

Fly Spray for Dairies

It Will Cost One Cent a Cow Per Day

By Prof. L. S. GILLETTE, Iowa.

COWS may be sprayed twice a day by a total cost of less than one cent per animal. At breeding the cows early in the day, just after the morning milking and again at noon, when they are brought into the barn for feeding silage or molasses crops, they may be brought under complete abeyance. This practice allows the objectionable odor present in most mixtures to pass off before the ensuing milking, and thereby eliminates one of the objections commonly urged against fly sprays, namely, that of tainting milk.

Flies cause considerable annoyance to dairy cows during the summer, both by attacking the cow along the back and legs and also by preventing her feeding to her maximum capacity, so necessary for economical production. The restlessness of the cows in the stable is also apt to be a frequent cause of inefficient milking or even of wasted milk. The actual decrease directly and indirectly attributable to flies is difficult to measure, depending as it does upon the temperament of the cow, the amount of milk given, the number of flies prevalent on the farm, and many other factors.

Many different patent sprays are on the market, some of which are effective, but many of which are quite unsatisfactory in addition to being expensive. Under ordinary conditions the dairyman will find it more economical as well as more effective to make his own fly spray. This can be quickly and easily done, as has been demonstrated by the Iowa Experiment Station during extensive tests of different mixtures in the college herd. After trying out many different preparations during the past few years, the following one has proved most satisfactory when all factors are considered, and is the equal of any prepared spray that has been available: Four and one-half quarts coal tar dip, four and one-half quarts fish oil, three quarts coal oil, three quarts white oil, and one and one-half quarts oil of tar.

These ingredients are added to lukewarm soft water, in which 3 lbs. of laundry soap have been dissolved, and the total brought up to 30 gallons by adding more soft water. This amount is sufficient to spray forty cows twice daily for a period of six days. This spray serves to rid the cows of flies and

in operation farmers are now buying tractors of their own. One of the several that have been purchased in Norfolk County is now doing a large part of the work on the farm of Mr. John Simmons, who lives near Courtland. "This tractor is exceeding my expectations," Mr. Simmons told an editor of Farm and Dairy. "It is rated for 10 horse-power on the draw bar and 20 horse-power on the belt. It pulls three plows and a mold plow nearly as easy as a horse. Of course, we must have good level land to make this speed. I am convinced that the tractor has come to stay, and that I will to a large extent displace horses on farms of over 100 acres."

This spring Mr. Simmons put in almost all of his crop with the tractor. In the past it has always been necessary to carry more horses to rush through the spring work than are needed at any other time of the year. On his 200 acres Mr. Simmons disposed of three extra horses when he purchased his tractor, and during the spring he used horses on the grain ridges only. He will continue to use horses for cutting hay and grain, but the tractor will be used for all of the heavy work. The sale of the extra horses went a long way toward paying for the tractor, and because he did not have these horses, Mr. Simmons sold 300 bushels of oats that would otherwise have been fed. Along with the tractor he purchased a three-furrow plow, costing \$200, and a big double 35-disk harrow.

Mr. Simmons' son, Arthur, is engineer-in-chief, and makes himself responsible for practically all of the tractor work on the farm. Arthur gave us an example of what tractor speed means. Last spring he was preparing an eight-acre field for corn. He plowed this field and crossed it twice with the double disk harrow in just 2 1/2 hours. On fall plowed out ground he has found that, getting on at the right time, once over with the double disk and the drag, and once the land in shape for seeding. His tractor uses one gallon kerosene per acre for disking and three gallons per acre for plowing, although it will take more than this in hard ground.

Annual Pastures are Coming

Some Observations of the Past Month

A FEW years ago annual pasture crops were practically unknown in Ontario outside of Government farms. In the past two seasons, however, these annual mixtures have been tried in practically every district of the province, due largely to the propaganda of Mr. A. Leitch, of the Ontario Agricultural College. Two factors account for the ready acceptance of the annual pasture mixture. In the first place, Mr. Leitch demonstrated on a large scale on the farm at Guelph that the idea is practicable. In the second place, conditions were favorable to an acceptance of the annual pasture idea. High prices for milk made farmers desirous as never before of maintaining a steady production throughout the season. The high cost of silage and the lack of grain for feeding to maintain the flow unpopular, and the scarcity of labor made sowing on the same time practicable. The annual pasture mixture, which cost little, and on the part of the dairymen, seemed to fill the bill. Practically every district visited by the editors of Farm and Dairy this summer has at least some annual pasture.

Mr. A. C. Hallman, of Waterloo County, Ont., has just one acre of the annual mixture, covering a paddock adjoining the barn yard. Mr. Hallman apparently used a little of all the seed he had on the place, as in the paddock we detected oats, wheat, barley, vetches, rape, sweet clover, red clover, alfalfa and alfalfa. In the evening of a couple of weeks, a dozen cows in the paddock were on the feed, and seven calves have pastured it continuously since it was first ready for feeding. "I like this pasture mixture first rate," said Mr. Hallman. "I am not feeding my brood sows anything at all except the pasture they get here, and they are looking well. It also has a decidedly favorable effect on the milk flow even when



In Clover—And Sweet Clover at That.

This sweet clover was seeded without a nurse crop the last week of May on a piece of sandy land that for years had not grown even a decent crop of weeds. The seed was secured on July 15th, when a growth of 12 to 15 inches had been made. The crop will be pastured this summer and fall and plowed under when the ground is coming to look upon sweet clover as the great soil renovator.—Photo by an editor of Farm and Dairy.

the cows were in for only two or three hours in the evening."

A short time after we visited Mr. Hallman we gave Mr. C. E. Moore, Peterboro' County, a visit. Mr. Moore had ten cows pasturing on a two and one-half acre field adjoining the stable. "I never had anything as the place give so much feed of the same acreage," remarked Mr. Moore. That little field had been seeded with wheat, oats and barley, as recommended by Mr. Leitch, and, in addition, with alfalfa, red clover, alfalfa, and timothy, the intention being to keep the field for permanent pasture. Blue grass, it is expected, will work in of itself.

These are only a couple of the many instances that we might quote. The annual pasture mixture is due to hold a permanent place in Ontario's agriculture.

Fertilizing for Wheat

Some Significant Figures From Illinois

THE State of Illinois is conducting the most exhaustive and most conclusive fertilizer experiment of any state or province in America. This work is under the direction of Dr. Cyril S. Hopkins, whose object it is to determine some system or systems of crop management that will ensure a permanent fertility of the soil. Most of this work is being conducted in demonstration fields throughout the state. The farmers of each district buy the land and deed it to the state for experimental purposes. There are 40 acres or more in each plot, with an experimental barn and threshing outfit. The experiments, therefore, are on a good scale, and the results have a very practical bearing. What is threshing has already begun on these experimental fields. The following table of yields is for the oblong field in Crawford County, Illinois. The figures speak for themselves:

Soil treatment applied.	Bushels.
None (average of three tests)	5.5
Farm Manure	11.5
Manure and Limestone	21.7
Manure, limestone, phosphate	25.5
Crop residues	12.2
Residues and limestone	29.5
Residues, limestone, phosphate	32.1
Residues, limestone, phosphate, kainit	35.3

These records show that as an average the yield of wheat were increased nearly six bushels per acre by the organic manures, about 13 bushels more by limestone and eight bushels in addition by phosphate. In permanent systems of soil improvement, with ground limestone, fine ground raw rock phosphate, and home-grown manure, the average yield was nearly 25 bushels per acre, or about four times the yield from untreated land, which of itself produced less than nine bushels of wheat.

"Why expend labor to farm 40 acres when the same amount of what may be grown on 10 acres," asks Dr. Hopkins, "do you believe that the results of his

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On the

A Short Sketch of
Bred Boys W

There one who has made the phrase heads this article which has been adopted. Hoek's in connection with the farm, may seem somewhat. But to one who has pleasure of riding on a yard which extends a short of the majestic from Niagara Falls to burg, just across the Buffalo, or who has the hospital privilege of staying at Black Creek and enjoying the hospitality of the farm, Lenore, the term is a one indeed.

During the past few so Lenore Hoelstein has figured quite prominently official reports. Mr. H the boys have become figures at Ontario said and it is quite possible those who have not had mate acquaintance a sign, and what is the relation with the farm, may

Though known to the farmer and an enthusiastic some as an American known in his home city greater extent of the, a dent of the H. O. Compton and as also having interests. Whether to his business man, I do not think one could visit at his fields without seeing man. They would see places the welfare of his fellow-tenants. They would short years, had acquired matters which is astounding of Ontario farm conditions pathfinder with the presence

The Lenore Farm consists is heavy Welland clay, as this run several strips of. At the back of the farm upon which are grown. There are 60 acres of this

Owing to the fact that piece by piece during a been impossible to pro operations and a definite farm is so far from allowed to stay with any than is profitable. The corn, wheat, oats, and red clover, alfalfa, and timothy as advisable, then plowed. There are two large barns. The alfalfa is stored there barns as required during the corn. The alfalfa is the most as advisable, then plowed. Mr. Hoek says his success to the use of lime. This is but of all the crops. Two is fertilizer each year, an investment. Owing to the best unable to put in the kills out in the low spots, Blue grass, but the two co



Irish Cobblers which Yielded at the Rate of 320.7 Bushels per Acre.

Mr. J. A. Williams, Peterboro' Co., Ont., whose potato growing methods were fully described in Farm and Dairy this spring, planted Irish Cobblers (New Brunswick Seed) on April 20th and on June 11th he dug the crop here illustrated, which yielded at the rate of 320.7 bushels per acre. Mr. Williams is a great advocate of immature seed.—Photo by an editor of Farm and Dairy.

does not cause the coats of the animals to become thick or harsh, although dust adheres more easily.

A very simple spraying apparatus may be constructed by making a portable cart from a half barrel and wheels, to which is added a spray pump and nozzle. By using this cart two men can spray a herd of forty to fifty cows in five minutes. The cost of labor plus the ingredients used in the spray will be practically a cent per cow daily, while the increased milk production, greater comfort to the cow and milker and maintenance of more sanitary conditions makes the investment an exceptionally profitable one.

Tractor Experience in Norfolk

A Tractor Displaces Three Horses

THE tractors operated by the Ontario Department of Agriculture last year and this have done much to popularize the tractor in Ontario. In every county where Government tractors have been