

RICE CULTURE IN CHINA.

The *Gardener's Chronicle* gives a series of quaint illustrations from a Japanese work on horticulture and agriculture, recently exhibited at a meeting of the Royal Horticultural Society, London, by Mr. Moseley, one of the naturalists attached to the late Challenger Exhibition. We select one of these engravings for publication, in which the scene depicted represents the thinning out and transplantation of the rice plants in the flooded fields wherein it is cultivated.

The mode of culture of the rice plant varies considerably, according to the climate and local circumstances. The following is the method, says *Land and Water*, employed among the Chinese, who cultivate it to a very great extent in the midland and southern parts of their dominions, the low grounds of which are annually flooded by the Kiang and the Yellow rivers. These extensive inundations are occasioned by the heavy rains which fall near the sources of these rivers, which have their origin in the Himalayan chain of mountains.

When the waters have receded, the earth is covered with a thick coating of slime and mud, which fertilizes the ground as perfectly as the richest manure. As soon as this takes place, the patient Chinese surround portions of this rich soil with clay embankments, always selecting the neighborhood of some running stream. The ground is then carefully harrowed, and the operation is repeated until it works well. In the meantime the rice intended for seed has been soaked in water, in which a quantity of manure has been stirred; this has forwarded its growth so much that the young plants appear above the ground in two days after they have been deposited in the earth. It is necessary to remark that, during all the early stages of its growth, and until the seed is well set, the roots of the plants must be constantly under water; to effect this, different contrivances are resorted to, to keep up an adequate supply of water.

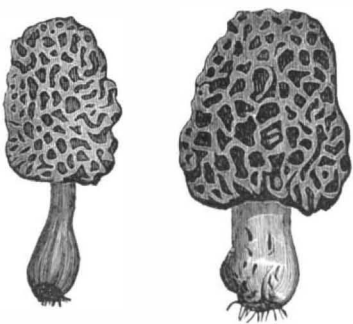
As soon as the young plants have reached the height of six or seven inches, they are pulled up, the tops are cut off, the roots carefully washed, and the whole planted out in rows, as shown in our illustration, about a foot asunder. In the course of its growth, it is sprinkled with lime and water, which is said to destroy insects and assist in enriching the soil; the greatest care is also taken to remove weeds by hand as fast as they spring up. In these tedious operations the English agriculturist can form no idea of the perseverance and attention of the industrious Chinese. The first crop, for they obtain two in the course of the year, is harvested about May or June, and the second in October or November.

The sickle employed by the Chinese for the purpose of reaping the rice is, like the European instrument, bent into the shape of a hook, but the edge, instead of being smooth, is notched like that of a saw. The straw and stubble left after the harvest are burnt on the spot and left to enrich the land.

MUSHROOMS.

To those living in the neighborhood of forests in Europe, especially in France, mushrooms form an important item in domestic economy. Being among the most nitrogenous ar-

Fig. 1.



ticles of diet, they well deserve the name of "vegetable meat," which has been bestowed on them. We publish herewith engravings of three kinds of edible mushrooms, all well known in France, and which might be more generally introduced here to the great satisfaction of American epicures. The first is the *morille comestible*, the botanical name of which is *morella esculenta*; the second is the

cep, or *bolet comestible* (*boletus edulis*); and the third is the *chanterelle comestible* (*cantharellus cibarius*).

In examining these three specimens, we find, at the base of the stalk, some very thin filaments, which are commonly called the roots of the fungus, but of which the proper name is *mycelium*. These form the vital organs of the plant, and although the stalk and its burden soon perish when past maturity, the mycelium resists the frosts of winter and the summer's aridity. Recent investigations show that the fibers are not only the roots, but possibly also the flowers, of the

In cultivating mushrooms, it has been found that horse and cattle manure is the best substance for promoting the growth of the mycelium; the earth from the track of a horse power, in which the droppings have been thoroughly beaten into the soil, is excellent material. This should be made into bricks with a hole in each, in which a small piece of the spawn should be inserted; the bricks should then be placed in a hot bed and kept at a temperature of 60° Fah. till the whole mass is permeated by the threads of the mycelium; then further development may be stopped by drying the

bricks, and they may be stacked away for use or sale. When the spawn is to be used, make a bed of horse or cattle manure, solid and large enough to maintain a heat of 70°; stick in bits of a brick of spawn at intervals. When the mycelium begins to grow rapidly, cover the whole with about two inches of mould, and place over it straw. The earth should be kept moist, warm water of 70° being used. Mushrooms will appear in six or eight weeks; and they should be twisted off the stalks with the fingers, and not cut off.

As light is not necessary to the success of mushroom culture, they can be raised in cellars or caves, such places being especially suitable because of their generally uniform temperature. Near Paris, France, immense numbers of mushrooms are raised in old stone quarries, two such excavations containing mushroom beds to the length of 16 miles and 21 miles respectively; and one of them sends 3,000 lbs. of mushrooms to market daily.

Scientific Lunacy.

The suicide of George C. Wheeler, a chemist, living in Dundee, Canada, is, says the *New York Tribune*, one of the strangest ever recorded. He was a hard student, 22 years old, who rarely went into society, but lived by himself, working in a small laboratory by day and watching the stars by night through a small telescope. About six months ago he told his friends that he had made a chem-

ical discovery which would carry his renown to the ends of the earth. The hallucination which took possession of him was that he had succeeded in making a preparation which, when scattered on a dead person, would restore life. Neither the arguments nor jeers of his friends changed this belief. He resolved to kill himself in order to have the efficacy of his resurrection powder tested. In a letter which he wrote on March 3, he says: "My physical atomic state, after the ordeal, I desire shall be taken in charge by Professor McLouth of the State Normal School, who, taking a portion of my 'creative, all-changeable material assistance,' will scatter a few particles over the dissectary remains, and then place them in the receptacle of my 'galvanic, magnetic-electrical power,' when the elements will resolve themselves into a new combination, and I will appear a living evidence of the truth of this new discovery." A large bottle, containing a thin fluid, labeled "creative, all-changeable material assistant," was found beside the letter. The machine used by the young man to accomplish his purpose is a marvel of ingenuity. A stout wooden framework supports a large balance wheel, to which are attached knives, portions of scythes, and an ax head. Back of this there is a complex arrangement of small wheels and pulleys, all operated by a powerful steel spring. When set in motion the machine is capable of running at a frightful rate of speed for the space of ten minutes. Close by it is a three-sided trough in which he must have placed himself after setting the devilish arrangement in motion. His head, which he laid under the wheel, was mangled beyond recognition. When his body was found, his brains were oozing out of a deep cut in the back part of his skull.

Ewes' Milk the Richest.

Dr. Stevenson MacAdam, in a paper recently read before the Pharmaceutical Society of Great Britain, shows that ewes' milk is the richest by the following figures: Solids by weight in milk of town dairy cow, 12.27; country dairy cow, 12.77; goat, 13.43; ewe on natural pasture, 17.5, or, with addition of feeding stuffs, 20.11. Taking the fat in the solids in the order above mentioned, the figures are 2.58, 2.88, 4.31, 6.77, and 8.27.

The *London Gardener's Chronicle* advocates the grafting of roses by the insertion of growing eyes in the early spring instead of dormant eyes in the summer. The growing eyes are inserted in the main stem, one on each side, to form symmetrical heads. These make as much growth in the first season as the dormant eyes do in the second season.



CULTIVATING RICE IN CHINA.

晨雨秋潤午風
夏涼漢南與漢
歌揮新秧拋擲
手左右無亂行
神扶馬代勞民
莫忘

plant. The stalk and the upper part correspond to the fruit, as their function is simply to carry the spores.

There is one fact which should be remembered by the lovers of mushrooms, which is that locality has much to do

Fig. 2.



with the flavor of these fungi, and even with their fitness for food. The *agaricus campestris*, the common mushroom of this country and England, is rejected in the markets of Italy as unwholesome; while the chanterelle, a highly prized rarity in England and a favorite species in France, which is

Fig. 3.



represented in Fig. 3, was not relished when found in North Carolina by Mr. Curtis. This writer states that he ate of 40 different species of fungi gathered within two miles of his house, and that he found 111 kinds in the State.