

Nitrogen.—33 pounds would be contained in 220 pounds nitrate of soda (15 per cent. nitrogen). Available Phosphoric Acid.—160 pounds would be contained in 1,067 pounds acid phosphate (15 per cent. available acid phosphate). Potash.—60 pounds would be contained in 120 pounds muriate of potash (50 per cent. actual potash).

Total 1,407 pounds.
Filler 593 pounds.

2,000 pounds.

The total plant food contained in one ton of this fertilizer is supplied by 1,407 pounds nitrate of soda, acid phosphate and muriate of potash. To produce the ton would require the addition of 593 pounds of useless "filler."

I think the mixture which some of you gentlemen generally employ for beans, viz., 300 pounds acid phosphate and 100 pounds muriate of potash, per acre, a very suitable one, and you have proved its value. In this mixture of 400 pounds you have 11.25 per cent. available phosphoric acid, and 12.5 per cent. actual potash, whereas, in the "bean fertilizer" examined, the proportion of potash to phosphoric acid is as 3 to 8.

We have seen, then, how the value of a fertilizer may be estimated, but have also observed that the value is relative, depending on the adaptability of that fertilizer for your special purpose.

This explains one of the chief advantages of home mixing. We might liken crop-demands for the three plant-food substances to our demands for clothes. While usually, a fertilizer should be compounded of certain proportions of nitrogen, phosphoric acid and potash, according to the nature of crop, soil and other conditions, yet there are special cases, as in that of the bean crop, where one ingredient may be entirely dispensed with in the fertilizer. To proceed with the analogy, one usually purchases a suit of clothes consisting of coat, vest and trousers made to fit one's particular build; but under certain conditions, such as those which prevailed last July, a two-piece suit, consisting of coat and trousers only, would have satisfied the clothing requirements of most of us. To push the semblance still further, we find, amongst Highlandmen, many who have no use for trousers at all, and it would be folly on the part of any tailor to attempt to sell, ready-made-up, three-piece suits to these people, who know their requirements, and would never part with money to purchase what they did not need.

Alfalfa in Nova Scotia.

Editor "The Farmer's Advocate".

I read with interest the address, "Hardy Strains of Alfalfa for Ontario," published in your number of Jan. 4th, 1912.

We are thinking of sowing a small piece of land with alfalfa in the spring. Could you tell us what kind of land is most suitable for it? Must the land be well drained? Would a side hill be a good place? About what time do you sow it, and how many pounds to the acre?

Very little alfalfa is grown in Nova Scotia, but I cannot see why it would not do as well here as in Ontario or Minnesota. May I ask the question, can alfalfa be successfully grown in Nova Scotia? I know it has been experimented with, but, as I did not take much interest in it until lately, and as I intend to start farming in the spring, I would like to get as much information as I can on the subject.

C. M. D.
I misunderstood you when you asked me to reply to enclosed letter from C. M. Dunn, dated from Yarmouth on January 10th, and I sent the reply directly to him. The following is a copy: "Alfalfa is still in the experimental stage in Nova Scotia. Fully 500 farmers have experimented with it, but, up to the present time, only a small percentage have been reasonably successful. However, there are many reasons which lead to believe that it is well worth while continuing the experiment, and I would, therefore, advise you to try an experiment for yourself on a small piece of ground—not more than one-quarter of an acre. Select a naturally well-drained piece of land, where red clover does well, and which has preferably been in hoed crop the previous year. Give the land extra good tillage and sow the alfalfa, preferably without a nurse crop, at the rate of about 20 pounds per acre.

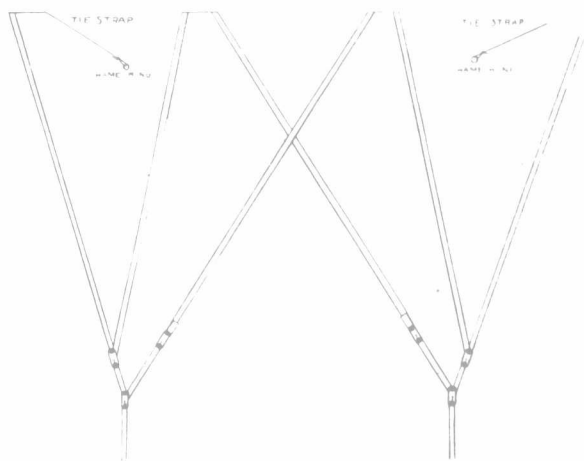
The most frequent causes of failure have been the heaving out by frost in the spring, in order to avoid which you will, of course, select a piece of land that is either naturally or artificially well underdrained. Another frequent source of failure is the fact that the bacteria essential to the best growth of alfalfa are not usually present in the land which is being seeded to the crop for the first time. On this account, inoculation of the soil with the necessary bacteria is strongly recommended. This can either be accomplished by spreading soil from a field in which alfalfa has successfully grown, or it can be brought about by artificial inoculation with culture, which can

be secured at the Agricultural College, Truro, at the nominal price of 25 cents for a bottle containing sufficient bacteria to inoculate 60 pounds of seed. We know of several instances in Nova Scotia where farmers who had previously been unsuccessful with alfalfa, achieved success through this artificial inoculation."

M. CUMMING.

Lines for Three and Four Horses.

Every spring season brings a grist of inquiries for lines and eyelets adapted to work three and four horses abreast. There are various designs for such lines, but some of them give very imperfect control of one or two of the horses. In working three horses abreast, for instance, some merely tie in the third horse to the hame-ring of the center one; others put the usual two-horse lines on the outer horses, running the cross lines to the middle horse and tying the outer horses to the hames of the center one. Neither of these methods is safe or wholly satisfactory. The accompanying cut shows a convenient arrangement which will give complete control of three horses, and fairly good control of four. We have used it on a snappy team the past season, as depicted, with considerable satisfaction, but are thinking of adding a third cross-check to each main line, so as to secure perfect control of the two outside bits. The lines are "rigged up" as follows: Taking an ordinary pair of lines, punch a few holes from three to five inches back of the usual cross-line buckles. Get your harnessmaker to make a pair of short checks about ten inches long, each with a buckle on one end. Slip the long end of the main line through this buckle. To the other end attach an extra cross-line 7 ft.



Four-horse Lines.

4 in. long, with the usual buckle on the rear end. Slip the strap end of the short check through this buckle, and adjust length to suit the team. The object of having the extra cross-line in two pieces is for the sake of convenience when changing from a three-horse or four-horse to a two-horse team, and back again. The short piece may be left on the main line, and is but little in the way. Your lines are now ready to use on two, three or four horses. With three horses, the extra check goes to the inside bit-ring of the outside horse; with four horses, it goes to the inside bit-ring of the second horse from the outside in each case. The total length of the extra cross-check, as we use it, is about 8 feet, or a little less, but one requires enough holes in the main line and on the short piece of the check to allow considerable room for adjustment.

How to Grow Alfalfa.

The findings of Purdue University in experimenting with alfalfa, as recorded in Circular No. 36, show that alfalfa may be successfully raised on almost any type of soil, provided it is well drained, sweet, free of weeds, and well supplied with organic matter and mineral plant food.

Good drainage must be provided.

The ground must be free of weed seeds.

If the soil is sour, it must be limed before alfalfa can do well.

Soils lacking in fertility should be well manured, as alfalfa requires large amounts of plant food.

Inoculation of the soil will generally be necessary, and must not be neglected. Soil from a good alfalfa field, or from a place where sweet clover is growing should be used for inoculating.

The best land on the farm should be used for the first trial of alfalfa.

If successful, it will pay better than any other crop.

Alfalfa is an excellent feed for all kinds of live stock.

It is rich in flesh-forming and milk-producing nutrients.

It is more digestible than red clover, and is not far behind such materials as wheat bran in feeding value.

Alfalfa will yield from three to six tons of hay per acre per season, according to the fertility of the soil.

The Tragedy of the Big Farm House.

This is not a story of fiction, nor yet is it the description of any one house. We say this on the start, that the reader may not say to himself, "this means me." If the reader will but think, these remarks will apply to a great many, unfortunately.

It is often said that the farmer has now many luxuries, such as telephones, large houses, etc. These things have all to be paid for, and a large house is in too many cases not a luxury, but a great burden; and it might be worth while for some who are not yet in the mire as yet to look at the other side of the question.

In travelling through the country, one sees that each year the houses built are larger and finer. The size of the house built bears no proportion to the size of the family, and not generally to the size of the finances. The main object would seem to be to outshine the neighbor. It would be altogether too strong to say the house is "conceived in sin," but the real motive is simply to outclass someone else, shows neither strength of mind nor a commendable disposition. And a life-long repentance follows, but it is not "repentance that is good for the soul," but repentance that brings gray hairs. Of course, there are many exceptions; exceptions, they say, prove the rule. Sometimes a man does not need to count the cost and has a large family of girls willing and able to care for the big house. These cases are very few, and the man with the big wad doesn't generally put it into a big house in the country, as he knows he might about as well put it in the stove, if he looks at it from the point of an investment, because the big house in the country will never bring half of what it cost to build, and one does not live forever. If the place is turned over to the boy, instead of being sold, and the house is valued at what it cost, then the boy who gets the homestead is often worse off than others who get the cash.

Farmers, in building, generally have the building put up by piece or day labor, finding everything, thinking they can do much of the work themselves and "it will not cost them anything."

The result is that, by the time the house is finished they find they have to pay \$1,000 or \$2,000 more than they figured on, and often this has to be borrowed, or, worse still, stock is disposed of and so reduced that the earning power of the farm is much diminished, and he must work hard, save and scrape, lay awake at night worrying about this "loss," for so it seems—and a loss it really is; that much money lying dead and idle. But the tragedy does not stop here, rather just begins.

The goodwife may for a time take pleasure in her fine house and enjoy the envy of her neighbors (if she does not know that her Goodman had to borrow the money that he "didn't figure on" in his estimate of cost), but after a while even she finds it is not all pleasure; she has to be on the go all day long trying to keep the house in order.

The house being large, to save fuel, it is kept shut up tight; no fresh air can enter. And, what between poor air, work and worry, no time to visit neighbors for change and recreation, what wonder the health suffers. The woman, instead of being the mistress of the house, becomes its slave. The house is the real mistress, making incessant demand, claiming all her waking time to look after it. There is no time to visit, consequently, no visitors to receive. Thoughtful friends don't like to call, because, forsooth, has she not enough to do looking after the house, without being bothered with visitors? What is the big house for, anyway? Oh, the tragedy of it all! Where will it end? Worn out whilst still young, death is a welcome release. The parlor is thrown open to receive visitors then. The mistress is no longer the slave; death has given her her release.

But to return to the finish of the house: In order that things may have some agreement, there should be a lawn, shrubs and flowers around the house. These things all take some work to care for, but add greatly to the appearance of the house. Too often too much ground is laid out or left for lawn. It takes too much of the busy farmer's time to look after it, and is generally left to look after itself. It is always better to have the lawn small enough so it can be kept neat and trim. And how much better to have a tidy, comfortable-looking house, just big enough for the actual needs of the family and visitors, surrounded by well-kept grounds? Such a place is a real house, a real pleasure, and also a credit to the owner's taste and common sense. In the town, servants can be more easily secured; the incomes of some people are larger than the farmer's, and they can afford to pay for it; also, help can be secured by the day to do much of the work in the house. As to the larger grounds, a man is kept all the time to keep them in order. Smaller grounds are kept in order by a man who looks after several lawns, and the town man has shorter hours and more time to do it himself. A few do it, but