executing this operation; and, as soon as the stacks are allowed to settle, they should be thatched by an experienced hand. But few departments of farm labour require more skill and minuteness than stacking and thatching, and in all cases where stacking becomes absolutely necessary, the stacks should be properly thatched, which is the only sure means of securing the owner from loss, and this operation should be performed immediately after harvest.

The final preparation of your land for wheat will now require a considerable portion of your time and attention. The diseases which cause so much casualty to the wheat crop in this country are rust, smut, and chess, and also the ravages of the wheat fly: to counteract these prejudicial influences should be the most anxious desire of every true friend to his country and to his fellow-man. As it regards the three former, which to the Western Canadian wheat grower are the most formidable, we feel prepared to say, that they might, in a great measure, be prevented,—indeed, as regards smut and chess, they might be unknown, unless it be as a matter of history. This doctrine, though strange to many, is, notwithstanding, strictly correct; and the writer feels so confident of this, that he is prepared to stake his reputation, as a farmer, in defence of the principle. The disease so generally fatal, and so universally dreaded in all inland agricultural countries, and which is known by the appellation of rust or mildew, might be rendered much less frequent than at present, if only the husbandman were sufficiently intelligent to exalt their high and noble calling to one of the exact sciences. But few persons, we are sorry to say, really know what constitutes a good wheat soil, and in hundreds of instances that have come under the writer's notice, where nature had done her part in such a perfect manner that the only necessary steps required to secure a good return was to plough and sow, without a large amount of skill, the system of farm management adopted upon such naturally good soils were so defective, that, in four cases out of five, the crops might be considered failures. An agriculturist should be so far master of his profession as to be able to compound and regulate his soils to suit the various crops grown thereon, with nearly the same precision and skill that a physician or a druggist employs in compounding and mixing their drugs in suitable proportions, to check the several diseases incident to mankind. Although this degree of perfection in agriculture is easily attainable, as it respects the knowledge of any of the most simple natural sciences, still it is to be feared that not one in a thousand of the sons of farmers, who are destined to take the place of their fathers—fathers who were the pioneers of this country, will take the necessary steps to acquire even a common-sense knowledge of the several influences which act favourably or prejudicially, as the case may be, on the occupation of an agriculturist.

A degree of knowledge sufficient to secure the introduction of a complete system of farm management in this country being attainable, every possible available means should be brought to bear, in diffusing such information to the rural classes of the country. As an humble, yet ardent votary to the cause of agriculture, the Editor of this Journal will spare no pains in his power to endeavour to elevate the standing of the class to which he feels proud to belong; and if the directions given be heeded, he flatters himself that the results will be favorable.

The subject of rust, chess, and smut, and a proper preparation of the land for the wheat crop, may be seen in another page of this number.

Points of a Good Milch Cow.—The following is from a report of the Guernsey Agricultural Society. *Points*.—1. Purity of breed and qualities of the dam for yielding rich and yellow butter. 2. Small head, large and bright eyes, small muzzle, small ears, orange-colour within. 3. Straight back from the shoulders to the tail, and chest wide. 4. A fine and loose skin, with soft and short hair. 5. Sides well rounded, flank small between the side and haunch, tail fine. 6. Fore legs straight and well proportioned, hind legs broad above the knee, fine and clean below; hoofs small; legs should not cross in walking. 7. Udder large, and the teats large and springing from the four corners of the udder; milk veins large and well defined.

Cheese.—A return of the quantities of cheese imported into the several ports of Great Britain in each month of the year 1843, distinguishing the European, United States, and Colonial produce, has been printed on the motion of Mr. Colville the member for Derbyshire. The aggregate importations from all parts during the year ending January 5, 1844, amounted to 179,389 cwt. From various countries in Europe, there was imported during the year, 136,898 cwt. From the United States of America, (whence very rich fine flavored cheeses are now being constantly imported,) 43,312 cwt., and from the British possessions abroad, only 79 cwt.—*English Farmer's Journal.*

Manures are to farming what blood is to the animal frame; divested of their aid vegetation languishes, as the abstraction of the other leads to dissolution. Of all manures that are in use, commend your friends I pray you, to that from the farm yard. Much goes to waste about every steading, that being otherwise carefully used, with a trifling amount of labour might be made available in superseding the use of artificial or foreign manures.—*Agr. Ag.*

MANURES.

A PRIZE ESSAY.

BY S. L. DANA.

[In the May Number of the *Cultivator* we inserted the Second Section of this admirable production, which we copied from an exchange paper: we at that time had no hope of obtaining the entire Essay, but since have been favoured with it, through the agency of the *American Farmer*, and have, accordingly, given insertion to the First and Third Sections in the July Number, and we now give the Fifth Section and part of the Sixth in the present Number for August; and we shall continue it in the subsequent Numbers of this Publication, until the whole is completed.]

Section Fifth.

Of the Action of the Salts of Cattle Dung.

Here it is we find ourselves thrown on a sea of opinions, without chart, compass, or pilot, if we trust to the conflicting theories which have been set up for landmarks and light-houses. Let us, therefore, reader trust to ourselves, aided by the little chemistry we have learned from the preceding remarks about the composition of salt.

I have endeavoured to impress on your memory, that the term salt is very comprehensive. But then, to encourage one it is also to be remembered, that salts are compounds of alkalies, earths, and metals with acids. Now the earths, alkalies, metals, may be united to each of the known acids, (and their name is legion,) yet you may not, by this change of acid, alter the nature of the earth, alkali, or metal. That always remains the same; every time you change the acid, you alter the character of the salt. Thus soda may be united to oil of vitrol and form Glauber's salt, or to aqua-fortis and form South American saltpetre, or to muriatic acid and form common table salt. The soda is called the base of this salt, that is always soda, you do not change its character by changing the acid. To give another example, lime may be united to carbonic acid and form chalk, or marble, or limestone, or it may be united to oil of vitrol, and form plaster of Paris, or to phosphoric acid and form bone-dust. Now, in each case, the base of the salt, that is, the lime remains unchanged; but, changing the acid, we change the nature of the salt, and of course its effects will be different. Now it is plain, that where the bases of the salt remains the same, that will always act the same, but different effects will be produced by different acids. Each base acts always one way, but each has an action to every other. Each acid acts also one way, but each has an action distinct from every other; impress this on your mind. Reflect upon it a moment,