roots, for they're but I'll risk sayin' that it looks well nuch as was necespring but where it its time fightin' the ground around what water we got tin a class wi' the at the beginnin o'

e potatoes except be all right. That They're lookin' ted ones rotted in so we'll juist wait

summer and as a p tae the average, backs the farmer's ions are a matter and her owner. I the way in sayin' each us by way o' keeps us hustling her appetite but

vis concerned this blaints I have been ybody seems tae t wi' oot the asthat some were n hae had their ome hae had their e o' the harvest chaps that signed y last June. Na as we hae managed nae harm done. they went to the nce. Maybe it wis ne matter. Weel, or I'm sure we're some day we'll

g of our Canadian shown in Fig. 1. border and black reder of both fore on the hind wings border, there is a hind wings, and a angle of the hind er Swallowtail is t variety of plants, erry.

7.

the wing are bold the tallest trees' and thither it goes, tar of a flower or

tails is the Black species the wings of yellow of yellow spots and defined adding off to back angle of the hinds centre. In the ng are larger than the splashes more

ants belonging to and parsnip. It ittle spiny black ish blotch in the the little catercarpet of silk on quietly until the wls out in a new when full-grown, with transverse the front margin

exudes a strong g little Y-shaped head. When atout, and appears

very methodical everything down n journey it eats

n it seeks some of silk to which It then thrusts tacts as a sling leds its skin and salis is provided alis remains thus the limp butter-flies away.

ront are making was an element no longer exists.

THE HORSE.

Some Abuses to Which Horses are Subjected.

As a matter of course the comfort and usefulness of horses are influenced greatly by the care and attention they receive, as well as by the food they consume. In many cases carelessness, indifference or ignorance on the part of the caretaker is responsible for discomforts and consequent impairment of usefulness and possibly attacks of illness that could have been prevented without expense further than a little more trouble and care. For instance, damp stables are uncomfortable and unhealthy. Some stables are so situated that there is a great tendency to dampness, but with few exceptions a little trouble taken to prevent the water from gaining extrance would be effective; in others, where this cannot be done without considerable expense some trouble taken to allow its escape will at all events prevent its lodgment upon or under the floor. It is not very uncommon in the spring to see stables in which considerable water is lodged, possibly the stall floors are above the water level, but when the horse steps backwards in the stall or is taken out of the stable he gets his feet and pasterns wet with foul water. This tends to cause cracked heels, which in horses kept in such unsanitary conditions has a tendency to extend upwards and develop into a condition called "mud fever." Conditions of this nature are seen in cases where a couple of hours work would make a drain by which the water would disappear. Of course, such conditions do not appear in the stable of a careful, tidy man who considers not only his horses' comfort, but his own profit, but unfortunately all horse owners are not tidy and considerate. Dampness may come through a faulty roof where a few shingles would stop the leaks. From whatever source wet or dampness in a stable comes, it should be provided as soon as possible, as dampness not only renders the horses uncomfortable but predisposes to disease, and in many cases is the direct cause of such.

Another cause of discomfort to horses is darkness or semi-darkness. All parts of the stable should be well

Another cause of discomfort to norses is darked or semi-darkness. All parts of the stable should be well lighted. In many stables, especially in the basements of old barns, the ceilings are low, and the light for the whole stables comes through one or two small windows behind the horses. The animals, when in their stables, are facing away from what little light there is, hence may be said to be in practical darkness. This has a tendency to weaken the eyes and predispose them to disease, also lessens the animal's comfort. Where practicable they should stand facing the light, but in all cases stables should be sufficiently lighted to prevent

any part of it being in darkness or semi-darkness.

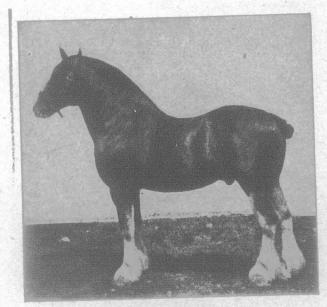
Ventilation.—This, especially in cold weather, is one of the hardest problems to solve in the average stable. In warm weather when doors and windows are left open a circulation of air normally occurs, hence there is no trouble in ventilation, but in cold weather ventilation is difficult unless some proper system for the introduction of fresh air and the exit of foul air has been adopted. Perfect ventilation consists in the prompt exit of foul air as it is formed and the prompt entrance of an equal quantity of fresh air at the required temperature. This is practically impossible, but some regular and recognized system (of which there are many) should be installed in all stables, even though the fresh air admitted is at a temperature much below that desired. Animals suffer less from cold than from contamination in this respect. Clothing in a low temperature will keep the animal comfortable, but nothing will compensate for want of pure air.

Grooming is often sadly neglected. More horses are under-groomed than under-fed. The horse is naturally a clean animal, and if by reason of work or unclean quarters his coat becomes matted, he must be uncomfortable until well groomed. The teamster who is inclined to be lazy or careless will neglect his team in this respect, probably brushing or rubbing the surface of the hair sufficient to remove the visible symptoms of dirt, but not by any means giving the hair the thorough agitation so necessary to reach the skin and thereby remove hidden dust or dirt, which is necessary for the comfort and well being of the animal. In order that a horse may feel comfortable he should be well groomed every morning, and if his work during the day has been sufficient to cause perspiration the careful teamster will give him another good grooming before leaving him for the night. A well-groomed horse feels better, looks better, and can perform more work on a given amount of food than a horse of the same size and type whose grooming is neglected.

Horses, whether working or idle, spend several hours during each twenty-four in a recumbent position, and of course the more comfortable they are the better they will rest, and in order that they may be comfortable it is necessary that they be supplied with a liberal supply of clean, dry straw or a good substitute. A horse cannot rest comfortably on bare boards, or on damp, foul litter, neither can he be comfortable in a stall that is not well cleaned out daily. The accumulatio of both solid and liquid excrement to any considerable extent creates heat, generates gases and foul odors that are not only unpleasant but unhealthful. A horse will rest better in a well-bedded box stall than in an open one, but it is seldom practicable, especially where several horses are kept, to have a box for each. Careless feeding is responsible for many discomforts and diseases in horses. Horses should be given food of good quality in reasonable quantities at regular intervals and, with few exceptions, allowed water when thirsty. He should be

given only as much hay as he will eat in at most an hour and a half, and the grain ration should be in proportion to the amount of work performed, always bearing in mind that even idle horses should get a little grain unless on good pasture. The too-common practice of keeping hay before horses all the time is as harmful as it is wasteful.

There are many little discomforts to which horses are subjected, such as failure to provide fly sheets during fly time, failure to clean the feet out regularly and supply water to the feet in very dry, hot weather; failure to knock the snow or ice out of the feet in winter time; failure to keep collars clean, and all parts of the harness fitting well; failure to cover when standing in cold weather; allowing him to stand facing a cold wind when it would be little trouble to turn him the other way, etc.



Scotland's Splendor.

Champion Clydesdale stallion at Regina, Brandon and Edmonton of Owned by Thorburn & Riddle, De Winton, Alta.

LIVE STOCK.

A few roots fed to the hogs will result in a saving of grain.

Pedigree counts, but it takes more than a pedigree to win in the show-ring.

The herd sire and calves confined to the stable will relish a few pulped roots or green corn.

One ounce of turpentine in one-half pint of raw linseed oil is a first aid for a sheep that has bloated.

When weaning the lambs take precautions against udder troubles in the ewes, especially with the heavy milkers.

grown grains are usually cheaper in the fall than at any other time of the year, while millfeeds frequently advance in price as the fall and winter months pass. If liable to be short of concentrates it might be advisable to lay in a supply in the fall.

When turning the stock on rape or other fresh, succulent pasture, they should be watched closely until they become used to the new feed. Bloating is liable to occur. If symptoms of this trouble are in evidence, administer 3 to 4 ounces of turpentine in a pint of raw linseed oil. Giving the cattle access to salt and to a nearby stubble or sod field will lessen the danger from digestive troubles.

During June, 92,173,000 pounds of beef were exported from the United States, and 95 per cent. of this went to the United Kingdom, France and Belgium. The monthly average export for the three years preceding the war was 1,066,000 pounds, according to the official United States Bulletin. During the same month 169,331,000 pounds of pork were exported, as compared with an average monthly exportation of 41,531,567 pounds for the three pre-war years.

The Heel Fly.

Early in the season when the heel fly or warble fly was prevalent and was a great annoyance to cattle, we endeavored to secure authentic information for our readers regarding the life-history, methods of attack and means of controlling this troublesome fly which during late June and July worked havoc in many herds. Prof. Caesar, of Guelph, the Provincial Entomologist, was communicated with, but, owing to his duties calling him away from the office during that time he was unable to furnish us with a treatise on this particular subject until just recently. The season when the fly is troublesome is past, but we believe many will be interested in reading Prof. Caesar's ideas regarding the method in which the fly causes cattle to stampede, and also the most practical means of control. The heel fly may not be so prevalent next season, but it is advisable to take every possible means of keeping it from multiplying. Destroying the larvæ of the fly, which is frequently seen on the backs of cattle in the spring, is one means of control. A discussion of the subject by Prof. Caesar follows:

During the months of June and July in Ontario the so-called "heel fly" attracted attention not only locally but also in the public press. No one who has seen a whole herd of cattle stampeded by one of these insects could fail to have his curiosity aroused and to desire information in regard to it.

Name of the Insect.

The most common name among stockmen is "heel fly," given doubtless because of the insect's habit of attacking the lower part of the legs. Entomologists call it the "warble fly" because the warbles on the back of cattle are due to it. As there is another warble fly very closely related to it they call the former by the technical name of Hypoderma bovis and the latter Hypoderma lineata. The term Gad Fly has sometimes been applied to this pest, but incorrectly. Gad Flies are the common, large, blood-sucking flies found in the early part of the summer near woods. They alight on horses, cattle and deer, pierce the skin with their

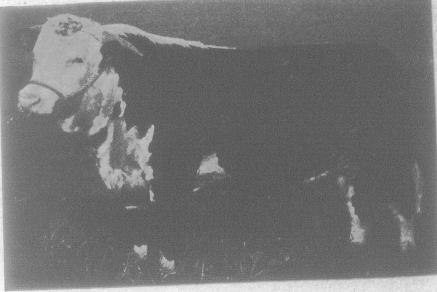
the early part of the summer near woods. They alight on horses, cattle and deer, pierce the skin with their lance-like mouth-parts and gorge themselves with blood. Cattle and horses are much annoyed by them, but are not stampeded in whole herds as by the Heel Fly.

Description of the Insect.

The Heel or Warble Fly referred to by our correspondents is a stout, hairy insect about the size of a honey bee. It is conspicuously black and yellow in color, the yellow being most conspicuous on the face, the front portions of the thorax and abdomen, and on the rear of the abdomen where it shades into orange, and the black on the middle of the thorax and abdomen.

How the Cattle are Frightened.

Though cattle are often panic stricken by one or more of these insects, yet this fear is not caused by the insects stinging or biting them, because its mouth-parts are incapable of causing any wound and it has no stinging apparatus. Moreover, it does not lay its eggs in the flesh of the animal attacked but attaches them to hairs. Mr. Hadwen, of the Health of Animals Branch, Ottawa, who has carefully studied the insect and watched young calves being attacked for the first time, believes that it is nothing else but the persistent, clumsy, bull-dog-like attacks of the fly in her efforts to lay her eggs that engenders the fear. When the cow attacked finds that this insect, unlike any other fly known to her, cannot be driven away by head or tail, or by kicking or any other movement, she becomes seized with a frantic desire to escape and rushes wildly away. Her fear is soon communicated to the rest of the herd and all stampede even though only a single one may have been



Reformer.

A high priced Hereford bull in England.

When representatives of various herds are lined up in competition in the show-ring, a breeder oftentimes gets a different conception of the quality of his own stock.

Allow the sow saved for breeding purposes to become fairly well developed before breeding her. Offspring from immature stock is apt to be lacking in constitution and vigor.

It will be well worth your while to be at the livestock judging ring of your local or county fair when the awards are being made. You may get a clearer conception of the type and conformation most desirable in the breed of animals you are keeping.

Take an inventory of your feed supply. Home-