INSTALL LIGHTNING RODS FOR COMING TEMPEST

(By Prof. H. T. Plumb, Purdue University, Ind.)

The United States Department of Agriculture has ascertained that about 300 persons are killed by lightning in that country each year, and as many more seriously injured. The annual loss of property in the United States by fire due to lightning is about $6,000,000. Thousands of animals are killed by lightning each year.

The farmers' mutual insurance companies' report that more losses are occasioned by lightning than from any other cause. If that could be eliminated the assessment paid by farmers to such insurance associations would be relatively light. Statistics show that about two-thirds of the animals killed in the fields by lightning were in close contact with wire fences. Practically all of this might be prevented by the use of ground wires.

The damage to life and property is five times greater in rural districts than in cities and towns. The reason for this is the natural protection afforded by the great number of trees, houses, water, gas and steam pipes, poles, telephone, telegraph and light wires, steel frame buildings and machinery.

The same immunity may be extended to the farmer's home if he would erect the proper lightning rods. The expense is comparatively small, and in the end, it is cheaper than insurance. Government statistics have proved that properly erected lightning rods furnish nearly perfect safety to both life and property. It is, therefore, lack of information, or obstinacy and recklessness when people do not avail themselves of the means of self-protection.

The ordinary lightning flash is vapor heated white hot by the passage of an electric current. The electric discharge itself is not visible any more than the current in a wire leading to an ordinary electric lamp. The discharge causes a sudden evolution of heat, which makes the conducting medium white hot, and the effect is light.

All substances are conductors, but the electric charge takes its way through the substance which has the greatest conductivity and the least resistance. The destructive heating of a lightning discharge at any point is proportional to the resistance encountered at that part of its path. Therefore, to avoid destruction by lightning give it an easy path. Street cars, electric plants and telegraph offices are seldom damaged by lightning, although they are very often struck.

If houses and barns were built entirely of metal they would never be harmed by lightning. Farm buildings are usually constructed of wood, and while they may be as good conductors of electricity as a tree, and better than the air, still they have a very great resistance. They seldom have a metal roof or gas and water pipes, as do the city houses. Therefore, we must supply something to take the place of these.

A properly installed lightning rod will protect a building. An improperly installed lightning rod may cause trouble. A small expenditure in time and labor is necessary and the resultant knowledge of safety is well worth it.

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For ages past the finest wool fabrics have come from Asia, and more especially from Persia. The Persian Government forbade the exportation of these sheep. Sec. Rusk, however, succeeded in ararnging for the introduction of these sheep into America. Six head were secured and these were shipped into San Jose, Cal. Col. Charles Goodnight, of Goodnight, Tex., owns a large flock of these in the pure or grade form. The entire flock now numbers about 200 head.

It is claimed that to get the choicest wool the ewe is slaughtered betimes in Persia, just before the lamb is born. It would seem questionable if such a sacrifice is necessary. The wool is jet black and is curled in a most peculiar and artistic manner. It is claimed that some of the highest grade cloaks made from these lambs are worth $1,500 to $2,000.

Mr. Goodnight has found that these sheep may be crossed successfully with other sheep. Of course, such crossing lessens the value of the hides of the lambs, but in many instances these will furnish valuable material for making caps, cloaks, and other garments. The mutton furnished by these crosses, either as lambs or in the mature form, is excellent. As they grow older the wool becomes continually lighter in color.

In the pure form these sheep have a flap of fat formed around and underneath the rump. This becomes large when the pastures are rich. It forms a dainty morsel when cooked, in the estimation of the Asiatic, and even Americans are beginning, in no measured terms, to sound its praises.

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Woman has invaded the domain of the farmers' institute. She has the same right to do so that she has to invade the domain of the business world. But there are some lines of business which men may legitimately conduct, which women may not, because of the barrier of sex. There are not many lines of business, but there are some. So, too, is it in the farmers' institute work. Woman may talk with much propriety on things pertaining to domestic science and the home. She may discourse with profit on the growing of garden and house plants. She has a right to talk on the sanitation of the home. But when she talks on the running of farm machinery, or the selection of sires, is she not stepping across the border line of propriety? Is she not losing something of that charm of modesty which is woman's chief adornment? Give us masculine man and feminine woman, even in the new woman of our time.

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The best authorities on feeding are unanimous in the opinion that much better results come from mixing various feeds available on the farm. Instead of feeding the different grains and forage crops separately, a judicious blending makes the feed more palatable, results in more complete and better digestion of these feeds, more rapid animal growth, the more rapid and economical laying on of fat, etc. This has been worked out more carefully in the matter of human foods, but the principles are just the same in the feeding of stock. The chaffing of hay, the shredding of fodder, the grinding of alfalfa, and the mixing of these different rough feeds so as to produce a more nearly balanced ration is highly recommended. True, the cost of doing this is something, but the returns more than justify this expense. The mixing of corn, oats, barley and low-grade wheat gives excellent results, and many times the blending of ground grain with ground alfalfa, chaffed hay, etc., is the best kind of farm practice.

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The season is one for planting the garden. Is every farmer going to have one? It is well known that while the farmer may have the best kind of a garden, many do not have one worthy of the name. The excuse generally given is that they do not have time to make the garden and then care for it. There is reason in the excuse sometimes, but in many instances there is not. Men usually find time to do what they delight in, and if they loved the work of caring for a garden, they would find time to do it. If there is a family, the members who are able should be encouraged to take care of the garden. They will find it a pleasure and it will also be an experience. The heavy work, such as ploughing, digging and manuring, should be done by more mature hands. Often much of the garden work, if done at all, is done by the matron of the house. This should not be, as her cares are too many without adding to them the work of the garden. In most cases, however, there is no excuse for not having a garden if everyone in the family is sufficiently interested in it.

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It is back to the soil for President Richard C. Hughes, of Ripen College, Wisconsin. He believes that he can make more money, enjoy greater comforts, encounter fewer perplexing problems as the manager of irrigated land in Idaho than he can as a college president. He will devote his time to getting the best from the soil and put to a practical test his college training. While one swallow does not make a summer, this concrete instance is a splendid illustration of the growing feeling that agriculture offers magnificent opportunities for men highly educated and thoroughly schooled. It proves that farming is sufficiently dignified for the most learned and sufficiently remunerative for those who demand a large interest from the money and energy invested in education.

AGRICULTURE

STARTING ANEW IN CANADA'S NORTH WEST

A Careful Review of the Present-Day Conditions.

THE INITIAL COST.

In the minds of many farmers in all parts of the globe at this time the agitating question is not so much concerned with where new land can be had, as with what kind of land it is, what it will grow, what the price is, and what it will cost to get past the first crop. The vast majority of the human race must be engaged in agriculture. Otherwise the race itself would perish from off the earth. Populations increase and must be fed. For that reason there are always more farmers, and always a demand for more land. This is especially true of the northern temperate zone. It is a pressing condition in the northern states of the Union to-day. Pressing because the best farming regions are becoming overcrowded, and our public lands have been to all intents taken up. That is one prime reason for the exodus to western Canada.

The farmer who comes to Canada does not care to settle upon lands in the great open reaches, away from the railways, or to wait for the railways to come to him, as his father or grandfather did in the old days when our own west was new. To the progressive man a farm means nothing without an immediate market, where he can get the best prices for what he produces. This has taken the new settler along the railway lines, and is attracting many of the most enterprising and best-equipped of them into the new three-million acre block of irrigated lands near the city of Calgary, in southern Alberta. The climate there is milder than in our own north, owing to the softening influence of the Chinook winds from the Pacific waters, blowing through the mountain passes. The soil produces heavy crops of the world's standard wheat, and general farming, including dairying, raising poultry, cattle, sheep and hogs, thrives as freely as in the best parts of our northern states. Under irrigation the crops of grain, root crops, fodder and all vegetables are greater than on lands that get their moisture only from the skies.

The man who is thinking about going over there wants to know how much it will cost him to establish himself after he gets his land. On this point I have made careful enquiry of many settlers, whose experience should be a fair guide to others. They vary in their statements, because they vary in their means, in their way of doing things, and in the way they want to live.

The general opinion seems to be that around $2,000 will put up buildings and fencings, equip a quarter to a half section farm with all necessary stock and tools, furnish seed, pay for breaking and cultivation, and sustain a family of say four people, thus carrying them over harvest time for the first crop. This assumes that the newcomer brings no stock, tools or furniture with him, but has to buy and pay for all.

During a recent visit to that neighborhood I interviewed successful farmers located respectively near Gleichen, Langdon and Strathmore, within easy reach of Calgary. Four were Americans and one an Englishman.

I first asked Gaylord Gibson of Langdon to give me an itemized statement of what in his experience would be required. He compiled by bringing down a tabulation that footed up to $1,347, explaining that it would suffice for a successful start on a quarter section, though unless a man intended to break and work more than that it would do for a half section, since it includes stock and equipment only, with seed for eighty acres:

Dwelling house (not including labor)	125
This amount will build a small three-room house, which can be made comfortable for the first two years.	
Barn and small grain bin	50
Fencing, 3 wires, post 33 inches apart, 21c per rod, 700 rods (not including labor)	150
Tools, carpenter and garden	15
Implements:	
Breaking plow (gang, $74), walking	25
Disc, 4-horse	45
Wagon	95
Other farming implements can be rented or bought on yearly payments.	
Teams, 4 medium-sized horses	600
Harness, two sets	50
Cattle, one good cow	35
Hogs	30
Poultry	12
Household furniture	60
Well, drilled, 200 ft. to 500 ft. dug and boarded	40
Feed for horses	50
Seed, 80 acres	80

"One can make a fair start on a much smaller capital provided he will put up with a few inconveniences for the first three years," commented Mr. Gibson. "I would say $500 would start a farm and put fifty acres into grain the first year. But only ambition and hard work will do this."

AN INTERESTING TRIO OF CHEVIOT SHEEP.

Pictured is a trio of Cheviot sheep, a breed held in high esteem by many flockmasters. In the experience of the Vermont owner of the sheep illustrated, C. H. Marshall, Cheviots are very hardy and the ewes excellent mothers. Lambs are always able to jump up and take care of themselves where members of other breeds would lie still and die. Cheviots shear about the same as Shropshires. Lambs mature quickly and weigh 80 to 100 pounds at six months of age, providing they are given suitable care. This breed is frequently called the Highland Beauties, since the home of the breed is in the Highlands of Scotland.

THE HORSE

GOOD OUTLOOK FOR THE WESTERN HORSE BREEDERS

Good Prices to Prevail and Demand Exceeds Supply.

ONTARIO CAN'T KEEP UP.

BY E. C. HINDS.

The outlook for profitable horse breeding is brighter in the Canadian West to-day than in any other section of North America. The climate, the natural pasture, the ease with which fodder crops can be produced and the water supply, are all conducive to the rearing of sound horses at a very reasonable cost.

As it requires four years to produce a horse mature enough for heavy work, the demand will so far exceed the supply as to insure good prices for good horses. During the past four years the price for good, sound horses ranging in weight from 1,350 to 1,600 pounds, and from four to seven years of age, has never gone below $225 per head, while the average price has been just about $250 per head. Horses weighing from 1600 to 2000 pounds have averaged $300 to $325 per head. The chief source of supply outside the limited number at present raised in the West, is the Province of Ontario, and many farmers in that province have acquired absolute wealth from breeding horses for the western trade. The average receipts of horses from Ontario for the first five months of the past three years were just about 1300 head per month, and this number not sufficient to meet the requirements of the trade.

Ontario is no longer able to overtake the needs of the West, for horses and dealers report an increasing difficulty in procuring supplies to meet the requirements of their trade. Men who have for many years been in the horse business in the West, report that there is a growing demand for western bred horses, as they are already acclimatized. The demand is also increasing for better bred and heavier horses. In fact, farmers and railway contractors in the Canadian west are merely repeating the experience of older communities.

The horse breeding of western Canada in the past has been mainly ranch breeding, and these range horses have made an enviable reputation all over the world for substance and endurance. Speaking generally, good sires have been used and the suitability of the country to horse ranching has done the rest. This statement as to a world reputation is not intended to convey the impression that western Canada has established an export horse trade, but merely, that considerable shipments of these western bred horses have been used for remounts for the British army in Britain, South Africa, and Australia, and wherever they have been used they have given proof of great staying powers.

Horse ranching, although it will be carried on for some years to come, both in northern Saskatchewan and southern and northern Alberta, and later in the newly opening Peace River country, will ultimately die out before the encroachments of the wheat growers. This fact, however, need not deter any man from going into horse ranching at the present time, if a suitable opportunity offered, because with care and good judgment he may make money for some years, and adjust himself to changing conditions in such a manner that when a ranch is no longer possible he will have the nucleus of a good stud farm.

The ideal, however, toward which the Canadian west is growing, is for every farmer to raise all the horses he requires for his own needs and have some to sell. In this way the needs of newcomers, railway construction drayage, and lumbering will be met, and as the market will never be glutted prices will be maintained. How many horses shall the grain farmer raise? It depends entirely on the size of his farm. If he is to supply his own needs and have some to sell, the man with 320 acres of land should raise, at least, two good colts every year. This presupposes four breeding mares, as 50 per cent. is a good average. Although draft horses are not fit for heavy work until they are at least four years old, the wise farmer will have his horses so trained from the time they are foals that light duties may be performed by the three-year-old not, only without injury to them but with actual advantage to the farmer when he comes to work the horses regularly.

"IAMS ESPOIS" (44420), ROYAL BELGIAN, FOUR YEARS OLD.

Weight about 2,100 pounds, imported and owned by Frank Iams of St. Paul, Nebraska.

A reader asks if there is any way to prevent heifers from becoming hard milkers. He claims that it has been so published.

If there is a way we have not heard of it. Hard milking is owing to the peculiar quality of the cells in which the milk is elaborated, and there would seem to be no remedy for it. Should there be an obstruction in the teat it may sometimes be removed, but the cause of hard milking is entirely different.

POULTRY

CHICK RAISING BY MEANS OF AN INCUBATOR

No Easy Matter to Succeed, But It Can Be Done.

ONE WOMAN'S METHODS.

BY MRS. AARON MERRITT.

I have one 120-egg incubator, and usually secure about eighty chicks at a hatching, running the machine four times each year. It may seem a little odd, but my first care after the chicks are taken from the tray is to dip each little bill in a spoon of fresh water. It is surprising how much they will drink, and it really requires but a short time to do it. My idea is that after 24 hours in a place at a temperature of 103 degrees, or even higher, they are naturally thirsty, and as I seldom lose any except through accident, I am sure it pays.

Their feed is oat flake for the first two weeks, with sweet milk to drink once a day. Fresh water, of course, is always before them. The milk takes the place of meat, although I feed fresh ground bone once a week, getting the bones at the market and grinding them at home. But meat or its substitute must be fed, otherwise the chicks quickly develop cannibalistic tendencies, and will proceed to devour each other! They must have grit at the start. The very best is that sifted from the ground shells fed to the grown fowls. It contains the necessary lime for the proper development of the growing chick. One of the principal things to be avoided in the care of young chicks is over-feeding.

For the first few days they should be fed often, as they eat very little at a time, but later, when their crops are enlarged, they will stuff, if permitted to, until their crops are bigger than their bodies. This should never be allowed, except for their evening meal. The better way is to keep them happy, contented, and scratching in a little fine litter for their food all day. It is surprising how even the little week-old fellows will work away for their food if given the opportunity. The incubator chick seems born to hustle for himself from the start.

On a farm where I aim to raise about 150 pullets each year, I use a small brooder house, heated by a stove. The house is banked to keep the floor free from drafts, and is always warm enough to keep the chicks comfortable and happy. Chilling should always be avoided. Chicks are only tender little birds, and their bodies are so delicate that what seems uncomfortably hot to a clothed grown person is hardly more than warm for them. Great caution should be exercised in this respect, especially for very early chicks, as chills mean a stunted growth if not worse.

As I am in a position similar to thousands of other farmers' wives who raise poultry of their own, further details as to my management may be worth attention. These have proved satisfactory and do not require as much time as one would imagine. During the day the chicks do not require brooding, as they will lie down and go to sleep anywhere. At night I put about 20 together in a box and cover them with a cloth that touches their little backs. As they grow larger, fewer should be put together. By this time they are so educated to what is expected of them they will gather about me when I take down the boxes and jump in of their own accord. I never lose any from crowding. By the time they are six weeks old they begin to perch of their own accord. My breed is White Leghorn. They begin feathering from the time they are hatched.

Of green feed, cabbage is the best, until grass starts, and as soon as the ground is warm the chicks have a freshly spaded spot each day to dig and wallow in. I feed corn meal johnnycake mixed with buttermilk to push growth after they are two weeks old, keeping up the bone and milk diet. The change from the oat flake must be gradual, otherwise the weaker ones are likely to be taken sick an die from indigestion. Where there is a demand for squab broilers, that is, young chicks weighing from 12 to 16 ounces each, it is best to sell if they bring from 40 to 50 cents each. But it must be remembered the greatest cost and care comes in the first few weeks of a chick's life.

It requires very little more feed to bring them up to the regular broiler weight of 1¼ pounds each, so if the price of the squab falls much below the above price, it is best to hold them longer, for the demand for the large broilers is always good, whereas only high-class hotels and restaurants use the squabs, which they serve as individual birds. Later in the season even this class of trade will not pay what the squabs are actually worth to the grower, when the large broilers are becoming more plentiful.

DAIRYING

MAKING GOOD ON ONE COW TO THE ACRE PLAN

Good Land is Absolute Necessity to Success.

SMALL FARM ADVANTAGES.

BY H. D. GRISWOLD.

That one cow to the acre can be kept I know, but you will smile and say "How?" In the first place the land must be good and in a high state of fertility. Big crops of corn saved in the silo, alfalfa hay, cutting three crops in a season, carefully cured, and sugar beets or mangels, will produce an immense amount of cow feed per acre. Oats and peas sowed together and cut for hay, followed by rape, also yield large amounts of feed. Pasturing is a wasteful method on high-priced land. The silo and soiling crops will support more cattle than pasturing. But why not take more land. In the first place, we are getting short of land; our new lands are being all taken up. Our government is spending millions of money to irrigate the desert lands and bring them under cultivation, to open ditches and drain our swamp lands, to increase the agricultural area, when we already have good land near market and convenient in every respect, but lying almost idle for want of knowledge. Our large farms are for the most part poorly tilled, robbed of their fertility because the owners will not keep the necessary amount of stock or the needed help to work them properly.

CHAMPION CHESTER WHITE BARROWS.

Owned and raised by Mr. E. D. Funk, Illinois. Bred principally in the run, following cattle.

The history of our nation shows that in the past our population has doubled in the past our population has doubled in twenty-seven years. That means that twenty-seven years from now we will have practically twice as many to feed from the same land, and that our acres must produce nearly twice the present product. Our young men cannot buy two hundred acres of land at $100 per acre and expect to pay for it in the old way of farming. A few acres, however, can be bought, and by the same careful thought and study that the professional man, the business man or the politician puts in his work, can succeed. The professional man spends three or four years in college and three or four more in his special line of work, and continues this by constantly keeping in touch, through papers and magazines, with all the discoveries in his special line. Even then, through the stress of competition, he may not attain unto wealth and distinction.

The advantages of the small farm are many. The hauling of manure and of crops is carried on much faster on account of the shorter distance. In using a manure spreader, a team and man will haul two loads forty rods in the same time required to haul one load two hundred rods. The same holds true in nearly all the hauling. Shorter distances in getting from the buildings to the work is an important item. Less fencing is required, less seed has to be supplied, a smaller amount of capital is needed, and taxes and general expenses are proportionately less. The hired help question is practically eliminated, as the man and his children can do the work themselves. The work can be done in season, and the farmer drives the work instead of the work driving him. The home on the smal farm can be kept more sacred, the housework made lighter, and instead of buying more land, a heating plant can be put in the house and a water system and sewerage disposal provided. The home is a co-operative institution in the best sense of the word, and the wife should have her full share of the best help for her work. Neighbors are nearer on small farms and social and school privileges are more available.

The farm home can be made the most beautiful spot on earth. Why not make it so? We commenced with one cow on our little farm of sixty acres, but have been able to increase our herd to fifty head, besides a number of horses and hogs. We have increased the fertility of the farm until it is able to produce practically all of the feed for this stock. We feel that we have just began to realize the possibilities of the farm, and although we are not yet quite keeping one cow to the acre, we will be able to accomplish that at no distant day, and at the same time receive a corresponding profit.

I love my wife, I love my children, my home and my cattle. My little farm has been in existence from the beginning of creation, and will be until the end of time. It is mine only in trust, not mine to rob and destroy, but to cultivate and improve for those that shall come after. Because I love these things, I care for them, and they give back to me blessing an hundredfold.

There is a great field opening in agriculture, and the young man who will put the same thought, study and hard work into it that is put into these other lines of business can achieve the comforts, the luxuries and the pleasures of a more quiet, independent life and possibilities yet unknown. When we get these educated, thinking farmers we will keep one cow to the acre, and we will feed the world.

STARTERS IN BUTTER-MAKING.

The value of starters in butter-making, the kind and amount to use, and the substitution of other materials for milk in making starters, are questions that are of great interest to buttermakers. The principle on which the use of starters is based is the influence which certain bacteria have on the quality and flavor of the butter. By pasteurizing the cream and adding a starter which contains the desired form of bacteria the character of bacterial growth in the ripening cream can be readily controlled. To determine just which starters are best, and whether it pays to use any at all or not, a series of extensive experiments were carried on by the Dairy Section of the Iowa Experiment Station, under the direction of Professor F. W. Bouska, dairy bacteriologist.

ANSWERS TO CORRESPONDENTS

NOTE.—Not more than one question from one correspondent can be considered at one time. Questions should be specific, clear and concise, and should be addressed to the Editor of the Agricultural Department of this paper. Any person requiring answer by mail must enclose stamped envelope.—Editor.

Lame Mare.—Subscriber, "A mare has a curb that makes her lame if she stands in the stable for a day. Is there a cure?" Treat as directed for E. J. H.

Flathead Reservation.—H. O. M. Information relative to the opening of the Flathead Indian reservation may be obtained by writing to the land office, Missoula, Montana.

Canker.—D. K. has a cow that has a foul smelling discharge from her ear. Clean the part with warm water twice a day, and after each cleaning inject a tablespoonful peroxide of hydrogen and continue until discharge stops.

Splints.—G. P. W. wants a remedy for splints on a horse's fore legs. Mix 1 dram biniodide of mercury with 1 oz. lard. Rub a little on the splints with the fingers every third week until lameness disappears.

Tumor.—O. R. "A year ago, a heifer had a swelling on her leg which subsided but has returned. The tumor would weigh about two pounds. There is also a swelling on the jaw. She has failed in flesh also. What will help her?" A season put through the tumor may help to reduce it.

Knock Kneed Colt.—A.M. "I have a colt that is well and strong but is knock kneed. Is there any way to straighten the legs?" There is no practical way way of bracing a colt's legs to straighten such a condition because the braces will chafe it. He may improve as he gets strong.

Wire Cut.—Subscriber. "A young horse was out by barbed wire above the fetlock joint. The cut healed but left a scar and a hard bunch has formed. What do you advise?" Cover the sore with a thick layer of powdered sulphate of zinc; keep in place with pad of cotton and bandage; repeat when needed.

Nasal Discharge.—N. S., "I bought a team of horses last fall; one of them has had a green discharge running from the nose for four months. Is this glanders or distemper?" If the gland between the lower jaw is enlarged keep the horse away from others and report to the Government vet at Ottawa.

Canker of the Ear.—E. T. B. has a dog that has a discharge of matter from his ear. Mix one part peroxide of hydrogen with two parts water. Inject a little into the ear with a syringe twice a day and continue until the discharge stops.

Impotence.—A. J. B. has a jack that is impotent. Mix 4 ozs. sulphate of iron and 2 drams cantharides. Divide into twenty-four doses and give one twice a day in bran mash until all are taken. Feed on oats, oil meal and clover hay and give regular exercise.

Imperfect Colt.—Reader. "Mare was worked steadily though carefully before foaling. Foal was ruptured and deformed in leg and did not live. The mare had no milk only sticky water. What was the cause of this condition?" It is often difficult to find the cause for such a condition of imperfect foetal development, and in this case I am unable to say where the fault was.

Lice on Cattle.—J. M. "What will kill cattle lice on horses?" The best thing after cold weather is past is to use any good dip; repeat in about a week. If it is desired to treat in cold weather rub mercurial and sulphur ointment back of horns and ears and along the mane and back and dust insect powder into the coat.

Seeding Questions.—F. L. J. "1. What is the best grass to sow to cut this year? 2. What grass best adapted to my locality? 3. Would clover and timothy do well on spring plowing?" 1. German millet. 2. Bromus, timothy and clover are recommended. 3. Not generally, they require a solid seed bed such as is secured on fall plowing.

Cabbage Worms.—Subscriber. "What is best to kill green cabbage worms?" If plants are dusted with pyrethum powder once a week during the presence of the worms they will cause little trouble. Mix the powder with five times its bulk in flour and dust on with bellows. This powder is considered harmless to man and the higher animals.

Cows Eat Manure.—"I have three cows that eat horse manure; seem to be crazy for it, also eat the water-trough. I feed them wild hay, ground oats and give them salt but they do not seem to care much for it." Get a sack of bone meal, which is made by our packing companies. A small quantity now and then will stop all further trouble.

Rats—Itch.—A. S. F. "1. What is a good method to exterminate rats? 2. I have a horse that has some kind of itch. There are no lice that I can discover. What is a remedy?" 1. We know of nothing better than the rat poisons advertised in this paper. 2. Use any of the dips advertised in F. S. H. Repeat the application after about eight days.

Lameness.—R. N. R., has a horse whose foot was pared on account of having a corn. He keeps very lame. Poultice the foot with warm bran mash put into a bag and tied on the foot. Change the poultice twice a day and continue for one week. If the horse still continues to be lame mix 2 drams cantharides with 1 oz. lard. Rub this around the coronet, let it remain on for twenty-four hours, then wash it off. Give the horse several weeks' complete rest.

Curb—Horse's Color.—E. J. H. "1. A three-year-old colt became suddenly lame while turning short with the harrow. I think it is curb. What is a remedy? 2. Does color affect the market value of a good horse and if so what color is best? 1. Blister same as for spavin; hydrarg iod rub. 2 drams; pulv. cantharis, 1 dram; petrolati, 6 drams. Apply with friction and repeat in eight days. 2. Bays, black and sorrels sell best as a rule.

Kick.—E. C. W. has a mare that was kicked on the knee. There is a small, hard lump on the knee and the mare is lame. Mix 2 drams cantharides with 1 oz. lard. Rub a little of this on the knee, let it remain on for twenty-four hours, then wash off and repeat in two weeks if needed. Keep the head tied so that the animal cannot get its mouth to the part while the blister is on.

Lameness.—D. M. has a horse that has been lame for two years. When first taken out of the stable he is very lame, but improves somewhat on being exercised. There are two small lumps just below the knee. They have been blistered, but this does no good. Little can be done for chronic lameness. Such an animal should be kept without shoes. Medicine will be of no service.