EASY METHOD OF MANAGING BEES.

(*Continued from page 59.*)

san get into one of the drawers, they will begin to make comb there, (for they always commence at the top and work down,) of course they will raise young bees and deposit bread in the drawers If the swarm is so large as to be unable to work in the drawer, there is no danger of letting them in; and yet, if the swarm is very large, there may be danger, if the bees are prevented from entering the drawer, because they sometimes go off for want of room in the lower apartment. I therefore recommend letting the bees into the drawers at the time of hiving them, in all cases, except when the swarms are small—then, the rule should be strictly adhered to: notwithstanding I have hived hundreds of swarms for seventeen years last past, and have not lost a single swarm by flight to the woods, yet I hear of some losses of this kind, which render these remarks necessary My practice in hiving is, to get the bees into the shade hive them as soon as possible, hang on the bottom board, fasten the same forward by means of the button so as to prevent the escape of any of the bees except through the mouth of the hive, place the same immediately where I intend it to stand through the season. Let the bottom board down three eights of an inch on the third day after swarming, and turn the drawers four days after hiving, (unless they are turned at hiving)

Occurrences have been heard of where there would seem to have been variations from the foregoing rules concerning swarming, to wit: Bees have been known to swarm before the hive is full of bees or comb, and then, swarm again two or three days after. Now, there is reason to believe that the old stock lost their Queen before swarming, and the bees assumed the condition of a hive that had once swarmed, and sent forth another to avoid the conflict of the Queens. Very large colonies have been known to swarm out several bushels of bees under such circumstances Variations from the common rules of making Queens, more frequently occur as follows, to wit: When the old Queen goes out with a swarm, she leaves without providing more than one class of grubs, *(larva,)* which are capable of being converted to Queens; and as the bees always make a plurality of them, they will all be of an age; and in the confusion of swarming, all that are hatched will sally out, and the hive left destitute of the means of repairing their loss. This accounts for seeing more than one Queen in some small swarms, or there may be more than one class of grubs in the hive after first swarming, and the bees make some Queens from each class. Then more than one Queen may be seen with a swarm; for all the Queens leave, that are hatched. The swarming season usually closes in about seventeen days after its commencement, and the bees seem to possess a peculiar instinct in their nature, which teaches them that the season is too far advanced at this time for them to form new colonies with safety; and they will not permit any of their Queens to depart. I have observed in repeated instances, very compact bunches of bees on the bottom board, some larger than a hen's egg, about the hour of swarming. On examining them, by separating off the bees in my hand, I always found the Queen in the centre, unhurt, yet nearly smothered The bees will commit no violence upon her person, other than pile on, and cluster around her in such a manner as to exclude from her all the vital air, and she dies of suffocation.

MURRAIN.—John Grant, in a communication to the *Mark Lane Express*, gives the following as "an almost infallible" cure for Murrain, if applied on the first appearance of the disease:—

Sal prunelle, - - -	2 oz.
Stiptic Powder, - - -	2 "
Balsam Copavia, - - -	2 "
Nitre, - - - -	1 "
Glauber Salts, - - -	4 "

Dissolve the whole in half a gallon of table beer, with half a pound of soft sugar added, and give as a drench; the good effects of which may be visible in twenty-four hours; after which, let the sick cattle be put in a field where there is plenty of water, as a desire to drink is one of the first symptoms of convalescence.

(From the Farmers' Cabinet)

FOOD FOR CATTLE.

At this time, when the correct principles of farming and feeding, as ascertained by chemical analysis, are a subject of general inquiry, I have thought the following article on "Food for Cattle" would be interesting to the readers of the Cabinet. It appears to me that a far greater value has been attached to some esculents containing a very large portion of water, such as turnips, beets, carrots, potatoes, &c, than they deserve; whilst others, in which the proportions of organic matter are very great, such as peas, beans, oats, barley, wheat bran, &c, have been too much neglected. It is quite contrary to the received opinion, that 100 lbs. of the skin of wheat,—bran—is as valuable for cattle food, as 100 lbs. of almost any article that can be given to them. But this may account for the observation that we have often heard made, that "millers' horses and hogs are always fat," as they are generally fed liberally on wheat offal.

J L.

Milverton, First mo., 12th, 1844.

Extracted from Dr. Playfair's Lecture, delivered to the members of the Royal Agricultural Society, in December last.

The food of cattle is of two kinds, azotized and unazotized—with and without nitrogen. The following table gives the analysis of various kinds of food of cattle in their fresh state:—

		Water.	Organic matters.	Ashes
100lbs.	Peas,	16	80½	3½
"	Beans,	14	82½	3½
"	Lentils,	16	81	3
"	Oats,	18	79	3
"	Oat-meal,	9	89	2
"	Barley-meal,	15½	82½	2
"	Hay,	16	76½	7
"	Wheat-straw,	18	79	3
"	Turnips,	89	10	1
"	Swedes,	85	14	1
"	Mangold-wurtzel,	89	10	1
"	White carrot,	87	12	1
"	Potatoes,	72	27	1
"	Red Beat,	79	10	1
"	Linseed cake,	14	75½	7½
"	Bran,	14½	80½	5

A glance at this table would enable a person to estimate the value of the articles as diet. Thus every 100 tons of turnips contained 90 tons of water. But the value of inorganic and organic matters which these foods contained, differed. Thus Mr Rham states, that 100 lbs of hay were equal to 339 lbs. of mangold-wurtzel It would be seen that that quantity of hay contained 76 lbs. of organic matter, whilst the mangold-wurtzel contained only 34 lbs.

One result on feeding animals on foods containing much water is, that the water abstracts from the animal a large quantity of heat, for the purpose of bringing it up to the temperature of the body, and in this way a loss of material took place. The mode proposed by Sir Humphrey Davy, to ascertain the nutritive properties of plants, by mechanically separating the gluten, is unsusceptible of accuracy. The more accurate way is, to ascertain the quantity of nitrogen, which being multiplied by 6 2, will give the quantity of albumen contained in any given specimen of food.

The following table shows the equivalent value of several kinds of food, with reference to the formation of muscle and fat, the albumen indicating the muscle-forming principle:—

		Albumen.	Unazotized matter.
100lbs.	Flesh,	25	0
"	Blood,	20	0
"	Peas,	22	51½
"	Beans,	31	52
"	Lentils,	33	36
"	Potatoes,	2	24½
"	Oats,	10½	68
"	Barley-meal,	14	63
"	Hay,	8	98
"	Turnips,	1	9
"	Carrots,	2	10
"	Red beet,	1½	8½

The analysis in this table are partly the result of Dr. Playfair's, and Boussingault's analysis. The albumen series indicates the flesh-forming principles, and the unazotized series indicates the fat-forming principles. By comparing this table with the former, it will be at once seen which foods contain not only the greatest quantity of organic matter, but what proportion of this organic matter is nutritive, and which is fattening, or that which furnishes combustible material. In cold weather, those foods should be given which contain the larger proportion of unazotized matters, in order to sustain the heat of the body. Thus it will be seen, that potatoes are good for fattening, but bad for flshening. Linseed cake contains a great deal of fattening matter, and but little nutritive matter; hence barley-meal, which contains a good deal of albumen, may be advantageously mixed with it.

Dumas, a French chemist, states that the principles of fat exist in vegetables, as in hay and maize; and that, like albumen, it is deposited in the tissues unchanged. But Leibig regards fat as transformed sugar, starch, gum, &c., which has undergone a change in the process of digestion. This is why linseed cake is fattening; all the oil is squeezed out of the seed, but the seed coat—which contains a great deal of gum and the starch of the seed—is left, and these are fattening principles.

The oxygen, introduced by respiration into the lungs, is destined for the destruction of carbonaceous matter; but there is a provision made for taking it into the stomach with the food, and this is done by the saliva. The saliva is always full of bubbles, which are air bubbles, and carry the oxygen of the atmosphere into the stomach with the food. The object of remination in animals is the more perfect mixing of the food with the oxygen of the air. This is why chaff should not be cut so short for ruminating, as for non-ruminating animals, as the shorter the chaff is, the less it is ruminated, and the less oxygen it gets.—*Mark Lane Express.*

GOOD EFFECTS OF DRAINING.

At the late annual meeting of the Liverpool Agricultural Society, the president, Lord Stanley, said that he would state one instance of the practical returns which might be expected from thorough scientific draining.

In 1841, his father was about to enclose in the park of Knowsly, a tract of about 80 acres. Of this about 20 acres were strong clay land, with a very retentive subsoil, and the remaining 60 he remembered from his boyhood, as the favoured haunt of snipes and wild-ducks, and never saw there any thing else. In the course of the first year, the 60 acres maintained—but very poorly—during the summer, six horses; and on the 20 acres there was a very small crop of very poor hay. It was impossible for land to be in a poorer condition; and in breaking it up they had some two or three times to dig the plough-horses out of the bog.

In 1342, the whole of this land was thoroughly subsoiled and drained, and in 1842, what was not worth 10s. an acre per annum, the year before, was in turnips, and on that land they fed off, in five months, and fattened for the butcher, 80 beasts and 300 sheep, and afterwards carted into the farm yard 350 tons of turnips. In the present year they had a very fair crop of barley and oats, which his friend, Mr. Henry, would be very glad to show to any gentleman who felt any curiosity on the subject. Now he did not hesitate to say that that land was, at that moment, worth 30s. an acre. The outlay upon it for pulling up old fences, thoroughly draining, tilling, and breaking it up, amounted just to £7 10s. per acre, giving just 20s. for every 150s. of outlay, and giving to the landlord a permanent interest of 14 per cent. on the money laid out on that unpromising ground. It happened that in the same year they took into their own hands land which had been abandoned by the tenant as perfectly worthless. It was a large field of 22 acres of very poor sandy soil. It was drained at an expense of £2 per statute acre, and in the first year they fed off on that land 120 sheep, the remaining part of the turnips being carted to the farm yard; and he ventured to say, that at the expense of £2 per acre, the land was increased in value 10s. per acre to the landlord, and as much to the tenant.—*New England Farmer*