

"because the quick lime sets free the ammonia contained in the guano, and causes it to escape into the air." He observes, also, that "quick lime will, in the same way, drive off the ammonia contained in liquid manure, and in horse or farm-yard dung." Farmers who have bought poudrette that has been compounded with fresh lime, have often complained of its inefficiency.

T. Sedgwick, a writer in the *English Agricultural Gazette*, says—"The employment of lime with dung is a most baneful practice, as it renders the ammonia caustic and volatile, to the greatest degree, and causes the loss of the most energetic portion of the dung. When lands require lime, it should be applied separately, and avoid as much as possible its contact with the dung."

The effect of mixing lime with animal manure, may be explained as follows:—Lime-stone contains nearly half its weight of carbonic acid. In the process of burning, the carbonic acid is driven off; but the lime has a constant tendency to return to its original condition by the re-absorption of the property it had lost. Animal manure contains ammonia, combined with carbonic acid. When fresh lime is added, it attracts the carbonic acid, which, uniting with the lime, sets the ammonia free, and it escapes.—*Albany Cultivator*.

A MIXTURE OF GRASSES.—Our farmers are now laying down much of their ground to grasses. Clover and herds-grass are, nine times in ten, the kinds and the only kinds sown, whether for mowing or pasturage. We have ever contended against this mode of being confined to only these two species of grass, and have always advocated mixing together more varieties. It ought to be done in either case, whether you wish to confine your land to mowing for the hay only, or where you wish to turn it out to pasture. Each separate species of grass or plant, used for forage, has some peculiar property or ingredient which is valuable in producing certain qualities in the beef, milk, butter, or cheese, which is manufactured from it. The white clover, for instance, is said to produce more *caseine*, or cheese matter, in the milk of those cows that feed upon it than most other grasses. Some grasses give peculiar flavour to the butter, and others give out a pleasant fragrance to the hay, which is communicated more or less to the milk. The red-top and the orchard grass should be mingled in with herds-grass and red and white clover. There is another grass which is not very abundant with us, which should be more cultivated as an ingredient of our pastures and mowing fields. It is called the *sweet scented renul grass*. It is what botanists call the *Anthoxanthum Odoratum*. It is a native of Europe and was introduced into this country, and has become more or less scattered about our grasses. It is very fragrant, and when a little of it is cut, gives a delightful flavour to the new mown hay. It is an early grass. A writer some years since in the Farmer's Cabinet, speaking of the prevalence of this grass about Philadelphia, says, its scent somewhat resembles vanilla. It grows from a foot to eighteen inches high. Its stem is very small and round, with a few long and slender leaves. Its odor, said he, is sufficient to distinguish it from other grasses found in our pastures. When in blossom the air is often highly charged with its scent. As we have before said, it is an early grass, and of course ripens before other grasses, so that it will require but a small portion to be sown for the earlier supply of pasturage, while others will come on in succession. It accommodates itself very well to different soils.

It is found that butter made from cows which graze upon pastures in which this grass grows, has in the earlier part of the season a peculiarly pleasant flavour, and when this grass declines, the flavour declines. The grass, however, comes on again in the fall, and it makes

valuable fall feed, or "aftermath," as it is sometimes called.

A chemical examination of this species shows that it is not so highly nutritious as some of the other species. Its fragrant properties consist in its containing *benzoic acid*, a substance which is well known to possess a peculiarly aromatic odor. It is stated that an essential oil can be distilled from the grass, which will afford a pleasant perfume.

It is not strange, therefore, that the butter should contain a portion of it, and partake of its fragrant qualities. We know that milk will contain the odoriferous particles derived from turnips, onions, garlic, &c., &c. Hence it is an object with the farmer to take advantage of the knowledge of such facts, and mix his grasses in such a way that he shall not only obtain a supply of the nutritious matter which the several species may contain, but also any other materials which will render the products of beef, butter, and cheese, more grateful in quality, and consequently more saleable and profitable. This can be easily done by mixing the seeds of different grasses, when sowing. We presume all the varieties of seed required for the above purposes may be obtained at the several seed stores in Boston, New York, and other large places.—*Farmer*.

VERY IMPORTANT TO FARMERS.—Turnips may be liberally fed to milch cows without imparting any unpleasant flavor to the milk or butter, by the following process:—Place the whole turnips into a steam box, with chopped hay, straw, or corn fodder, and steam them until they are soft. There should be some apertures in the top of the box, in order that the steam may escape whilst they are cooking. As soon as they are soft, the "escapes" should be closed, and the steaming process continued until the material with which they are steamed is perfectly saturated with water and the flavour of the turnips.

By this process, all the strong, unpleasant flavour of turnip is removed, and a palatable one imparted. In connexion with this experiment, I made the following invaluable one in testing the comparative value of cold and warm food, and drink for milch cows. The experiment was conducted thus: a herd of nine cows in a stable were fed with food, prepared as above, and allowed to cool before it was fed. The cows were turned out into the yard to drink cold water, where they remained some two or three hours, morning and evening, in the cold air (the weather being very cold.) The food was given in the stables, and the cows remained in all night. The milk was carefully measured for one week, and the amount of feed given, noted. The succeeding week the same amount of feed, prepared in the same manner, was given warm, the stable temperature was kept above freezing, and the chill taken off the water, the cows being constantly kept in the stables and the water carried to them. The result was, that there was an average gain, or increase, in the amount of milk secreted, of about one pint per diem for each cow, or nine pints, at five cents per quart, or two and a half cents per day. This will leave a net profit, in favour of the warm stable, food and drink, of about thirteen cents per day of the nine cows, or about \$4 per month, which is the usual wages paid a common labourer in winter, in this region.

Besides the above advantage, the cows were much more comfortable, and the labour of turning them out into the yard and putting them up again, was more than that of carrying the water to them, as they required but little, being fed with moist steamed food, about one third of which was turnips.

I have also fed my swine with warm swill during the past winter, in which I have found a decided advantage.—*American Agriculturist*.