



Agricultural Department.

POTTING.

When soils of a description suited to the nature of the different kinds of plants that are usually grown in pots have been obtained, the actual operation of potting is often looked upon as a general routine affair, requiring little or no variation in the way it is carried out. Such, however, is by no means the case, for even when the best possible soil is at hand, in suitable condition, it often happens that the plants operated upon fail to grow as well as desired, and this through the operation being performed in a way not suited to the particular subject.

From the immense increase in the cultivation of pot-plants that has taken place within the last quarter of a century, the necessity for some of the ordinary essentials in potting has become so universally known and accepted that it is scarcely requisite to name them. Among these is the importance of the soil being in a right condition as to moisture, neither too wet nor too dry. If too dry, it becomes necessary to give water sooner after the operation is completed than is consistent with the well-being of most things. There is the additional inconvenience in getting the new material equally moistened without making it too wet for the healthy extension of the roots, which, except in the case of very strong-rooting subjects, or such as are particularly of a water-requiring nature, have a great tendency to rot if in contact with a wet mass of new soil before they have absolutely made some progress in pushing new fibres in it. If, on the other hand, the new soil contains too much moisture when used, the result generally is that it becomes a close, hard, impervious mass, in which healthy root-development seldom takes place.

For appearance sake it is necessary that the outside of all pots used should be quite clean; and this is usually acted upon, but not so the still more important fact the inner surface should be as clean as when new. Even when common quick-growing plants have to be operated upon, if a strong-rooting subject be placed in a pot the inside of which has ever so little of the old soil from the ball of the plant it has previously held adhering to it, the roots of the plant so placed, when it becomes necessary to turn it out, will adhere to the sides to such an extent as to cause serious mutilation; and, in the case of tender, fine-rooted things, the mischief is proportionately greater.

The necessity for sufficient drainage by the use of crocks, charcoal, or other materials of a similar nature, placed in the bottoms of the pots, is generally understood, and if this be effected it is often considered all that is necessary; yet, this is not the case. It is no unusual occurrence, when repotting a plant with a view to give more root-room, to find that the crocks which it is requisite to remove are, through having been used, much too large, incapable of being got away without mutilating the root. If the individual pieces of crocks be reduced to something like half an inch, they can be removed with comparatively little injury. In potting it is a very common occurrence to see drainage material that has been previously in use made to do duty again in a dirty state. This is calculated to do the most harm when the crocks, etc., have lain for some time unused and have got dry, in which case any portion of the roots of the plants they have been used for that are amongst or adhering to them will have become mouldy, and this mouldiness would very often immediately extend to whatever vegetable matter the new soil contained, permeating the whole, and extending to the living roots, causing, to a greater or less extent, their destruction. The matter which is laid immediately over the crocks to prevent the soil trickling down among them or being washed thereto in watering is equally deserving of consideration. It is usual to employ some of the fibrous material which the soil contains, but it is better to allow this to remain unremoved; using a little clean Sphagnum moss instead for any plant that will not be all or partially shaken out in the course of twelve months. Hypnum moss should not be employed for this purpose, as it is always liable to become mouldy.

There is nothing in connection with the operation of potting wherein it is so necessary to vary the practice as in the opening out or disentangling of the roots from the ball of soil they have already occupied. When hard-wooded plant culture first became better understood there was a general impression that in potting the roots should be opened out, so as to lie at once in the new soil, much in the way usual in the case of soft-wooded subjects, or such free-growing hard-wooded things as

are generally subjected to partial shaking out with the removal of a portion of their roots. This was no doubt done to prevent the roots getting permanently fixed in the curved position to which the shape and limits of the pots forced them, as opposed to their natural unobstructed development. This seems at first sight a reasonable proposition, but it will not bear examining, inasmuch as it is not possible to imitate nature exactly. The confinement of the roots is inseparable from the method of cultivation adopted, whereas, if allowed to spread in their natural position the roots of a plant would, in most cases, extend horizontally very much further than its branches, a condition necessarily completely reversed under pot culture. In the first stages of growth, after the cutting is struck, it is desirable that the roots have enough room to prevent their being forced into the corkscrew-like shape that results from being early pot-bound, a state which renders most young plants worthless. But, from close observation, extended to all hard-wooded plants with delicate roots that have attained any considerable size, I am convinced that there is no worse or more injurious practice than any attempt to disentangle or loosen their roots from the ball, further than such as may be liberated by the removal of the crocks from the bottom.

The mutilating process that is often advised, and more frequently practised, of perforating the sides of the ball with a skewer or pointed stick, by which the most active feeding rootlets are bruised and broken, is the direct cause of numberless plants coming to an untimely end, frequently in a short time after the operation has been performed, yet as often lingering awhile, in which case the sight of the tortured plants is a greater infliction than their dying at once. In the cultivation of plants under artificial conditions there are some things in which it is neither possible nor desirable to attempt an imitation of Nature; but in the matter of keeping the collar, that is the base of the stem from where the strong roots immediately proceed, well up to the surface of the soil, we cannot err. I need not say that, in the case of underground bulbous and tuberous rooted plants, this does not apply. Others there are which will bear the collar more or less covered with soil without seeming to suffer from it, as seen in everyday practice; but wherever any plant of a delicate character, particularly that of a hard-wooded description, is found to do better and live longer than others of the same or a kindred nature, it will usually be found that the strong roots have their upper portion well up or partially above the surface.—*London Gardeners' Chronicle.*

HOW TO RAISE SQUASHES.

The squash is a gross feeder and delights in an abundance of nitrogenous manure. All kinds of manure seem to agree with it excepting kelp, salt fish, and other manures containing salt. The squash is very rich in nitrogenous substances, and consequently requires nitrogenous manures; while it does not need so much phosphoric acid as the cereals. I have found hen-manure the best fertilizer I could apply to squashes. It is very heating and is rich in nitrogen. I find by experiment that home-made superphosphate will grow better corn than hen-manure, while the hen-manure will grow double the amount of squashes that the superphosphate will. As a general rule, the more manure we apply to squashes the larger crop we obtain. I have never found a limit to the profitable application of manure to squashes. Of course, there is such a limit, but it is very seldom reached. The more manure we apply the surer we are of a crop, in spite of a possible drought; for well-manured squashes will flourish, while others growing on a short allowance of this indispensable article will wilt and dry up. Indeed, we need not fear the drought, with good land, plenty of manure, and thorough cultivation. The past season I applied eight cords of green manure from under the cow-stable, spread on, and a shovelful of dry hen-manure in each hill; and I would recommend more, rather than less. Great care must be taken in covering the manure in the hill, as hen-manure or other strong nitrogenous manures will destroy the seed if they come in contact with it. It will not be safe to rely on kicking the dirt over the manure with the foot; but a very much better way is to have a man go ahead with a hoe to press the manure down and cover it with an inch of fine earth. Guano, night-soil, or well-rotted stable-manure may be used with good success. If stable-manure is used, I would apply not less than three or four shovelfuls in each hill. We must have manure enough to warm the soil and give the plants a good start, so as to drive them ahead of the bugs. The roots of a squash-vine run very close to the surface; and, consequently, we should apply the manure at the surface and work it in very lightly. It is also best to apply part broadcast and a part in the hill; for that in the hill will give the plants an early start, driving them ahead of the bugs, while that applied broadcast will help to sustain the vines after the roots have got beyond the hill, and will

also be found by the little roots which grow from each joint after the vine begins to run.

It will be a safe rule to plant as soon as cherry trees begin to blossom. The squash needs the whole season of warm weather to perfect itself, and should be planted as soon as the ground is warm and dry. It is better to plant too early than too late, for when planted too early we only lose the seed and can plant over again. In ordinary seasons the fifteenth of May is none too early.

Having plowed the land and worked a good dressing of manure into the surface soil, the rows should be marked out seven or eight feet apart each way, and a slight hole, large enough to hold the manure below the surface, should be made. I find seven feet about the right distance apart, and better than a greater distance, as missing hills will be covered by the vines from other hills, making a more even field. Press the manure down level and cover it with an inch of fine earth, and drop six or seven seeds in each hill, taking care to spread them evenly over the hill, and cover, if the soil is moist, only one inch deep; but if dry, one and a half inches is better. I do not like to press the soil over the seed, unless it is very dry or sandy; for pressing moist soil makes it cake and obstructs the tender plant in coming up.—*From J. W. Pierce's Prize Essay.*

BLINDERS ON HORSES.

Being desirous of the opinions of men who have had experience with and without blinders on horses, we sent a few questions to superintendents of our Boston Street Railroads on the subject.

The first was—

"Do you consider blinders necessary for the safety or comfort of the horse or his driver?"

"No," said the superintendent of the 'Metropolitan'; "I never would put blinders on a horse, if I had no blinders on hand."

"I abandoned," wrote the superintendent of the "Highland," "the use of blinders five years ago, and have seen no reason to regret it. This was done against the advice of the so-called 'practical men.' If a horse is not safe on a car without blinders, I do not consider him safe for the business at all."

On the "Metropolitan," it is three years since the custom of using open bridles began. That road has 2,200 horses, and about 1,000 do not now have them.

It is the intention of the "Metropolitan" "to do wholly without the blinder," which it is hoped will be accomplished "in perhaps two years." "I have made no bridles with blinders for two years. As fast as they wear out they are replaced with open bridles."

On the "Highland," "all new horses are used without blinders after the first trip or two, and sometimes from the very first. All the objections to the open bridle have been considered," says the same authority, "and I have talked with railroad men in the principal cities of the United States on the subject, and am a firm believer in the use of the open bridle on street-car horses." For three years the open bridle has been in use in our Boston Fire Department.

We add, in conclusion, that Mr. Samuel Page of this city commanded a regiment of cavalry on the Maine frontier forty years ago, and he then discovered that a horse with blinders was more nervous than when his eyes were uncovered. Beginning then his observations, he has continued them ever since, until from a sense of the folly and cruelty involved in their use, he has given much time to private expostulation, with most encouraging results. Mr. Page asserts that nineteen horses without will do the work of twenty with blinders. Certainly no young horse should be accustomed to them.—*Our Dumb Animals.*

AMMONIA FOR PLANTS.—I had been using spirits of ammonia to cleanse some fabric; it was diluted in soft water, and wishing to empty the dish I turned it on a scarlet geranium that I brought out of the sitting-room (as it looked as if it was struck with death or old age), and set it in the kitchen window. It was a pretty strong dose, but I thought I would see what it would do. It operated like a life elixir; the buds began to swell, and today it is as fresh and vigorous, with a thick foliage of leaves, as a young and thrifty plant. I afterwards tried it on other plants, and I find it a splendid thing. It seems to strengthen them, and they really show that it is the one thing needful. It is not a costly fertilizer, and is very convenient. People like, if they cultivate plants, to have them look as if they are glad to live and enjoy living. I do not think a flower stand filled with pale, sickly, yellow plants, is any ornament; it puts sad thoughts and sober memories into our minds. But a few bright, vigorous growing plants remind us of the promise, that the Spring, laden with blooming verdure, will return, and the green leaves are like the record of that promise.—*Farmer's Wife, in Country Gentleman.*

DOMESTIC.

VEGETABLE ACIDS cool and dilute the blood, and generally refresh the system. All fruits contain acids and salts, which exercise a cooling and invigorating influence. Apricots, peaches, apples, pears, gooseberries and currants contain malic acid. Lemons, raspberries, grapes and pineapples contain citric acid. The skins of grapes and plums contain tannic acid, which has a bitter taste.

DAMP CLOTHES.—There is great danger in wearing damp clothes, because when a liquid passes into the state of vapor there is a great absorption of heat. In the animal economy, heat is generated in the system and given out by the body. If the clothes are damp, this heat is abstracted faster than a new supply is formed by the process of respiration, and the result is what is termed a cold.

MOULDINESS is occasioned by the growth of minute vegetation. Ink, paste, leather and seeds most frequently suffer by it. A clove will preserve ink; any essential oil answers equally well. Leather may be kept free from mould by the same substances. Thus, Russian leather, which is perfumed with the tar of birch, never becomes mouldy. A few drops of any essential oil will keep books entirely free from it. For harness, oil of turpentine is recommended.

SELECTION OF FLOUR.—In selecting flour first look to the color. If it is white, with a yellowish straw color tint, buy it. If it is white with a blueish cast, or with black specks in it, refuse it. Next, examine its adhesiveness—wet and knead a little of it between your fingers; if it works soft and sticky, it is poor. Then throw a lump of dried flour against a smooth surface; if it falls like powder, it is bad. Lastly squeeze some of the flour tight in your hand; if it retains the shape given by the pressure, that, too, is a good sign. It is safe to buy flour that will stand all these tests.

The *Journal of Chemistry* asserts that tea is not the simple, harmless beverage that is generally supposed, but that its effects, in their character, may rightfully claim to be classed with those of tobacco and alcohol. The paper also adds: "Many disorders of the nervous system are the direct result of excessive tea-drinking. Tea is a 'narcotic poison'; its essential principle, theine, is allied in composition with such poisons as strychnine and morphia. It first excites the nervous system and then exhausts it. Experiments show that both in man and other animals it impairs power in the lower extremities; so that it affects the 'understanding' in a double sense—literally as well as figuratively. It is not the harmless exhilarant it is supposed to be, but a powerful agent whose effects are often serious."

"BEAUTY SLEEP."—Sleep obtained two hours before midnight, when the negative forces are in operation, is the rest which most recuperates the system, giving brightness to the eyes and a glow to the cheek. The difference in the appearance of a person who habitually retires at ten o'clock, and that of one who sits up until twelve is quite remarkable. The tone of the system, so evident in the complexion, the clearness and sparkle of the eyes, and the softness of the lines of the features is, in a person of health, kept at "concert pitch" by taking regular rest two hours before twelve o'clock, and then obtaining the "beauty sleep" of night. There is a heaviness of the eyes, a sallowness of the skin, and an absence of that glow in the face which renders it fresh in expression and round in appearance, which distinguish the person who keeps late hours.

KILL THE FISH YOU CATCH.—A correspondent of "Forest and Stream" says:—"Nobody would like to eat beef taken from a drowned animal, but when we take a fish alive out of the water we string them, and, when satisfied with the sport, we sling them over our shoulder and wander toward the kitchen, without thinking of killing them. That is a general rule. I think it ought to be the rule among true sportsmen to have a little more humanity, and to kill a fish in a quick way instead of suffocating them. But not only for humanity's sake should we kill our table fish. The killed fish is a better flavored dish. A dead fish which has been killed will have his mouth shut; but, if he has died by being taken from his element and allowed to slowly suffocate, his mouth will be wide open. In some countries a dead fish with open mouth is considered unmarketable." The editor added, that fish will keep twice as long by being killed by a blow on the head, directly after being caught, than if left to die. "Its texture is firmer, and its flesh harder. On the ground of humanity, let the appeal be strong. Let us ameliorate the suffering. If small, take the fish around the body, and rap the top of his head upon a stone or the thwart of the boat; if large, rap his head with a heavy stick; or pierce the cervical column at the base of the brain with a sharp knife. This produces paralysis, and almost immediate death."—*Our Dumb Animals.*