tion of the necessity of alternating the long fleshy perpendicular rootsof which orops with a view of maintaining the fortility of the soil; and even now there are some to be found, who show by their practice, that they are in profound ignorance of the reasons profound why such alternation is so desirable. When the English landlords insert

ed clauses in their tenants' leases that not more than two straw crops should be grown in succession, the said to uants objected to such arbitrary restrictions; and yet the rule protected them, eventually, from the ovil results of their own short sightedness. It is a pity that some farmers here could not be similarly coorced for their own good.

It will scarcely be credited that such is the fact, but I will relate a little incident to prove the truth of my assortion. Last summer, I was travelling in a certain district with a farmer, and I remarked to him that a field of oats we were passing was bear-ing a light crop. "Yes," said he, "it is, but I have had oats on that piece soven years running, so I must try another kind of crop next season."

To show the absolute obligation we are under to rotate our crops, we must romember that, while all plants exhaust the soil, all do not do so in the same degree, or in the same manner; that some crops return to the soil cor tain elements which are necessary to the growth of a succeeding crop; also that some plants are the means of en couraging the growth of noxious weeds, while others smother and des-troy them.

So that we have two classes of crops that is to say, exhaustive and ame liorating, or some which may be cul tivated on their own account, and some which are mainly useful in proparing the land for their successors.

If we trace the action of Nature, we shall see that some plants are provided with what may be called a migratory apparatus, as the down of the Thistle and Dandelion, the awn on the barley corn, and the like. The esculent fruits bear their seeds in the centre and they are then disseminated by man, or the animals that consume the fruit All this shows that Naturo has provided a means for all plants to find now land of the fertility suitable to them, and that if we are to have abundant crops we must imitate her and follow her teachings.

Migration is also effected by runners of some plants, as in the strawb rry. or by the roots of the potato, that is to so say, the fibrous or radical roots which produce tubers at a considerable distance from the parent plant

The lowest order of vegetables possesses this power of migration in a re-markable degree. Mushrooms never rise in successive seasons on the same spot. But onough has been said to show that the arguments in favour of rotation are most conclusive.

Now, we shall notice which plants are those which are exhaustive, and which are ameliorating. The coreal plants and most of the grasses are those which exhaust the soil the most, because their structure is chiefly of a fibrous nature, and their leaves are not suitable to absorb air or moisture to any great extent, so that they must drain their nourishment direct from the soil, and their roots are dried up and drained of all their juices in the process of forming the plant, and maturing the seed.

On the other hand, plants, well furnished with thick, porous, green leaves, absorb from the atmosphero carbonic acid and oxygen : these are given back to the soil by being deposited in the roots. The leguminous plants, resulting in a hurried and imperfect such as peace, beans, tares, clover, the performance. By employing addi-

retain the plant food which their leaves and toms obtain from the air, and leave them in the soil-and by this means a good crop of cereals can be raised, without the application of any other manure.

It must be noted here that all plants do not roturn to the soil the same quantity or quality of manuro they have taken out, but have changed it by a peculiar process of elaboration into elements best suited to the following crop of plants of an opposite naturo.

We have said that some crops are apt to smother or otherwise discourage the growth of weeds, and some encoarage their growth and permanence. All plants, the leaves of which overshadow the ground during the summer months, are inimical to the growth and development to full maturity, of weeds-all crops that we can hee during the growing season have this quality, but nono aro so effective as plants which entirely cover the ground such as corn, tares, tobacco, rape, &c., because they completely keep away the sunlight, and the worst weed, couchgrass, for instance, cannot exist without it.

Therefore a rotation of crops is necessary, if only to give us a chance to free them from weeds, periodically at loast.

There may be differences of opinion as to exactly what crops should succeed each other but we observe on broad principles that gramineous, grass, &c -or grain-crops never should ; cerealbut either roots or legumes should be made to alternate with them, and that a cleaning crop should be planted as often as possible.

It has been said-quaintly-that the farmer's bank is his manuro pile, and rotation his wheel of fortune.

The wise farmer does not want to in crease his acreage, because by doing so he increases his labour and his other responsibilities, but he wants to increase the fertility of that which he already possesses.

That is true : honest successful hus bandry. not barbarous deplotion of fertility.

G MOORE.

HINTS FROM ENGLISH FARMING.

EDS. COUNTRY GENTLEMAN. - It is generally conceded that, taking one season with another, the American farmer's net returns exceed those of his English cousin. Several causes contribute to this. The price of land in England, the major part of which is rented, is higher than in the States; the growing season here, although shorther, is more favorable to many crops, while some very profitable to us cannot be raised there at all. On the other hand, British tillers of the soil attain to greater perfection in the quality of most of what they do pro duce, which is principally owing to suitability of climate and length of season allowing crops to manuro gradually. Notwithstanding that labor is more plentiful and cheaper in England, the system of farming there is so thorough and the methods employed are so slow and primitivo-consequently increasing the cost-that I fancy after all there is not so much difference in the farm labor bills of the two countries as is supposed.

Among the drawbacks to larger profits on the part of the American far-mer, is the amount of work which must be done in a short time, often

tional labor this could be, to a great extent, romedied, and the better cultivation thereby obtained would in most cases provo it to have been a profitable investment in England it is considered that the greater the pains taken, the greater and better will be the crop while the minutest detail in the treat mont of the different crops is never omitted. Where the same consciontious cultivation in universal use here our farmers net profits would still further exceed those realised on the other side of the Atlantic. It is only by slow degrees that the leaven of agrioulture, so carefully prepared by ex-periment stations, colleges and lead-ing agricultural papers, is spreading through the whole lump, and until a complete leavening does takes place, we must not expect to far outstrip our rival in Great Britain, where most of the land is owned or rented by the same famillies, and tilled by the same laborers, or their descendants, generation after generation; where, too, if the performance is not speedy, or under improved systems, it is at least complete.

In a recent English (Gloucestorshire) newspaper, containing a report of the Root, Fruit and Grain Society's show of field crops in that county. there appears the following: crop (mangold wurzel) is the beat I have weighed since I have judged for nive weighed since I have judged for your society. Mr. J. Griffiths (Ber-wick Farm) is first, with the heaviest I ever weighed, viz., 59 tons, 2 cwt. 3 qrs., 12 lb. per acre," which is more than 66 tons American weight. Due allowance being made for difference in climate and season, how often do we hear of a proportional crop of mangolds being grown here? The swede crop was reported as below those of provious years, the first prize being captured by the grower of 24 tons, 17 cwt., 1 qr., 20 lbs to the acre-271 tons American weight, At 25 conts a bushel this would amount to \$229. Mr. Crozier, one of the best autho rities on root-growing, in "How the Farm Pays," gives the average of mangolds as 30 tons or over per acre, and that of swedes as 25 tons, and considers the average value of the former for feeding live-stock to be \$4 per ton, and of the latter \$5, as com-pared with hay at \$15 per ton. This would seem to show that swedes (ruta bagas) are the most profitable, as certainly they are the most salable crop of the two for us, while mangolds, on the same basis, appear to twice as well as swedes in England, supposing that the cost of cultivation of swedes and mangolds is about tho These crops are mentioned to same. show what English cultivation is capable of doing, and I should much like to see some such crops reported as having been grown here. But before it can be generally done, we must have more intelligent, careful and systematic farming.

A neighbor of mine, whose specialty is carrots and rutabagas, says of the latter that when once his land is fitted for them, it does not cost him more than two cents a bushel to raise them: ho gets an average of 600 bushels, which, at 25 cents a bushel' gives him \$150 an acro. His carrots yield abou the same average quantity and bring the same price, and are disposed of to gentlomen in Rochester for their driving horses, the rutabagas being sold at butchers' and grocers' stores. Turnips and carrots are not always in demand, but rutabagas never fall to find a market. J. H. C.

Munros County, N. Y.

ORCHARD OR TIMOTHY GRASS FOR HAY.

When cut in the blossom, orchard grass is fully as nutritious and good for cattle end horses as timothy, as the following table of analysis of the N. Y., experiment station shows:

	Asb.	Protein.	Fiber.	Slarch, etc.	Fals.
Orchard grass,	7,4	9.6	30.4	49 3	3.3
Tunothy,	5.7	7.9	29.9	53,6	2.9

Director Collier writes us: "From the percent of protein or flesh forming elements in the grasses it would appear that orchard grass should be more generally introduced into pasture and mowings wherevee the catch is permanent. Orchard grass grows is permanent. in tufts owing to the manner of growth of the roots, but in this respect timethy is hardly an improvement over orchard grass." The trouble with orchard grass is that unless cut early it is very woody.

Farm and Home.

Poultry-Yard.

FOWLS FOR PROFIT.

Table Fowls-The Dorking.

The Dorking is the English ideal of what a table fowl should be, and the Colored—or, as it is there frequently called, the Dark-Dorking is the ideal varioty, not porhaps because its flesh is better or its shape more perfect or its plumage more beautiful, but because with equal quality and beauty it has

the largest size. The Dorking is a very old breedhow old, no one knows. A passage from Columella is often quoted to show that it is older than the English nation, and that it perhaps was introduced into England (1) along with the conquering cohorts of Casar. Although this passage gives a brief description of five-tood brood, with not a few Dorking characteristics, no one pretonds to take it quite seriously, and it is believed that it is perhaps not older than 100 or 150. But even a century is a pretty good age for a breed, when we consider that many of our modern favorites are less than 25 years old.

At one time the Colored Dorking was losing ground, or at least it did not hold the place it now does. It was a smaller fowl than it now is, and less porous in constitution. And then an outcross was made with a large, vigo-rous fowl, possibly of Malay blood, though its breeding is very uncertain, with astonishing results. The Colored Dorking became a bigger, a stronger, more vigorous fowl. The birds having this blood in them astonished the poultry-admiring public. Nothing like them had been seen before. The success was sudden, great, and, best of all permanent.

There are two characteristics of the Dorking that deserve especial montion —its five toes on each foot, and its parallelopiped body. The first is parallelopiped body. a vory good evidence of its breeding, the second enables it to carry the immonso quantity of meat that has given it high rank as a table fowl. But the five tees are not always produced even on well-bred specimens. I remembor solling some eggs once from a fine pen of this variety to a customer, and

(1, Britain if you please, Cæsar nover saw Bagland.-Bo.