The Feeding of Animals.

It is well known that herbivorous animals are fond of common salt, and this is as true of wild animals as of those domesticated by man. Carnivorous animals, on the other hand, either have no liking for salt or show a positive aversion to it. Cats, for example, will rarely touch salt meat. This difference is not easily explained. The blood of both classes of animals contains a certain amount of soda salts, but the quantity of soda in a vegetable diet is not necessarily less than in one of flesh. A German experimenter, Herr Bunge, has been the first to suggest a plausible solution of the enigma. A vegetable diet furnishes twice as much potash in proportion to its soda as a flesh diet does; and it occurred to him that the greater supply of potash must be attended with a greater waste of soda. To test this theory experimentally, he put himself upon a perfectly uniform diet of beef, bread, butter, sugar and a small quantity of salt. When, by daily analysis of the urine, he found that the quantity of soda and potash excreted had become constant, he proceeded to take such a dose of potash salts during the day as would raise the amount of potash in his diet to a level with that daily consumed by a herbivorous animal. The result was an immediate excretion of chloride of sodium in the urine, the amount being at once increased three-fold. Much potash was, of course, also passed. The experiment was repeated at various times, employing different salts of potash, but always with a similar result, a dose of potash in every case producing an immediate excretion of soda. Bunge believes that this tendency of potash to produce a greater waste of soda in the system is the cause of the desire shown by herbivorous animals for common salt. Their vegetable diet is generally very rich in potash, and they instinctively seek an additional supply of soda. Soda does not seem to be an essential ingredient of plants, but it is certainly indispensable in the animal economy. In the muscle and in the blood corpuscles potash is an essential constituent; but in the fluid portion of the blood, potash is injurious, and if injected, even in small doses, produces death. Soda salts, on the other hand, can be injected with safety, and their presence in the blood is essential to the continuation of vital processes.—*Journal of Chemistry.*

Box Stalls for Cattle.

People who remember how their fathers used to tie up oxen and cows in stanchions, and who have seen these instruments of bovine torture banished at the dictates of humanity and their places supplied with chains, are in a degree excusable for thinking that our present stable arrangements are all the most gentlemanly ox or most fastidious cow could desire; but those who stop and think a moment will see that there is chance for further improvement, in fact, that the present practice of tying up cattle does not meet the requirements at all.

Cattle are naturally among the most cleanly of animals, fastidious as to their food, drink and lodgings. They never seek of their own accord a mud-hole to lie or to wallow in. Their toilets are made with their tongues, with which they remove impurities, comb their hair, allay irritations of the skin, and perform other offices. When they lie down they naturally spread themselves over considerable ground; when they get up they want room to do it in. But when tied up by the head, they are compelled to stand and lie in manure and filth, they are unable to reach many parts of their bodies with their tongues, they are confined in one position, cannot lie down with comfort or get up without violation.

These consideration suggest that cattle should not be tied up at all, and we ask our readers who own few or many cattle, and especially cows, and who can by any reasonable amount of labor arrange it so as to give each one an apartment by herself in which she can stand, lie, turn around and move about naturally, to do so and note the result.

It will surprise people who think that a cow don't mind having her sides plastered over with manure and filth all winter, to see how clean she will keep herself when she has a chance in a box stall.

Then in such a cow cannot hook or rob another; she will not strain herself getting up or reaching for food; she can lie down naturally and get up easily; can be fed to better advantage, milked with less trouble, and is better off every way. You who have loose room, try it and see.—*Mirror and Farmer.*

An exchange asks the conundrum: "Why has a hog more brains than any other animal?" Because he has a hog-head full of them, of course.

The Dairy.

The Substitute for the Dry Vault and the Spring House.

I experimented until I invented a thoroughly effectual, convenient and practicable combination of the Ice House and Dairy Room, so arranged that both the cooling and the ventilating apparatus should operate automatically and simultaneously.

The Ice House.

It is now generally conceded that the rural home and the farmery are incomplete without an *ice house*, conveniently located. It was formerly looked upon as an appurtenance of the luxurious home only, but latterly, as an indispensable essential in a suit of buildings for the suburban residence, or a farm.

Many have been deterred from building the ice house on account of the many failures and the general ignorance of the true principles of their construction; and by so many having been constructed by grovelling pretenders—a numerous class, who think that if all men are not born architects, they certainly were; and if they are a seventh son, they are born doctors as well. It is fortunate for the masses, however, that a few proprietors have learned that it is as judicious and economical to employ an architect to design a building of any description, as it is to avail themselves of the best legal counsel when legal knowledge is required. Ignorance of the proper and economical construction of the *ice pond* has also deprived many a worthy family of ice for a lifetime. I have constructed a number of ice ponds, that have given annual supply of good ice for years, where it was considered utterly impossible to make a crop of ice. I can call to mind a number of ice houses which have been located by the quack architect, from ten rods to a third of a mile from the house. I will not waste space by commenting on such an arrangement.

The Proper Site for the Ice House and Dairy Room.

These structures, to be thoroughly useful and convenient, should be so located that they may be entered from the culinary apartment of the farm house, of which they are properly as much a part as are the kitchen, pantry and fuel room.

I would as soon think of placing the wardrobe for the proprietor's chamber, or the family water-closet, in the cellar or cock loft, as I would of locating the *dairy room* and *ice house* remote from the farm house; their value depends in a great degree on the convenience of their location.

I know of no investment in rural buildings that will give a better return than that expended in supplying a proper ice house, dairy room and fruit room. They are each equally essential to the comfort and health of a family, and the three are inseparable economic structures, as the last two are directly dependent on the spaciousness and perfection of the former.

As in many other matters pertaining to a high order of civilized life, the popular mind has to be educated and elevated before the great advantages of these structures are fully appreciated. All admit the desirableness of a constant supply of *pure milk, aromatic sweet cream and butter*, and luscious *ripe fruit* every day in the year; yet but few know that all are within their reach. The masses look upon them as very expensive luxuries, obtainable by the very wealthy only, whilst they may be supplied and enjoyed by a large majority of farmers at a tithe of the cost of the *needless fences* which they make and maintain. Gilt edged butter and good fruit, properly ripened, few farmers' families in this country have ever seen. I am aware that many will consider this a broad assertion, and not a few will no doubt consider it untrue. I admit that it is strange; but nevertheless, it is as true as it is strange, and will, I am satisfied, long continue to be so. No class is so slow in seeing their true condition as farmers, or so slow in availing themselves of their rights.

It is a well established fact that milk is susceptible of being tainted in the blood of the cow, and to satisfy the most sceptical that it is so, after it has been drawn from the cow, they only need allow their olfactories one salute from the odor of an unwashed milk can, on its way back to be filled with "*pure country milk.*" Purity and cleanliness must characterize everything that pertains to the production and manipulation of milk and its products, or a good quality cannot be preserved. The highest degree of chemical knowledge is inadequate to the task of removing taint once established in milk. To do this, we must commence with the animal, the condition of the cow must be strictly normal, the air she breathes must be pure, but the former must consist of due proportions of the highly and moderately nutritious substances, all known to be congenial to ruminating mammalia. Undue and unnatural excitement of the cow must be avoided, the milk should be artificially heated to 140° as soon as it is drawn, and it should be allowed to cool gradually, be well aired whilst it is cooling, and its surface should be exposed to pure and gently changing air, as long as it is kept.

Temperature.

A proper and uniform temperature at which milk should be kept for raising the cream, say 58 to 60 degrees, is also very important. This it is impossible to secure and perpetuate in a dry vault or spring house, if the apartment is well ventilated, unless *ice* is used. But with the adjunctive influences of a properly constructed ice house, by which to cool both the water bath in which the milk is set and the air of the dairy room, it is feasible to change the air as often as is necessary and yet maintain the most desirable temperature, and by the air of a heater in the dairy room, requiring but a nominal amount of fuel, the temperature may be controlled equally as well in January as in July.—J. Wilkinson, *in Maryland Farmer.*

Spring Houses.

There is no better method of preserving that equable temperature which is necessary for the best management of a dairy, than the use of a permanent spring of water. In winter and summer the temperature of water, which issues from springs, is constant, or nearly so. The temperature, too, is as nearly as possible that which causes the cream to rise most rapidly and most completely. This is a very important point in butter making, and the excellence of the quality depends upon this probably more than upon any other circumstance connected with the operation. Besides evenness of temperature, pure air surrounding the milk and cream is a necessary thing to secure. A stream of pure flowing water insures this in two ways. There is no better absorbent of disagreeable scents than pure water, and the odor of milk fresh from the cow is very disagreeable; if it is not got rid of, it remains in the butter and cheese, and may be readily detected in them. This animal odor, as it is called, is volatile, and is easily driven off as the milk cools, if there is a current of fresh air or pure water brought into contact with it. A current of spring water, flowing around the pans of milk, will carry off this odor completely, and in addition to its own absorbent property, it sets in motion, through its lower temperature, the air of the spring-house, and causes currents to pass continually in and out of the house, and over the milk. These currents of air are also full of moisture, and this moisture helps to absorb the odors. At the same time there is no evaporation from the milk or cream, and in a well constructed and well managed spring-house, we never find the cream become dry and leathery, as it may do in dry, airy cellars or milk-rooms. Then there is the perfect cleanliness, which may be secured, where there is an ample supply of pure water, that may be added to the credit of a good spring house.

The points necessary to look at most particularly in constructing a spring-house are, the coolness of the water, the purity of the air, the preservation of an even temperature during all seasons, and perfect drainage. The first is secured by locating the house near the spring, or by conducting the water through pipes, placed at least four feet under ground. The spring should be dug out and cleaned, and the sides evenly built up with rough stone-work. The top should be arched over, or shaded from the sun. A spout from the spring should carry the water into the house. If the spring is sufficiently high, it would be most convenient to have the water trough in the house elevated upon a bench. There is then no necessity for stooping to place the pans in the water, or to take them out. Where the spring is too low for this the trough may be made on a level with the floor. The purity of the air is to be secured by removing all stagnant water or filth from around the spring, all decaying roots and muck that may have collected should be removed, and the ground around the house be either paved roughly with stone, or sodded. The openings which admit and discharge the water should be large enough to allow a free current of air to pass in or out. These openings should be covered with wire gauze, to prevent insects or vermin from entering the house. The house should be smoothly plastered and frequently whitewashed with lime, and a large ventilator should be made in the ceiling. There should be no wood used in the walls or floors, or water channels. An even temperature can best be secured by building of stone or brick, with walls 12 inches thick, double windows, and a ceiled roof. In such a house there will be no danger of freezing in the winter time. The drainage