

curse tae the healthy wumman than slavery. All I'm tryin' tae stand for is that ilka party tae the marriage partnership (or whatever kind o' a partnership it may be) on the farm, shall dae the wark that nature intended they should, an' that common sense tells us is their part. Gin they dae this an' ken a wee bit aboot guid management, the wark will be done an' some time will be left for the mony ither things in life that are vera near as important as makin' a livin'. We hae got to take time tae think or we micht juist as weel be deid. Gin we hae developed naething mair than muscle since we came intae this world we had better get oot o' it an' mak' room for someone else that will mak' better use o' their time. There isn't any place better than the farm for gettin' an all round education, but gin we spend a' the time runnin' after the bawbees we'll hae what oor school teacher here ca's "one-sided mental development." Noo, Mr. Editor, I hope ye winna' think I'm tryin' tae preach a sermon at yer expense. It's juist that I wad like tae see oor wimmen-folk get a fair show in the diviesion o' the wark on the farm, an' tae ken that they, an' the men as weel, were makin' the maist o' the privilege o' livin' as close tae nature as they dae, an' warkin' in partnership wi' her for their ain benefit an' the guid o' the world in general. It must be that the Lord had some guid reason for pittin' us a' in this auld world thegither, an' I canna believe that it wasna' for mair than to get money tae pit in the bank at three per cent.

SANDY FRASER.

Nature's Diary.

By A. B. Klugh, M. A.

The groundhog has looked his last upon the sun for sometime to come, and has retired to the depths of his burrow for his winter's sleep. We can call it "sleep," but it is more than this—it is a state more nearly midway between sleep and death. The rate of breathing becomes far slower than in normal sleep, in fact in the depth of hibernation (as this winter "sleep" is called) the groundhog breathes but once every five to nine minutes. Thus the "burning" of the body "fires" goes on very slowly, the temperature is many degrees lower than in ordinary sleep, and the animal is able to live on its stored fat for months. It is of course vitally important to animals which hibernate that they shall have a good store of fat laid up to "burn" during the winter. If they have not this "near death" becomes their real death, and they never see another spring.

The groundhog does not drop suddenly into the deepest dormant condition, but attains it gradually and towards spring it gradually wakes up. The sudden awakening of a hibernating animal is always injurious to it and sometimes results fatally. The reason for this we can readily understand if we consider the results of a sudden rousing from deep sleep in our own case. During sleep the supplying of blood to the brain is lessened, on being awakened suddenly the blood rushes to the brain resulting usually in a feeling of dizziness, and often in a headache. Now if this is the effect in the case of our own sleep which is so light compared with that of a hibernating animal, we can see the reason for serious results in its case.

The groundhog is known as "woodchuck" in many parts of the country, and its original home was in the woods where there are still plenty of them to be found. As the country became cleared the groundhog found that clover was a very good substitute for the wild vegetation of the woods, and took up his abode in the fields. Even now many of these "Fieldchucks" take to the woods and use burrows beneath rocks and trees for their winter quarters.

One of the familiar rounds of autumn is the tremulo whistle of the little screech owl. It has always seemed to me that this owl would have been better named "whistling owl" rather than screech owl, as though I have known this bird for years, and have heard them whistle thousands of times, it is only very rarely that I have heard them "screech." This little bird is the most sociable of all our owls, as it comes into barns and haunts city parks and shade trees. The screech owl is about ten inches in length, and has two tufts of feathers on top of its head. These are often termed "horns," and the bird is consequently sometimes referred to as the "Little Horned Owl." Individuals vary a great deal in color, and there are two well-marked phases—a gray and a red. In some parts of the country one phase is commonest, and in other sections the other phase, and the coloration bears no relation to either age, sex, or season.

The screech owl is the friend of man and should be treated as such, and not ruthlessly shot as unfortunately it frequently is. It is a great destroyer of two of the worst pests of the farm—house sparrows and mice. We hear and see more of it as the cold weather comes on because it comes about our habitations to feed on these nuisances. Even during the summer it is bene-

ficial in its food habits, as it consumes quantities of grasshoppers, beetles and cutworms. Aside from house sparrows it eats very few birds, and is entirely innocent as far as attacks upon the poultry yard are concerned.

Now is the time to look for the "first robin of spring." A little previous, you may think, with the long winter ahead of us. But now is the time to look for it, for it is not the robin which winters in the south which is our "first robin" so enthusiastically reported in the daily press, it is the robin which has wintered with us in some sheltered hollow. All through the southern territory of Ontario robins are to be found in such localities. I know one such place near Kingston where I have found from two to five robins spending the winter for the past six years. So we see that the robin is not always exactly the "harbinger of spring" that it is commonly supposed to be.

In our walks in the fall we often come across a very hairy caterpillar, black-tipped at each end, and brown-banded across the middle, hurrying along. This is the caterpillar of the Isabella Tiger-moth, commonly called the "Woolly-Bear," and as it winters in its present form (caterpillar or larva), and does not change into a cocoon as most of our caterpillars do, it is hurrying along to find some warm crevice in which to spend the winter.

Illustrated lectures such as we have become accustomed to at our Canadian Winter Fairs, are to be a feature of the 1912 International Live Stock Exposition at Chicago. The founders of this unparalleled show have not been satisfied that its advanced teachings were being driven home with such explicit force as might be. Hence the innovation.



Turning Out Grist for the City Grind.

HORSES.

The more care the groom gives his team the greater will be his interest in them, the greater their efficiency, and a larger amount of work will be done in a given time with less injury to the horses.

A horse which has free access to water at all times very seldom injures himself by over-drinking, but it is not wise to allow an exhausted or over-heated animal to drink to excess, neither is it wise to deprive such an animal of the means to refresh himself. Let him have a little, and when he cools down and is rested a little let him satisfy his thirst.

Foul or bad air in the stable is generally heated air, or in other words air which has been exhaled from the lungs of the horses. If the stable is "stuffy" or over-warm improve the ventilation. Horse stables do not require to be kept at a high temperature, but pure air is necessary, and to keep it pure the foul air must be driven off.

Feeding three times daily is preferable to two feeds a day for horses. The limited capacity of the horse's stomach does not fit him for long fasts. A horse is also a more or less restless animal, and three small feeds are preferable to two large feeds as they spread the feeding over a longer time, and shorter intervals lapse between feeds.

In letting out the horses for exercise it is not always good practice to allow the colts and young horses in the yard with the in-foal mares. Mares are usually a little cross, and may injure the colts, or the colts in a playful kick may do serious damage to the mare.

No better use can be made of straw than in supplying a comfortable and clean bed for the horse. Bare planks or cold cement are not good places for the hard-worked or even idle horse to rest himself upon. Straw is also valuable in that it absorbs the liquid manure. Do not neglect to keep the horses well bedded.

It is interesting to note, says the *Farmer's Gazette*, that there are approximately 86,000,000 horses in the ten principal countries of the world and 600,000 of these are on Irish soil. In travelling at the rate of four miles an hour the draft horse takes 4,242 steps. If he is shod with a shoe weighing 2½ lbs. he lifts with each leg 10,560 lbs. per hour, or more than twenty-one tons with his four feet and legs. This makes above 105 tons within a space of five hours. The statistics may appeal to friends of the horse as constituting the basis for a sound argument in favor of using shoes of as light a weight as possible in order to make the burden of man's faithful friend as easy as circumstances will permit. Over-weight shoes are a cruel infliction under all conditions, and cruelty is an inexcusable crime.

Feeding and Training the Colt.

Volumes have been written about the feeding and training of colts and older horses, but the subject never becomes "stale," is never exhausted, and is just as much a live topic as it ever was. A contributor to "The Farmer's Advocate and Home Journal," Winnipeg, Man., recommends that the weanling be fed on a ration of scalded flax and bran, which he says is the finest substitute in the world for the dam's milk.

The mixture should be in the proportion of two of bran to one of flax and a three-quarter gallon portion fed at least twice daily, with the obvious addition of water and good hay or well-cured green oat sheaves. Incidentally, about this time, or perhaps a little earlier, foals suffer much in condition and spirit from the irritation occasioned by pin worms. If this complaint is observed the enemy can usually be put to rout by administering four drachm doses of san-tonin in the soft feed.

Continuing, the writer says:

Assuming, then, that we are in a position to stable our young stock during the winter, anything of a more tender age than the coming three-year-old may with great benefit receive the forage of oats, bran and flax previously suggested; the bran and flax being prepared as follows: Mix well and place in a clean stable pail, when as much boiling water should be poured upon it as can be absorbed. A little salt should be added, a half ounce to a pail, and the whole covered up to keep in the steam until cool. The coming three-year-old, however, claims the dignity of a slight alteration in his grain diet, three-quarters of which should now consist of oats.

While ready to admit the known virtue of oats and hay as an ideal staple feed, the writer has also a great respect for well-cured green oat sheaves as good horsebuilding material—and they are so attractively convenient to handle! There are few forages more palatable. One is not, of course, referring to those dry and brittle oat sheaves that were reserved from the threshing to "feed green!" but to good oats cut very much on the green side with the leaves still on the plants, and the grain though yet in the doughy state sufficiently matured to warrant a fairly well-balanced ration. Cutting oats for green feed is an art and must not be done carelessly.

Education is almost as vital as feeding. To say that many a good horse is spoiled in the making, is to be guilty of a trite remark, which in itself is significant. Weanlings should be taught to respond readily to halter leading, also to be handled all over without evincing restlessness or temper. This winter our yearlings will be taught to hold themselves nicely together,