THE FIELD AND FARM

FORAGE FOR WINTER USE.

If a farmer will as rapidly as may be reach the point where 60 acres of 160 are devoted to grain each year he will not be far off the road leading to soil fertility. The remaining 100 acres may be profitably devoted to pasture, clovers and roots. Much will naturally depend on location as to the subdivision, according to these requirements. If he is situated as are many of our far western farmers with the benefit of open range for summer grazing he is certainly on the highway to wealth as he can thus carry from four to six times the number of cattle that he could in side fences and can devote the area which would otherwise be required for pasture to the production of forage for winter feeding. From two to three months is the average period for feeding and it is safe to estimate a ton of hay a head for winter feeding, counting half the herd to be young things. In much of the west three crops of alfalfa and two of other clovers can be cut, the average yield of which would approximate five tons of alfalfa an acre and three tons of red clover or alsike. But where does timothy come in? It does not come in on the ideal farm. It is a thief, a shameless humbug, impoverishing the land on which it grows, forgetting to yield when harvested and possessing the barest value as a food plant when compared to the clovers. There has never been an acre of timothy sown upon my farm and there never will be with my consent. Our lands are too valuable for the production of fat and muscle forming foods to waste their fertility in producing a crop that is but little better than so much roughage. I am aware that this opinion will awaken opposition and that many good farmers and team owners will not agree with these sentiments, but my work is not conducted on the principle of the endorsement of the theories of others. It will be said by some that they have teams well fed and nourished on grain and timothy hay. This may be true but how much of this condition is due to the hay and grain? How do they know but that the timothy is only doing the work of roughage? On one occasion six horses were tested for thirty days, two on clover hay and grain—these two were handling the mowing machine—and four were fed clover, hay and no grain. The four were working on hay and manure wagons for the same time. The total average gain for the six horses during the thirty days was fifty-two pounds. This shows that clover has a very high nutritive value and if by its use an eminently better feed can be secured, a yield of from three to four times greater and the soil be in far better condition for subsequent grain crops, why should we waste time and land in producing timothy?—S. M. Emery, Field and Farm.

TO CAPTURE NITROGEN.

By far the most expensive of the manurial elements that we must feed into the soil is nitrogen. Strange as it may seem, this most expensive element is the most abundant in nature, and makes up four-fifths of the atmosphere about us. There was a time, and not very long ago, when all people believed this great mass of nitrogen to be unavailable. All the scientists taught that there was no way of getting at this valuable store, and that we could avail ourselves of its presence only when the slow processes of nature elaborated it for us.

A decade and a half ago, American and German scientists discovered that the books were all wrong on this subject, and that there is a great family of plants, the deguminosae, that is able to fix nitrogen by means of bacteria that live on and in its roots But where these bacteria exist root nodules are formed. When clover plants have no such nodules their growth is slow and development weak, unless the soil be very rich in the nitrogenous elements. Where not naturally rich the soil may be made suitable for the legumes by bringing soil from other localities where the legumes have the nodules desired. A recent report states that the soy bean has been grown at the Kansas station since 1890. Only recently, however, have tubercles formed upon the roots, and this was brought about by artificial means. Inoculated soil was obtained from a soy bean field at the Massachusetts station, and by scattering it over the Kansas land, plants with tubercles were grown, producing an increased yield and a higher percentage of nitrogen. Several methods of inoculating were tried. The seeds were thoroughly wetted in a bag suspended in water, into which the Massachusetts soil had been stirred. Again, the dry soil was sown broadcast over the fields, and in other cases was mixed with the seed. The best results were obtaind by sowing inoculated soil in the drills.

Sowing alfalfa on sod or on unplowed ground is one of the questions propounded to us recently, or rather our experience or what we remembered about the experience of our readers was the question. It seems we have published something of this method, but have forgotten just what. We are ready, however, to give testimony as to our opinion of the practice at this date and also to cite some experience of Smith River farmers. The concensus of opinion in regard to seeding land is that it is best to put the land in the best posible condition before attempting to seed. There is no work on the farm that pays better than the preparation of the land. We care not what the crop may be this is the conclusion of most farmers. John G. Lewis, manager of the 2,000 acre farm of Lon Lewis, two and a half miles from this place, says, plow land deep for alfalfa just the same as for grain and smooth it perfectly. He has had experience in seeding alfalfa on unbroken stubble, disking it in; has also sown the seed broadcast on plowed land, but he says by all means plow the ground thoroughly and seed it by drilling. On bench lands he recommends drilling for all kinds of seeding, grains, grasses, etc. When asked in regard to a nurse crop for alfalfa Mr. Lewis answered he did not use any—that the plant does best without. In seeding any kind of grass Mr. Lewis prefers not to use the nurse crop. These conclusions are the result of experiences from farming on a large scale and may be relied upon.

The substantial ground occupied by agriculture is shown in the work of the federal census relating to farms and farm occupants, soon to be made public. Advance figures from Washington, D. C., show a gain in the number of farms in the past decade exceeding 1,000,000. The gratifying thing is the fact that the subjugation of wild but fertile land, and the cutting up of large farms into smaller ones, has gone on steadily and compares very favorably with the boom period of the early 80's. In the decade, 1880-90, there was a gain of less than 600,000 farms; in the past decade there has been a gain of 100,000 yearly. Nor has the limit of home expansion been reached, with our annual purchase abroad of agricultural products to the value of $150,000,000.