

the outcry against the country that would do so little towards furnishing its inhabitants with provisions.

We have often thought that it would be an object to anyone possessed of capital to the extent of a few hundred pounds to open an establishment at Fredericton, for the exclusive purpose of purchasing all kinds of country produce with a view to selling it again both by wholesale and retail—large quantities of Butter, Cheese, Pork, Beef, &c. might then be bought up at the seasons when those articles are ready for sale, and kept on hand to be resold again either to retailers or for actual consumption. In the articles of Pork and Beef we are satisfied a profitable business might be carried on; for the difference in the prices of those commodities in the Fall when they are brought from the country and the following Summer is always such as would afford a handsome profit. A few establishments of this kind in the principal towns throughout the Province, would, we are persuaded, give such a stimulus to the farming interest as would in a short time have the most favourable and visible effect, both upon the circumstances of our farmers and the characters of their employment.

ON THE FEEDING QUALITIES OF NATURAL AND ARTIFICIAL GRASSES.

We extract the following excellent paper by James F. W. Johnson, Esq., from a late number of the Quarterly Journal of Agriculture.

Much knowledge remains yet to be acquired in reference to the most economical mode of using green crops as food for cattle. It is true that there exists a vast amount of valuable information floating among intelligent practical men, but when the unprejudiced inquirer begins to collect with the view of fixing this floating knowledge, he meets with opinions so contradictory, even from men of equal intelligence and skill, that he must be well acquainted with those causes which affect the results of agricultural operations in different localities, before he can hope to approach the truth, or to extract anything like general principles from the testimony of practical men alone. The opinions of practical agriculturists are derived in general from their own experience, and from that of their neighbours in a limited district only. In distant parts of the country, we know that these opinions are often quite opposed to each other, yet the phenomena from which the cultivators of each province have deduced their opposite opinions, are the natural results of the same general laws. It is these laws which the philosophical agriculturist seeks to discover. The above observations apply, among other topics, to the opinions held in different localities in regard to the relative feeding properties of the natural and artificial grasses in their green and dry state—their relative value when made into hay after one or another method, and when used at one another season of the year.

It appears to be generally conceded that soiling is much more profitable than pasturing—that an acre of meadow, for example will feed more stock if the grass be cut and given to cattle under cover, than if they cropped it for themselves. It is even said the produce of "one acre of grass when soiled will go as far as four acres when pastured, and that, in this way, one acre of clover is equal to six of meadow pasture." Whether the difference will always be as great as this we may be allowed to doubt; yet supposing it to be really the case, we can in some measure account for or understand from whence the difference proceeds. For, in the first place, cattle are known to eat less—indeed all animals do—when they are kept from the open air, and are deprived of natural exercise. In the same circumstances, also, they fatten more quickly, or increase in weight more rapidly, in proportion to the food they eat. In the second place, the quantity of grass produced by a young plant or shoot, in a given number of days, is less when it first comes forth than after it is somewhat advanced toward maturity. It is when the leaves are fully expanded that it is able to draw the largest supply of nourishment from the atmosphere in a given time, and consequently, to increase most rapidly in weight. But when cattle are turned into a pasture, it is the young shoots which they delight to crop—thus cutting them down before they have attained to their most rapid period of growth. But if the whole be cut down and soiled, the stock have no such choice, they must eat the whole grass as it is given them; and the young blades in the field have leisure to expand and grow a-

gain before the scythe returns to cut them down a second time.

2. But it is also said—and I believe as a general principle is also conceded—that the same weight of the same grass will go further in the green state than when it is made into hay. But there appears to be a great, and so far as I am capable of judging, a wellfounded difference in regard to the amount of nourishment lost by the act of drying. By some it is stated to amount to one-half a ton of green rye-grass or clover going as far as two tons when made into hay. This proportion cannot be general; but since differences so great may exist, according to the evidence of practical men, it becomes a matter of interest to inquire how this difference arises, and if by any means it cannot be avoided or diminished. When we consider how much of the land is annually under natural or artificial grasses, which are afterwards to be converted into hay, it will appear to be a matter of no small moment if the feeding property of the whole, by some improvement in the mode of preservation, can be increased to even one tenth or one-twentieth only. When the soft young shoots of the dogrose, the bramble or the hawthorn, or the young cabbage, are cut off and peeled, they are found to be soft and eatable, and, like the heart of the young turnip, are readily digestible; let a month or two elapse, and these shoots become woody, and, when taken into the stomach, pass through the intestines of most animals in a great measure unchanged. Thus animals which thrive on the young shoots of early spring, can with difficulty sustain themselves on the more matured branches of the advancing summer. The reason of this difference is, that the starch and gum, and similar soluble and digestible substances of which the young shoots consist, are gradually changed into the insoluble, and, in general, almost indigestible woody fibre of which the stem and branches of the mature plant are in great part composed. When green grass or clover, approaching to maturity, is first cut down, it contains a considerable proportion of starch, sugar, and gum, still unchanged into woody fibre, as it would mostly be were the plant allowed to become fully ripe. But when left to dry in the open air, the circulation proceeds to a certain extent, and under the influence of light, woody fibre continues to be formed in the upper part of each stem, until it becomes completely dry. It may even be a matter of doubt whether this process of change does not often proceed after the hay has been carried off the field and stacked. The effect of this change will obviously be to render dry hay less digestible on the whole, and consequently, less valuable as food, than the green grass from which it was prepared. Again, we know that, by drying, many very digestible and nourishing substances become less soluble, and consequently more difficult of digestion. The stomach of a growing animal cannot afford the time necessary to the complete digestion of such dry substances, and hence a larger portion of the really nutritive matter of their food is rejected in the droppings of animals, which are fed upon them. How much of dry corn escapes half digested from the stomach of the horse—how much, probably, of the animal matter of the bones it eats, from the stomach of the dog—which either of these animals would have been able fully to digest, and to work up for its own sustenance, had the food been presented to it in a less hard and solid state! So it must be, to a certain extent, with dried hay. What was easily soluble and digestible in the green, has without undergoing any chemical change, become less soluble and more tardily digestible in the dry, and hence a second reason why the hay should afford less nourishment than the grass from which it was made.

European News.

British Papers to the 4th of September, received by the Steamer Britannia.

FRANCE AND MOROCCO.

Official Letters to the French Government.

Steam-ship Plato, Aug. 17.

FROM THE DUKE D'ORLEANS.

"I arrived before Mogador on the 11th. The weather was very unfavourable, and from several days we were prevented by the continued rain for communicating with one another. Although we had veered out 200 fathoms of chain cable, our anchors broke like glass. At length,

on the 15th the weather becoming favourable, I availed myself of the opportunity to attack the town.

"The Jemappes and the Triton, steamers, took up their positions before the batteries on the west, with orders to batter them, and to attack the sea batteries in flank.

"The Suffren and the Belle Poule took up their positions in the northern passage. At one o'clock, p. m. the attack commenced.

"As soon as the Arabs saw the vessel making for the town they commenced firing from all their batteries. We delayed answering them until each of our vessels had taken up its position. At half past four their fire began to slacken—the brigs Cassard, Volage, and Argus, then entered the harbour and commenced an animated attack upon the batteries of the island. At half past five the steam-vessels, with 500 men on board, entered the passage, and under the fire of the brigs a landing was promptly effected upon the island.

"The island was defended with the most obstinate determination by 320 Moors and Kabyles, who formed its garrison. A great number were killed, and 140, who were shut up in a mosque, surrendered.

"Our loss during the day amounted to 14 killed and 64 wounded.

"The despatch then gives the list of the officers killed and wounded.

"The island having been taken, it only remained for us to destroy the batteries of the town fronting the roadstead. Our cannon had already much damaged them, but it was necessary to put them completely hors de service.

"Yesterday, when under the cross fire of three steamers and two brigs, 500 men were disembarked; they met with no resistance, we spiked the guns and threw some of them into the sea. We carried away some of them, the powder magazines were swamped; in fine, we carried off or sunk all the vessels which were lying in the harbour. I believe that we could at that time have penetrated into the interior of the town without danger, but it could have been only a promenade without an object or without other result than useless pillage. I therefore abstained, and brought back the troops to the island, and the crews on board the ships. I am busy establishing on the island a garrison of 500 men. The occupation of the island without the blockade of the port would be but a half measure; I therefore follow your orders, in closing the port of Mogador.

"The town at this moment is on fire, pillaged by the Arabs, who have taken possession, after having driven out the imperial garrison. The English consul, his family, and some of the Europeans, have just come to us.

"I cannot conclude without stating how much reason I have to congratulate myself on the conduct of all those acting under my orders during this campaign.

"Every one has acted with a zeal which can only be attributed to an ardent love of country—of its honour, and of its interests—and of an unbounded devotion to the service of the King.

"Accept, Sir, the assurance, &c.
(Signed) "F. D'ORLEANS."

Extract from Marshal Bugeaud Despatch. "Camp, near Condiat-Abderraham, August 17.

"Monsieur le Marechal.—The son of Emperor Muley Abderraham, did not answer the letter I addressed to him after the sort of summons he sent me to evacuate Lalla-Magrina, if we wished for peace. His army was reinforced every day by fresh followers, and his pride increased with increasing strength. They talked openly in the Moorish camp of taking Tlemcen, Oran, Mascara, and even Algiers. It was nothing less than a crusade to re-establish the dominion of Islamism. It was thought that it was impossible for us to resist so immense an assemblage of the most renowned cavalry in the empire of Morocco, and they only delayed attacking us until the arrival of the reinforcement of infantry of Beni Sennassen and of Rif, who were to assail us from the mountains, at the foot of which Lalla Magrina is situated, whilst an immense body of cavalry was to surround us from the plain.

"The nine days of uncertainty which had just passed had already caused much anxiety of mind; detached parties of the enemy had already twice attacked our convoys from Djemaa-Ghazaout, and the good will of the tribes who formed their escort was very nearly extinguished. Two reconnoitring parties had already advanced within gun-shot of Lalla-Magrina, and had attacked our advanced posts.

"And further doubt respecting our

force, and our readiness to meet the enemy in our front, might provoke in the territory in our rear revolts which, independently of other embarrassments, might have arrested the supply of provisions to the troops in the west. I should have preferred, during the excessive heat that the action had been commenced by the enemy, rather than that I should have been compelled to advance a distance of eight leagues; but the danger of further delay induced me to commence the attack.

"General Bedean having joined me on the 12th with three battalions and six squadrons, I marched forward on the 13th at 3 p. m., throwing out a large foraging party, in order that the enemy might not be aware that I was making an offensive movement. At night fall the foraging party returned to the column and we encamped in marching order in silence, and without fires. At two o'clock in the morning we resumed our march.

"I crossed the Isly the first time at break of day without meeting the enemy. At 8 a. m., having arrived on the heights of Djarf-el-Akhdar, we perceived the Moorish tents still in the same position, extending over the hills on the right bank of the river. All their cavalry marched forward to attack us while crossing the river a second time. In the midst of a large body occupying the highest ground, we readily distinguished a group forming the staff of the son of the Emperor, with his standard and his parasol, the emblem of his authority.

"This was the direction I gave to the leading battalion, which was advancing in echelon order. Having arrived there they were to turn to the right and bear down upon the enemy's camp, the left wing holding the summit of the hill. All the generals of division were with me. I communicated to them rapidly my instructions, and after a halt of five or six minutes we descended to the fords in quick march, our bands playing.

"A number of horsemen opposed our passage; they were driven back by our tirailleurs, with some loss upon both sides and we soon reached the plain at the foot of the elevated ground occupied by the son of the Emperor. I directed against this point the fire of four field pieces, and immediately the greatest consternation was produced.

"At this moment vast masses of cavalry issued from behind the hills on both sides, and attacked us at the same time on both our flanks and in the rear. I had need of all the firmness of my infantry. Not a man faltered.

"Our tirailleurs, who were only at a distance of 5 paces from our squares, firmly awaited the attack of this multitude without yielding a single foot. Their order were to lie down if the enemy charged them, in order not to interfere with the fire of the squares, the artillery kept up a destructive fire.

"The masses of the enemy were arrested, and thrown into confusion. I hastened their retreat and increased their disorder by again directing against them our four field pieces, which preceded our order of battle. The moment I saw that the attack of the enemy on our flanks had been repulsed, I gave the order to advance. The principal eminence having been taken, we then directed our attack against the camp.

"The enemy's cavalry having been divided by its own movements, and by our march, which separated it into two parts, I felt that the moment had arrived to order the advance of my cavalry against the main point, which in my opinion, was the camp, which I supposed to be defended by the infantry and artillery. I gave orders to Colonel Jartas to advance his 19 squadrons by echelon to the left, so that his last echelon was supported by the right bank of the Isly.

"Colonel Jusuf commanded the first echelon, which consisted of six squadrons of spahis, supported immediately in the rear by three squadrons of the 4th Chasseurs.

"Having sabred a number of horsemen, Colonel Jusuf attacked this immense camp amidst a heavy fire of artillery; he found it full of cavalry and infantry, who disputed every step of his progress, foot by foot. The reserve of the three squadrons of the 4th Chasseurs having arrived, a fresh impulse was given to the attack. The artillery was captured and the camp taken.

"The ground was covered with the dead bodies of men and horses. All the artillery, the munitions of war, and the provisions, the tents of the son of the Emperor and of all the chiefs, and the boutiques of the numerous traders who accompanied the army—every thing in a word, remained in our hands. But this brilliant episode of the campaign has cost us dear; four officers of spahis, and 15 spahis

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