

as he works his hands and in so far as possible lighten the actual labor of the farm. And the same is true of the farmer's wife.

Nature's Diary.

A. B. KLUGH, M. A.

There is no group of insects which has, since time immemorial, aroused more interest in the human mind than the ants. This is due, not to bright coloration, or to any musical ability, or to the structure or activities of the individuals as such, but to the activities of the complex colonies in which these insects live, and in which man sees a form of society much akin to his own. This resemblance cannot be superficial, but must depend on a high degree of adaptability and plasticity common to man and these social insects, for in order to live in permanent commonwealths, an organism must not be only remarkably adaptive to changes in its environment, but must also have a strong feeling of co-operation and forbearance towards the other members of its community.

There is a striking parallelism between the development of human and ant societies. Anthropologists distinguish in the development of human societies six different stages, designated as the hunting, pastoral, agricultural, commercial, industrial, and intellectual. The ants show stages corresponding to the first three of these. As Lubbock says: "Whether there are differences in advancement within the same species or not, there are certainly considerable differences between the different species, and one may almost fancy that we can trace stages corresponding to the principal steps in the history of human development. I do not refer to the slave-making ants, which represent an abnormal, or perhaps only a temporary state of things, for slavery seems to tend in ants as in men, to the degradation of those by whom it is adopted, and it is not impossible that the slave-making species will eventually find themselves unable to compete with those which are more self-dependent, and have reached a higher plane of civilization. But putting these slave-making ants on one side, we find in the different species of ants, different conditions of life, curiously answering to the earlier stages of human progress. For instance, some species, such as *Formica fusca*, live principally on the produce of the chase, for though they feed partially on the honey-dew of Aphids, they have not domesticated these insects. These ants probably retain the habits once common to all ants. They resemble the lower races of men, who subsist mainly by hunting. Like them they frequent woods and wilds, live in comparatively small communities, as the instincts of collective action are but little developed among them. They hunt singly, and their battles are single combats. Such species as *Lasius flavus*, represent a distinctly higher type of social life; they show more skill in architecture, may literally be said to have domesticated certain species of Aphids, and may be compared to the pastoral stage of human progress—to the races which live on the products of their flocks and herds. Their communities are more numerous; they act much more in concert; their battles are not mere single combats, but they know how to act in combination. I am disposed to hazard the conjecture that they will gradually exterminate the mere hunting species, just as savages disappear before more advanced races. Lastly, the agricultural nations may be compared with the harvesting ants."

Ants are to be found everywhere, from the Arctic regions to the tropics, from timberline on the loftiest mountains to the shifting sands of the dunes and seashores, and from the dampest forests to the driest deserts. Not only do they outnumber in individuals all other terrestrial animals, but the number of colonies in a comparatively small area is often very great. Their colonies are, moreover, remarkably stable, sometimes outlasting a generation of men. Such stability is, of course, due to the longevity of the individual ants, since worker ants are known to live for four to seven years, and queens from thirteen to fifteen years.

Considered as a group, economically, ants are both beneficial and harmful. Their greatest usefulness lies in a direction which is, like many of the things which act very gradually but continuously, usually overlooked,—the demolishing of dead organic material. Of the millions of insects which are born annually many are undoubtedly consumed by insectivorous vertebrates, but a vast number survive to die a natural death and fall to the earth. These are the natural food of most ants. Forel observed that a large colony of ants brought in 28 dead insects per minute, and estimated that they would bring in 100,000 daily during the hours of their greatest activity. Their other useful activity is their work in the soil in the excavation of their nests. Most species, especially in temperate latitudes, nest in the ground, and many of them, in so doing are obliged to grind up and bring to the surface, often from a depth of several feet, considerable quantities of subsoil. This is spread over the surface, and exposed to the sun and atmosphere. Their burrows, moreover, quickly conduct air into the deeper recesses of the soil. Ants are mainly injurious by their fostering of Aphides, Scale-insects and Tree-hoppers, insects which are most injurious to crops; and by taking up their residence in houses and either partially destroying the woodwork thereof, or becoming pests because of their pilfering habits.

The eight-hour day would scarcely prove popular

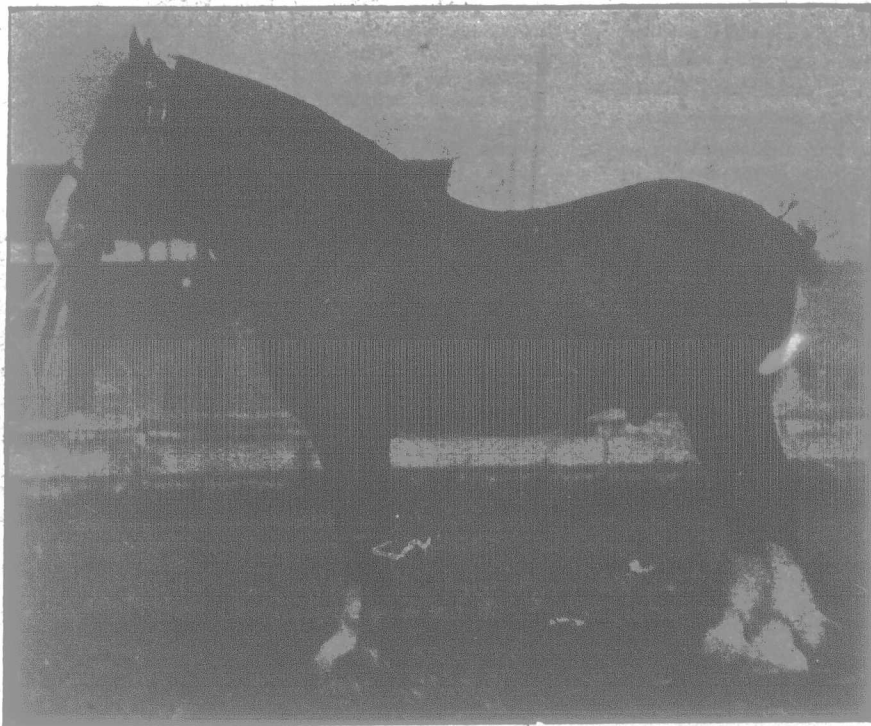
THE HORSE.

When Mare and Foal are Separated.

An interesting article by "T. B. G." giving details in foal weaning recently appeared in "The Farmer and Stockbreeder." We reproduce it for the benefit of our readers.

In weaning foals the first thing is to find a good airy loose-box with plenty of room, and secure fastenings to the doors. Here the foals must be shut up out of hearing of the mares for a week, and may then be let out into a well-fenced paddock in which there is a good bite of grass. Foals should always be weaned in lots of two or three together, and anyone with a single foal is well advised to buy another for company or sell it. A foal weaned by itself is always miserable, discontented, and eats his feed badly. When turned out of doors it is certain to break out unless put with other horses, in which case he stands a poor chance of getting any grain. When foals are shut up they should have some green stuff cut for them—clover, alfalfa, or something of the kind—and be given plenty of crushed oats, bran, and chaff, with a tub or trough kept full of fresh drinking-water.

They are usually very agitated for a few days, especially if they have been suckled on idle mares and never been parted from their dams, and are consequently hot and thirsty; but foals on working mares that have been accustomed to being shut up, very soon settle down. The mares must be taken right away, so that they and the foals cannot hear one another; and if shut in a yard nights and gently worked in the daytime and fed on dry food they will soon forget the foals, and the milk will dry up after one or two drawings of the udder.



Dunnottar (imp.)

Champion Clydesdale stallion at Ottawa for B. Rothwell, Ottawa, Ont.

The sooner foals are weaned in autumn the better if the mares have to go to work, and unless the foals are intended for sale, in which case it may be advisable to let them remain on the mares up to the time of sale; but when a foal is from four to five months old it will do as well off the dam as on, provided it is fed on the right kinds of food. Where mares have to take their part at the farm work, it is better to wean the foals before harvest, if they were born in March or April, than to let them agitate after the mares from morning till night and suck overheated milk.

Provided the foals are well looked after and given plenty of crushed oats, with a little bran and chaff, and the run of a good pasture, they will not miss the milk. The writer weaned some early foals some time ago before commencing harvest, and they look every bit as well as they did before weaning—indeed as well as those which are still suckling. Allowing foals to remain on the mares until late autumn is of no benefit to them, and the dams get into a low, weak state, from which they do not recover till spring. It is especially detrimental to mares that are in foal again.

Foals should get a liberal allowance of grain right through the winter months till the grass comes the following spring. They should always be taught to eat grain in the early stages of their existence, so that when weaning time comes there is no difficulty in getting them on to it. If they have never tasted any grain they may be three or four days before they will touch it when shut up for weaning, and they soon begin to lose condition. There is no better feed for foals than crushed oats, and these should be mixed with a little bran and some good, sweet chaff, but not much of the latter until they get older. The quantity given should not be stinted. A couple of strong, heavy foals will eat a peck a day each of corn if given to them, but half that quantity will be sufficient to start with, and as hard weather comes on the quantity should

bran and some hay must not be forgotten in bad weather. The growth of a horse depends to a very great extent on the treatment he receives during the first winter of his life, and if a foal is stinted and starved during his first winter he does not make up the lost ground until he is five or six years old. Good feeding and shelter of some kind in rough weather are essential to enable them to withstand the rigors of winter and come through it robust and blooming.

Rock salt should be placed in the paddock for the foals to lick, and a keen look-out should be kept for the presence of worms. If a foal looks harsh and staring in the coat, with a pendulous belly, and gradually loses flesh, with perhaps a touch of scour sometimes, then worms are almost certain to be present, and the dung should be examined. If worms are present, a dose of physic should be given to expel them. Ten to fifteen grains of calomel in a bran mash, given two or three times at intervals of twelve hours or so, followed up by a dose of linseed oil, is a very effectual remedy. Worms, however, seldom, if ever, attack a healthy, thrifty foal which is getting plenty of good food.

Then there is the question of shelter during cold and wet weather. Neither weanling foals nor young horses of any description require coddling, but in cold, rainy weather, a shelter for them to run in is a great help. Many hundreds of colts, in Britain, are wintered without any shelter at all other than such shelter as they get from a tall, thick hedge. So long as the weather is dry, no matter how cold it may be, they will take no harm; but cold, wet weather they feel, and many a good youngster has died as the result of a chill and inflammation through undue exposure which might have been avoided had there been shelter of some kind provided.

It is often said, and with some degree of truth, that if a foal is well-looking after during the first winter he will look after himself afterwards. Certainly two and three-year-old colts will live on pretty rough fare during the greater part of the year, but in winter time they require a certain allowance of grain. Weanling foals should on no account be run with older horses, or they will never get a chance at the grain, and when several foals are run together there should be plenty of trough room, for some are very masterful and greedy, and will drive the weaker ones away if they can. Another point to be attended to is the foot.

On soft, spongy, or low-lying land the hoofs soon grow long and irregular in shape, and the blacksmith should have a turn round them periodically and keep them in proper trim. Young horses need a little care and attention just as much as other young animals on the farm, but it is often the custom to make them live on pastures and under conditions that would prove disastrous to other animals. They certainly will "rough" it better than any other class of stock, but the better they are treated in their youth the sooner will they grow into money and be able to take their part in the work of the farm if required.

LIVE STOCK.

Notice to Live-Stock Breeders.

We wish to advise our live-stock advertisers and live-stock breeders generally that we have engaged L. E. Franklin as our live-stock advertising solicitor to succeed Dr. H. Vanzant, and that Mr. Franklin started on his new work with us October 1. We bespeak for Mr. Franklin a cordial reception and ask your favorable consideration of increasing your business through taking larger space in "The Farmer's Advocate," the paper which brings results.

Green Feed for All Seasons.

Live-stock farmers frequently fall down in the preparations they make to carry their animals through periods of drouth in the late summer and fall. Throughout Eastern Canada, this year, the fall pastures have been poor indeed, and many herds show the effects of inadequate nutrition. While the hay crop has been large, heavy inroads will be made into it to maintain the live stock, thus depleting the stores that should be held over for winter when it will be needed, particularly in Ontario, on account of the small crop of spring grains and silage corn. We cannot tell six months ahead what conditions we shall be obliged to meet, but a safe practice