

at about the same time, when the timothy is just heading out, and when out together at that period make the finest quality of stock hay for cattle, horses, or sheep.

#### SUPERIORITY OF ALSIKE CLOVER.

Red clover in our American soils usually stays in the ground not much longer than two years. Its long tap roots penetrate the ground deeply, and in our severe winters, sometimes freezing two feet or more deep, are apt to be thrown out in the early spring and lie dead on the surface, thus destroying the expectant coming crop of hay. Alsike, on the contrary, throwing out its fibrous roots near the surface, are not drawn up by the frost, and retain life for so many years as to remain permanent. Such has been the several years' experience of those who have tried it in my own vicinity. I will here remark that the soil of my farm is a strong, naturally fertile clayey loam, much of which has yielded good crops of grain and grass for more than forty years without stable or other artificial manures, although they might have been the better for it, and to which I am now applying, by aid of the Kemp manure spreader, some 1,200 loads on the meadow grounds, at about twenty loads per acre. In feeding the mixed hay I find the stock invariably pull out from the mass the alsike in preference to the other varieties, its flavour probably being sweeter in taste than the others. Branching immediately from the surface of the ground, unlike the red variety, its shoots are finer and more delicate than the other. I have found, after two years' growth, and not being thrown out of the ground by winter frosts, that the red kind largely diminishes in quantity, and the alsike holds in place with the succession timothy, and makes a permanent crop for years. Yet it is not well to cut the second or after-crop of alsike, being better to be fed off, not severely or closely, by cattle—not by horses or sheep, as they gnaw it too closely to the ground; while the second or after-crop of red clover may be cut either for hay or seed, such being the only advantage which the latter may have over the alsike. (1)

#### THE COW FOR GENERAL PURPOSES.

Is there such an animal? I know that the champions of special breeds deny it—one going so far as to say that the claim that the same breed could be excellent for the production of both beef and milk was an "absurdity"; though why there may not be an animal of capacious frame, with vigorous digestive powers, which in season could convert abundant food into milk and butter, a generous yield, and when that season is past, assimilating that same liberal feed into flesh and fat upon that large frame, does not very plainly appear.

It recalls the scene in Shakespeare's *Henry IV*, where Hotspur says:

"And there the snug and silver Trent shall run  
In a new channel, fair and evenly;  
It shall not wind." . . .

and Glendower answers:

"Not wind? It must; it shall.  
You see it *doth*."

I always thought the vamping Glendower had the best of that argument, and when the advocates of some Pharaonic breed assert it to be absurd to expect milk and beef from the same animals, the only fitting answer is: "But there are such."

I have one in mind, that took her twelve-hundred weight into a butcher shop seventeen years ago. She might have been a *Herd-Book Short-Horn* for all, anything in her appearance to the contrary, but probably was only a high grade. It was before public tests were customary, but when fresh in

milk she gave 24 to 28 quarts daily, making at least 10 pounds of butter weekly, besides all the milk used upon the table for two or three families—and that upon eight quarts of milk feed per day, and pasturage upon the suburban commons of an Ohio town, or what hay she could eat in winter; and after milking more than two years, she was still giving a good mess, after trying for six weeks to dry her off.

Such an animal is certainly better fitted to our needs—to produce, besides abundant milk, steers that will grow full size and fatten well, and heifers that will be like herself—than a beast of bony frame, whose steer calves will not fatten, and which will yield only a hide when her milking day is over. A brilliant eccentric once asserted, in excuse for his own oddity, that beings of symmetrical development were always mediocrities; but it will hardly be disputed, of man or animal, that well-balanced faculties and capacities are most universally useful.

QUERCUS ALBA. (1)

Country Gentleman.

#### Ploughing under Green Crops.

BY SIR J. B. LAWES, BART., LL.D., F.R.S.

IN times like the present when almost everything connected with Agriculture is in a state of depression, a variety of remedies are sure to be put forward which at other times would attract little or no attention. In *The Agricultural Gazette* two totally opposite systems of farming have recently been ventilated, one that of cultivating arable land and consuming the whole products by stock; and the other that of cultivating arable land and keeping no stock at all. I propose to deal with the latter system, which was advocated some little time ago by Mr Blundell who is described in *The Gazette* as an experienced agriculturist, with the further advantage of residing in Hampshire a county famous for its breed of sheep.

A subject of this sort is just one of those that can be treated by science combined with practice. Mr Blundell advocates the ploughing under of green crops instead of feeding them. It must be admitted at once that a certain amount of the fertilizing ingredients of the food consumed by animals is absorbed and retained in their bodies; consequently a green crop ploughed in would contain more fertility than one that was fed. In the Woburn rotation experiments, red or white clover has been fed off by sheep both with, and without artificial foods, and on an average of eight years one acre fed without the addition of artificial manures gave an increase in live weight of 248½ lbs., and a second acre gave 250½ lbs., the mean of the two was therefore 249½. The sheep which received in addition 728 lbs. of cotton-cake gave 362 lbs. of live weight per acre. According to our experiments two thirds of the increase of fattening sheep consists of carcass, we have therefore in the first case 166 lbs. of carcass obtained by feeding one acre of clover, this amount at 9d. per lb. would be worth £6. 4s. 6d. The sheep which in addition received the cake would produce 76 lb more carcass, worth at the same price an additional £2. 17s. and the increase obtained by the cake would about pay for its cost, leaving the manure gratis.

The amount of manure ingredients removed in the 249 lbs. of increase of animal is extremely small, probably the sheep passed through their stomachs in the clover from 100 lbs. to 150 lbs. of nitrogen, and retained 5 lbs. (2) The manure from the cake would add about 40 lbs. of nitrogen to the land, which would thus be obtained without cost. The sheep were shorn while in the field, but I have not got the particulars, nor have I made any charge for attendance, or interest of

(1) I should like to know *Quercus Alba*, personally. A. R. J. F.

(2) I commend this sentence to M. Lippens' attention.

A. R. J. F.

(1) Is the long tap-root of the red clover of no use? A. R. J. F.