With reference to Mr. Barnards' letter on the subject of shade-plantations, we have only to add that the wild-grape-vine is to be found in great abundance at Ste Anne d. Bellevue, where the *clematis* or *virgin's bower*, another quick-growing climber, perfectly hardy, and very ornamental, may be seen along many of the fences, particularly on Mr. Grier's farm at the West end of the village. Both these vines would be particularly suitable to the soil on the bank of the river near Ste-Thérèse. Time to plant, as Mr. Barnard says, decidedly in Spring.

A. R. J. F.

Sherbrooke Oct. 4th 1893.

E. A. BARNARD, Esq.
Quebec

DEAR SIR,

I should like to get your report on our hay and grain caps—now that the season for their use is over.—Next season I am going to have printed instructions—how to use our caps—pasted on each bunch of caps, as I am satisfied most farmers think they are only useful in case of rain. If a farmer wants to make "Gilt Edged" Hay, he should use the caps systematically. Cut his hay when the dew is off in the morning, cock it after dinner and allow it to remain in the cock until it goes through the heating sweating process, then take from cock into barn without any shaking out. (1) He will then have hay about as green as grass with all the weight and nutriment in it. I saw some clover cured this year—under our caps—and after being in the cock 8 days, 3 days of which it poured with rain—the clover blossoms were as fresh and colors as bright as when growing.

Yours truly,

J. A. SYMMES.

CAPS FOR HAY-COCKS.

A REVOLUTION IN AGRICULTURE—NO MORE DAMAGED CROPS.

My readers will doubtless be astonished at the heading of this article, and think, perhaps, it is rather exaggerated. Now, I have just completed a test of the *hay-caps*, equally suitable as covers for shocks of grain, of which the Journal d'Agriculture gave a short description, with illustrations, last April. Those who wished to judge of the utility of the new system had an opportunity of seeing it in operation during the hay-and grain-harvest, last summer, at the experiment-and demonstration-farm, at l'Ange-Gardien, that was established last year at the pressing instigation of the promoters of the Farmers' Syndicate of the Province of Quebec. If the cocks of hay and shocks of grain are well made, it is almost impossible for the heaviest fall of rain to injure them.

This, then, is a genuine revolution in the system of harvesting both hay and grain; for, it may be said with truth that, in the average of seasons one third of our crops is ruined by rain, and that more than one third of the time and work of our farmers is wasted in turning and returning the crops to dry them after rain.

In my opinion, our farmers will reap as great advantages by the use of these "caps," as they have reaped by the use of the horse rake. With a good mower, a horse-rake, and these "caps," the crops can be got into the barn in as good condition and in much less time than now.

(1) Good. ED.

HOW TO MAKE GOOD HAY. Examine carefully the signs of the weather, and when it appears settled, begin to mow about 3.30 or 4 P. M. Clover must never be mown when the dew is on: it is then, much harder to cut, and very much more difficult to dry.

Mow then, in the afternoon, and keep on next morning, until you have as much cut as you can put into cock before the dew of evening begins to fall. If you have a tedder, or, in default of that, plenty of hands, turn the hay two or three times before raking it into wind-rows. The advantage of thus turning it is that it will be so far dried that the cocks need only be "broken-out" once; if the "caps" be used, hay thus made will sweat enough in the cock in the open air to be safe to barn. The raking should be done, at the latest, about 1 P. M., and the hay should be put in cock about 2. (1)

HOW TO MAKE GOOD COCKS. Take a forkful of hay from the top of the wind-row; and lay it on the naked ground near the wind-row; take another forkful, and a third, and place them one on another in such a way as to give a good foundation. If the hay is dry enough, you may put equal to three bundles of clover or ten of timothy in each cock, according to the more or less dryness of the hay. The cocks should never be more than five feet in diameter at the base. The cock so far made, the round part must be beaten in with fork and feet, so as to expose it to the weather as little as possible.

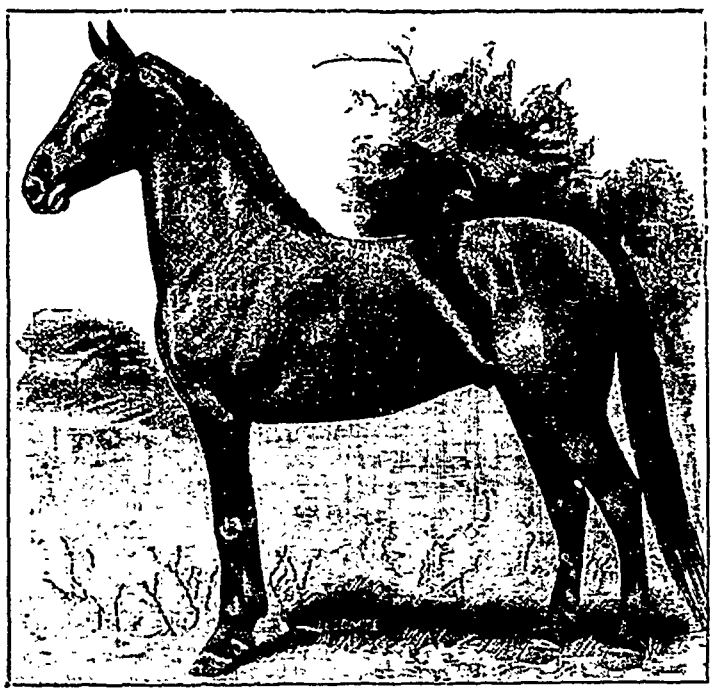
This done, the hay-caps are to be placed on the top of the cocks, taking care to cover them as much as can be done without injury to the "caps."

The cock thus covered is thoroughly sheltered from the wind, and cannot be blown over; the heaviest rain will run down outside without penetrating to the interior. Never put the cocks in a hole or over a water-furrow; this is one of the reasons for making the cocks by the side of the wind-row. Thus, if it rain, the hay will not be standing in the water. Another reason is, that by taking small forkfuls, apart from the wind-rows, the hay is placed in layers one over the other, which, by mutual pressure, keep the rain from getting through the sides of the cock and thence into the interior.

My readers will pardon all these details which I should not have mentioned had I not observed, during the 20 years the mower has been in use, how many farmers completely neglect cocking their hay, or, if rain threatens, put up *heaps* of hay instead of well-made *cocks*.

In another article, I shall treat of the use of the "caps" in the grain-harvest. DIR.

(1) All right for timothy-hay, but clover should never be turned out of the cock, but carried straight from the cock to the barn. ED.



FIRST-PRIZE THREE YEAR FRENCH COACH STALLION, SYRACUSE SHOW, 1892.

The Flock.

KEROSENE EMULSION FOR SHEEP TICKS.

J. S. WOODWARD.

Six lively sheep ticks will make the existence of a lamb perfectly miserable, and a dozen will ruin all hope of profit in lamb feeding, however generous the ration. From careful observation I am sure that sheep ticks annually cause more loss to American flock owners than all other sheep parasites combined. As soon as the flock is shorn all the ticks go from sheep to lambs, and thereafter the poor things have a hard fight for existence. I was once offered a bunch of lambs very cheaply, which the owner said were all "run down." A careful examination satisfied me that their only trouble was "ticks." This was late in the fall, and after buying them I had them at once shorn On one lamb were found over 1,000 ticks. After their fleeces were off, the lambs averaged less than twenty eight pounds each. I treated them for ticks, fed through till spring, and sold them with an average weight of eighty-two pounds, making more clear profit per head on them than upon any sheep or lambs fed before or since.

We may tell flock owners to dip in this, that, or the other preparation, many or all of which are sure death to ticks, but the average American shepherd will not do it He has not the conveniences and it takes too long, and he regards it as altogether too much trouble for the man with from twenty-five to two hundred sheep. I have tried a score or more of remedies, but after all have only recently experimented with the kerosene emulsion. Its virtues are that it is cheap, easily applied, perfectly harmless, and a dead shot to ticks. To make the kerosene emulsion, put into any convenient receptacle soft water and soap in the proportions of one gallon of water to half a gallon of soft soap, or half a pound of any good hard soap shaved up into slices. Stir well, and when the soap is all dissolved and the whole boils, add two gallons of common kerosene, immediately stir or agitate violently the mass until it mixes and looks a good deal like cream. It takes about five minutes of lively work to do it well. When thoroughly emulsified, add as much soft hot water as there is of emulsion, and thoroughly stir the whole together. It may now be kept any length of time ready for immediate use, and will readily mix with any quantity of cold water, soft or hard, although rain or other soft water is much the best. The emulsion mixes much more readily and with half the labor, and remains more permanent, when soft water is used. With hard water add more soap or a little washing soda.

To apply to the flock, take one gallon of the emulsion thoroughly stirred for each ten sheep, and add to it four gallons of soft water. If warmed it is better. Crowd the sheep into some corner or pen so as to bring them into a compact body, and having well mixed the emulsion, with an ordinary force pump or a common tin sprinkler spray or sprinkle the flock until thoroughly wet. In order to reach every part of every sheep, the flock should be occasionally stirred around, or made to change places, exposing all parts to the action of the emulsion. There need be no fear of using it too freely, as no harm will accrue to sheep or wool if twice the quantity or twice the strength be used. Nor will it injure their eyes if it happen to get into them, or harm the sheep if swallowed; in fact, it is an excellent vermifuge.

As will be seen, each gallon contains but two-sevenths of a gallon of kerosene, and as this treats ten or more sheep its cost is merely nominal, as in few places does kerosene in quantities cost as much as ten cents per gallon. It is equally destructive to lice on horses, cattle or hogs, and used at double the above strength is valuable to spray the henhouse. If sprayed or sprinkled over the hens at night while on the roosts, about once a month, there will never be a louse on the hens or in the house. With this remedy so cheap, so readily obtained, and so easily applied, the flock owner who lets his sheep or lambs be eaten up alive with ticks, and thus neglects to provide for his own, is worse than a heathen.

AM. AG.

General Matter.

EXPERIENCE WITH RATIONS.

The balanced rations appearing in the COUNTRY GENTLEMAN in recent years have certainly wrought immense results for the dairyman who wishes to get a product for the market, and at the same time a fertiliser for the farm. The formulas giving the proper proportions of albuminoids, carbohydrates and fats, have helped more than one dairy out of adversity into prosperity. And I believe in the main, that they are correct for milk and butter, and increasing fertility of the farm. But a few comments on the soiling ration, page 273, called forth by close personal observations for seven years, will not be out of place. My experience will not contradict but somewhat modify the formula in answer to C. M. S.

The first point I wish to notice in the ration is the 2 lb. of corn meal. A distinguished statesman once said that