

Scientific.

White Gunpowder.

A Haverhill correspondent of the Boston Traveller gives the following formula for the manufacture of white gunpowder, which, from experiment, he has found to produce the most perfect article of the kind:—

Take of pure Chlorate of Potasse 67 grains; of pure dry sugar, 23 grains; of pure Prussiate of Potasse, 31 grains. The Prussiate of Potasse should be deprived of its water of crystallization by carefully drying previous to pulverizing. The articles should be pulverized separately in an agate or glass mortar, and mixed together carefully and uniformly with a spatula. Care should be observed not to grind the materials together after mixing, as the friction might cause an explosion.

The white gunpowder, prepared as above, is said to be very powerful, being more forcible than ordinary powder, and will not attract moisture when fully exposed. It cannot, however, be used to any extent by sportsmen, as the gases generated by combustion act chemically upon iron, and will undoubtedly produce corrosions. The materials may be kept separate for any length of time and mixed as wanted. This will enable our ships of war to avoid the risks of explosions, as they can, by using this powder, dispense entirely with large magazines, and retain the materials in a separate and in explosive state.

Noxious Influence of Brickyards.

At a late meeting of the New York Farmers' Club, Dr. Underhill spoke of the influence of the gases of brick-yards, which he said he had for the last six years observed to be very injurious to fruits and vegetables. We take from the Tribune an abstract of Dr. U.'s remarks on the subject.

At the time when his attention was first directed to this subject, the following incident occurred to establish his opinion. A friend had observed that, immediately after a severe thunder-shower, all his vineyard appeared in a sickly condition, and no satisfactory reason could be assigned for the occurrence of the phenomenon, until the investigation had proceeded some time, when Dr. U. discovered that the gases of a brickyard in the vicinity had blown over the vineyard, and produced the disastrous effect, turning the leaves to a dark, reddish brown color. These gases were stated by the doctor to be more particularly injurious in the latter stage of the burning of the kiln, and derive their noxious property from the anthracite coal used, the proportion of which is, in the interior of the kiln, three pecks of hard coal to a thousand brick, and on the outside twelve bushels to the thousand.—This he knew to be the case in at least one brick-yard. If there is a light wind blowing, these gases will extend their deleterious influence for miles, the supply being kept up at the yards for hours. They are particularly detrimental to Newtown Pippins, the foliage of which is destroyed for miles. The leaves are turned completely over in many cases, and one side is turned to a different color, a reddish brown, appearing as if touched by a vehement fire. By these gases trees are often rendered unable to furnish healthy sap for the proper sustenance of the fruit. Speaking of pippins, he mentioned that one of the finest orchards in the country, in the town of Cortlandt, Westchester County, containing from 1,000 to 1,500 trees, was entirely ruined, principally by the gases from numbers of brick-yards in the immediate vicinity. This subject was referred to a committee, to report to the Farmer's Club.

The Reptile Room in the Zoological Gardens, Regent's Park.

About ten o'clock one evening, during the last spring, in company with two naturalists of eminence, we entered that apartment. A small lantern was our only light, and the faint illumination of this imparted a ghastly character to the scene before us. The clear plate glass which faces the cages was invisible, and it was difficult to believe that the monsters were in confinement, and the spectators secure. Those who have only seen the boas and pythons, the rattlesnakes and cobras lazily hanging in festoons from the forks of the trees in the dens, or sluggishly coiled up, can form no conception of the appearance and actions of the same creatures at night. The huge boas and pythons were chasing each other in every direction, whisking about the dens with the rapidity of lightning, sometimes clinging in huge coils around the branches, anon en-

twining each other in massive folds, then separating they would rush over and under the branches, hissing and lashing their tails in hideous sport. Ever and anon thirsty with their exertions, they would approach the pans of water and drink eagerly, lapping it with their forked tongues. As our eyes became accustomed to the darkness, we perceived objects better; and on the uppermost branch of the tree, in the den of the biggest serpent, we perceived a pigeon quietly roosting, apparently indifferent alike to the turmoil which was going on around, and to the vicinity of the monster whose meal it was soon to form. In the den of one of the smaller serpents was a little mouse, whose panting sides and fast-beating heart, showed that it, at least, disliked its company. * * During the time we were looking at these creatures all sorts of odd noises were heard. A strange scratching against the glass would be audible—it was the carnivorous lizard endeavoring to inform us that it was a fast day with him, entirely contrary to his inclination. A sharp hiss would startle us from another quarter—and we stepped back involuntarily as the lantern revealed the inflated hood and threatening action of an angry cobra. Then a rattlesnake would take umbrage, and sounding an alarm, would make a stroke against the glass, intended for our person. The fixed gaze from the brilliant eyes of the huge pythons, was more fascinating than pleasant; and the scene, taking it altogether, more exciting than agreeable. Each of the spectators involuntarily stooped to make sure that his trowsers were well strapped down, and as if our nerves were jesting, a strange sensation would every now and then be felt, resembling the twining of a small snake about the legs. Just before leaving the house, a great dor beetle, which had flown in, attracted by the light, struck with some force against our right ear. Startled we were—for at the moment our impression was, that it was some member of the happy family around us, who had favored us with a mark of his attention.—*Bentley's Miscellany.*

CURE FOR ERYSIPELAS.—Take the leaves of *Datura Stramonium*, commonly called thorn apple, or apple peru, and make a strong tea of it, and wash the part affected frequently with it, or wet a cloth with it and lay it on, or make a poultice of the tea by thickening it with wheat or rye bran.

SWEET OLIVE OIL is a certain cure for the bite of the rattle-snake. Apply it internally and externally.

The Farm.

COMPOSITION OF, AND NUTRITION IN, THE VARIOUS GRAINS.

As the nutritive properties of the various grain crops, as well as their organic proportions generally, involve questions of profound interest in the economy and support of animal life, we make the following extracts from the able work of Professor John P. Norton, entitled "elements of Scientific Agriculture," just published:

"Wheat is the most important of all crops. The grain contains from fifty to seventy per cent. of starch, from ten to twenty per cent. of gluten, and from three to five per cent. of fatty matter. The proportion of gluten is said to be the largest in the grain of quite warm countries.

"It is a singular fact, that, in all the seed of wheat and other grains, the principal part of the oil lies in or near the skin, as also does a large proportion of the gluten. The bran owes to this much of its nutritive and fattening qualities. Thus in refining our flour to its utmost possible extent, we diminish somewhat its value for food. The phosphates of the ash also lie in a great degree in the skin. The best fine flour contains about seventy pounds of starch in one hundred. The residue of the one hundred pounds consists of ten or twelve pounds of gluten, six or eight of sugar and gum, ten to fourteen of water, and a little oil.

"Rye flour more nearly resembles wheaten flour in its composition than any other; it has, however, more of certain gummy and sugary substances, which make it tenacious, and also impart a sweetish taste. In baking, all grains and roots which have much starch in them, a certain change takes place in their chemical composition. * * By baking, flour becomes more nutritious, and more easily digestible, because more soluble.

Barley contains rather less starch than wheat, also less sugar and gum. There is little gluten, but a substance somewhat like it, and about the same amount of nitrogen."

"Oat meal is little used as a food in this country, but is equal, if not superior, in its nutritious qualities to flour from any other grains; superior, I have no doubt, to most of the fine Wheaten flour of northern latitudes. It contains from ten to eighteen per cent. of a body having about the same amount of nitrogen as gluten. Besides this, there is a considerable quantity of sugar and gum, and from five to six per cent. of oil or fatty matter, which may be obtained in the form of a clear fragrant liquid. Oat meal cakes, owe their peculiar agreeable taste and smell to this oil. Oat meal, then, has not only an abundance of substance containing nitrogen, but is also quite fattening. It is, in short, an excellent food for working animals, and, as has been abundantly proved in Scotland, for working men also.

"Buckwheat is less nutritious than the other grains we have noticed. Its flour has from six to ten per cent. of nitrogenous compounds, about fifty per cent. of starch, and from five to eight of sugar and gum. In speaking of buckwheat or of oats, we of course mean without husks.

"Rice was formerly supposed to contain little nitrogen, but recent examinations have shown that there is a considerable portion, some six or eight per cent. of a substance like gluten. The percentage of fatty matter, and of sugar is quite small, but that of starch larger than in any grain yet mentioned, being between eighty and ninety per cent., usually about eighty-five.

Indian corn is the last of the grains that we shall notice. This contains about sixty per cent. of starch, nearly the same as oats. The proportion of oil and gum is large, about ten per cent.; this explains the fattening properties of Indian Meal, so well known to practical men. There is, besides these a good proportion of sugar. The nitrogenous substances are also considerable in quantity, some twelve to sixteen per cent. All of these statements are from the prize essay, of Mr. J. H. Salisbury, published by the New York State agricultural society. They show that the results of European chemists, have probably been obtained by the examination of varieties inferior to ours; they have not placed Indian corn much above the level of buckwheat or rice, whereas, from the above, it is seen to be "in most respects, superior to any other grain."

Sweet corn differs from all other varieties, containing only about eighteen per cent. of starch. The amount of sugar is of course quite large; the nitrogenous substances amount to the very large proportion of about twenty per cent., of gum to thirteen or fourteen, and of oil to about eleven. This, from the above results, is one of the most nourishing crops grown. If it can be made to yield as much per acre as the harder varieties, it is well worthy of a trial on a large scale."

Gluten and nitrogenous substances are those which form muscle or flesh.—*American Farmer.*

Pulverized Wood for Cattle.

About three years since I had occasion to send my cart-horses frequently through a piece of coppice wood, and whenever it happened that they stopped within reach of the rods, they would greedily devour every bough they could get at. This I noticed many times. At last I was led to examine the rods on which I had seen them feeding, and found them completely stripped of their branches, some of which were of a very considerable thickness. This led me to suppose that there must be some good qualities in the wood, and this consideration induced me to get some pulverized and given to my cart-horses, which experiment was repeated at several different times, until I was fully satisfied that it had no injurious effect on them. After this I was led to give it to my gig-horses with their corn; and having ascertained that it did them no injury, I had machinery prepared for reducing the wood for the purpose of food, and began to feed both cart and gig-horses, as also my cows and pigs, mixing a portion with all the food which was given them.

This practice I have continued for the last ten months. Previously to feeding my horses in this way, they had each three quarters of a peck of oats and beans given them per day, for which is now substituted three pints of barley per day. They are in equally fine condition as when fed in the usual way, and more playful and free in their work. Soon after the

wood was mixed with the fodder given to the cows, their milk as well as their condition was much improved. For several weeks past, I have been feeding sheep with the pulverized wood, together with crushed Swedish turnips, and they also appear to improve by it. I have likewise fattened four pigs successively, mixing this food with barley meal, and the results have proved most satisfactory."

This statement, however strange it may sound, is not so startling when we remember that the woody matter of trees is, in its chemical nature, nearly allied to starch, and that it always contains some nitrogen; so that, in reality, it furnishes the ordinary materials of food in another form. We presume, however, that white-wooded, not resinous trees, are those which furnish Mr. Daniel's cattle with the ligneous pulp they thrive so well upon.—*Mr. Daniels in Chambers' Journal.*

Dwarf Cherry Trees.

The plan of raising dwarf fruit trees in gardens where the proprietor has but little room to spare, and yet is desirous of having a variety of fruits, is getting into general use.—Thus, the pear is dwarfed by being grafted on to the quince roots, or on to the mountain ash, swamp pear, &c. The apple, by being engrafted on to the paradise stock, and the cherry by being engrafted on to the mahaleb stock. The mahaleb is a foreigner. We have thought there was no particular necessity of sending abroad for a dwarf stock on which to engraft the cherry for dwarfing. We have a variety of dwarf cherries that grow well in this State, that would probably be as good or better than the mahaleb. There is the little wild red cherry, (*Prunus Obovata*), that grows abundantly on our hills and mountains in Oxford, and other frontier counties. There is the common black choke cherry, (*Prunus Borealis*), that grows in all parts of the State; and then there is the low trailing sand cherry, (*Prunus Depressa*), abundant about the sand bars and margins of the streams in Aroostook county, and sometimes found in Kennebec.—We have no doubt that either of these would make as good stocks for dwarfing the common cherry as any in the world.—*Maine Farmer.*

Horticulture.

God first planted a garden; and indeed it is the purest of human pleasures; it is the greatest refreshment to the spirits of many, without which buildings and palaces are all but gross handiwork.—*Lord Bacon.*

A SECRET FOR A FARMER'S WIFE.

While the milking of your cows is going on, let your pans be placed in a kettle of boiling water. Strain the milk into one of the pans taken hot from the kettle, and cover the same with another of the hot pans; and proceed in like manner with the whole mess of milk, and you will find that you will have double the quantity of good rich cream, and get double the quantity of sweet and delicious butter. This was given by a farmer friend. Try it, dairy women, and write us the result, will you?

RIGHT HANDS.

Why is it that those large and extensively disseminated tracts of light land which diversify the face of our common country, are not more generally appreciated and improved.—Their constitutional amelioration is, by a judicious course of occupation, one of the easiest achievements in nature. We have known lands of this character, which in their original condition of *pine plains*, were regarded as nearly worthless for the purposes of vegetable production, improved by culture so as in a few years to become the richest, most productive and most valuable soils; and it was not long since that the premium crop of Indian Corn at one of our Agricultural Exhibitions, was represented as being the production of a "barren plain." Such lands possess many important natural advantages over those of a more ponderous texture; they are more easily subdued, are of even surface and light to till.

To Feed the land before it is hungry, to give it rest before it is weary, and to weed it before it becomes foul, are the best evidences of farming.

SALTING STOCK.

Stock of all kinds are the better for receiving salt once or twice a week. To your horses, if you mix with their food a handful of ashes, finely sifted once a week, their health will be improved.