laterals cut.

Six to nine months: Temporary corner teeth cut.

Nineteen to twenty-five months: Leveling of temporary corner teeth.

Two and one-half to three years: Pinchers replaced by permanent teeth.

Three and one-half to four years: Intermediates or laterals replaced.

Four to four and one-half years: Tusks cut.

Four and one-half to five years: Corner teeth replaced.

Five to six years: Leveling of lower pinchers.

Seven years: Leveling of permanent intermediates.

Eight years: Dental star and notches in pinchers.

Nine years: Dental star in intermediates.

Ten years: Dental star in corner teeth.