

and fattens faster after it is ten weeks old, than before, and requires less milk to carry it on; and the profit is greater, inasmuch as one large calf incurs only one prime cost, one risk of life, and one commission; whereas two small calves incur twice the cost and risk of life. The butchers bleed the calves repeatedly, before slaughtering them; and they judge of the color of the flesh by looking at the inside of the mouth and the white of the eyes. "The profit of fattening calves," observes Mr. Main, may be judged of by an example in figures, which I have oft experienced. A calf is suckled for 10 weeks, and weighs from 10 to 11 stones imperial, *sinking the offal*, as it is called in London. The calf fetches £5 at market, from which deducting 30s. which it might have been sold for when a week old, and 5s. salesman's commission, leaves a profit of £3 5s. or 6s. 6d. per week for the cow's milk. Now, deducting 2s. 6d. per week for the keep of the cow, the bare profit left is only 4s. per week. But it must be remembered, that a good cow will fatten off two calves while she is in milk—some I have had, two and a half; but this can be but rarely accounted on. Still, taking one cow with another, kept for the purpose of suckling, her annual returns will be nearly what it is commonly estimated at, namely £12. To insure this, or any other sum, as clear profit, depends entirely on the attention bestowed on the cows and calves. Some cows are odd-tempered, letting down their milk only to their own calves, and withholding it from those they are made to foster. This, if not corrected, will injure both cow and calf; the one will be starved, and the other will soon become dry.—*Stephens' Book of the Farm.*

THE CULTIVATION OF DUPLICATE CROPS ON THE SAME LAND.

Of the new propositions which are made to the agricultural public, that of growing more crops on the same area of land is amongst the foremost. We do not mean growing a larger produce of the same kind of plants, but the production of either several kinds of plants in one year, in succession, or at least the combining of them, so as to interfere as little as possible with each other, and by this means yield a much larger proportion of food from the same soil.

Now, theoretically, this is decidedly correct. There are many plants which have a large leaf development, and derive a large proportion of their sustenance from the air and from the water. There are others which have a small leaf development, and hence derive a large amount of nutriment from the soil. The same may be said of roots. There are some which send down wedge-like tap roots, and derive a large portion of their food from the lowest stratum of soil—almost from the subsoil. There are others which are continually spreading their small filaments sideways, in all directions. Now, these may be combined; for they do not much interfere with each other mechanically. So, chemically, there are some plants which feed largely on a certain class of mineral constituents, and but slightly on others, and *vice versa*; while some feed on the organic and some on the inorganic, the one in larger proportions than the other. Now, if these could be so combined together, on the same soil, it is perfectly feasible to suppose that a much larger amount of food per acre, might be obtained of two kinds of produce than one. Hence, some parties have mixed seeds. They have sown rye and wheat together,

called maslin; and they have obtained a larger produce per acre, in bushels, than they could possibly do by either the one or the other. They sow two or three kinds of turnip seed at once, and as they go on in the process of turnip hoeing, they throw out the least promising looking plants, and they find that nature has, for the soil and season those individual plants, or that kind of turnip plant which is best adapted for the one and the other, and hence have a larger crop.

But there is another mode in which crops may be combined; they mature at different periods. Hence, artificial grasses, which are useful in their second year, are sown with barley which ripens in the first, and is, consequently, out of the way before the second crop is required, and instead of wasting two years over producing it the land is going on. But there is manifestly a limit to this mode of farming. We well remember a theorist, who, seeing the fertility of good grass land, determined to try his hand at growing beans on grass land without ploughing up. He commenced by driving a deep cut in the grass, a little wedge-shaped, and in this he put a set of rows of beans. His plan was, to have wide rows of beans growing with grass, the latter to be hand-mown, and so eaten while the former were ripening. He calculated that as the beans did not occupy above one fortieth part of the absolute surface—at least in the early stages of their growth—the loss of grass would be scarcely perceptible; while, if he got some twenty or thirty bushels of beans per acre, as he fancied he easily could do on fresh grass land, he imagined he had found out the way to get rich. And he did sow; he mowed the grass; he watched the beans; but they grew up to a certain period, some five or six inches high, and withered away; and all his plan of combination faded away.

We have seen, in gardens, beans, and even cabbages, grown with potatoes, on the same land; nor could it be said that, in ground so highly manured as garden ground generally is, there can be any want of crop—any over-cropping of the soil; and if on a farm, a greater weight of nutritious green food could be grown, by adopting any of the schemes which are propounded, there is no doubt but it must considerably benefit the farmer. But how far can it be done? Great success is, sometimes, reported to have attended the cropping of a dry, blowing sand, curing its fallow time, with mustard and rape succeeding it. Instead of the open fallows, in the south, all the year a bastard fallow is sometimes made, and winter tares sown, to cart off, and eat on the land green with sheep, so manuring and consolidating a soil, which is afterwards broken up, and mellowed by the plough, the drag and the harrow. A crop of rye is sometimes taken off between the wheat and the turnips. We recently met with a gentleman, who is a theoretical chemist, and who makes agricultural chemistry his peculiar study, who very strongly urged upon the agriculturists, so far north as Yorkshire, to insert a green crop of some description between the wheat and the turnips as a rule. He argued that, the wheat being off, say, in September, there was ample time for stubble-turnips, rye, Italian rye-grass, winter-tares, or some such green food for stock; and that, all this food being absolute gain to the farmer, on which no more rent, rates, tithes, and very little labor, were chargeable, it must be an advantage to the farmer. But this is not so. The climate is too cold and backward for stubble-turnips. The lighter soils, on which this would be applicable, if carried out, would be so opened by the mechanical influence of