THE VEGETABLE GARDEN.

Mulching in the Fruit, Flower, and Kitchen Garden.

Mulching (*i.e.*, covering the surface of the ground between growing crops with some loose material to prevent evaporation) will effectually save much labor in watering, and to a very considerable extent make up for poverty in the soil. Materials for mulching are generally plentiful in most gardens; decayed hot-bed manure is one of the best, and when this cannot be had short grass is generally plentiful. Most fruit and vegetable crops are benefited by mulching, but some more so than others. The raspberry, for instance, which delights in a somewhat moist soil, and is a shallow rooter, should always be mulched in dry situations. Our soil is dry and thin, and not well adapted to the raspberry; but by mulching thickly, we always secure great crops of fine fruit. In fact, the weight of the fruit is nearly doubled in consequence. Celery, too, is mulched thickly with short grass as soon as planted, and it seldom requires more than one or two good waterings. Let the weather be ever so dry, the surface under the grass is always moist. The mildew which affects the pea in dry summers is greatly checked, or altogether prevented, by good mulchings along the rows, and extending outwards from the sides about 18 inches. Brussels, sprouts, broccoli, cauliflower, etc., which often hang fire after planting in a dry June, make marvellous progress with their roots under a good layer of short grass. Potatoes, though they too are much benefited by the same means in dry seasons, are better without it, as a rule, in case of wet setting in autumn, and thereby aggravating the disease; but this is the only exception. The health of gooseberry and currant bushes is greatly promoted by mulching, and indeed all kinds of fruit-trees, especially stone-fruits; and newly-planted trees of all descriptions are often saved from perishing by a good top-dressing of rotten litter, and such like, during summer and winter. In the flower-garden mulching is not admissible, but we generally practice it with Calceolarias, and the disease is unknown with us, though we have to contend with a dry cakey soil. The iresine, too, should be mulched; it is a moisture-loving plant, and will thrive if mulched where it will sometimes not do any good otherwise. In vine and peach borders, whether inside or outside, mulching is almost indispensable. In some places where they are raked painfully smooth and neat, sometimes they get so rent with the drought during summer, that a man has to go over them every week to fill up the cracks. Good grapes are seldom to be found under such circumstances. A mulching 4 or 5 inches thick, of rotten litter and leaves, is best for vines, and a border so dressed need never offend any eye not painfully sensitive on the score of neatness. Large plants in pots, such as figs, pot vines, pines, orchard-house trees, &c., should also be mulched when practicable, as roots are often near the surface, and are apt to suffer from irregular attention in watering. Apart from the advantages of mulching in a labor-saving respect, and as a conservator of moisture, it keeps the soil about the roots at an equable temperature, by preventing radiation in cold weather, and the bare soil from the roasting effects of the sun in warm weather—a condition of things very unfavorable to vegetable life generally.—*Gardener.*

Keep that which Suits You.

A cultivator will often be surprised to find some favorite fruit of his condemned by writers on pomology, discarded by fruit committees, and voted down by conventions with a unanimous good will.

This voting upon fruit seems to be a natural right and privilege, not limited to either color or sex. Any one can vote or express an opinion any other way as to the quality of a fruit without cost or accountability. But if a grower finds an apple, or pear, or grape, or strawberry which bears well and often, is healthy and sells well in his market, what need he care if societies or committees pronounce it good for nothing. He knows it is good for something for him, and that is enough. Just now a great many are crying down the Wilson strawberry, and exalting other sorts which have proved more promising; but should that cause you to throw away the Wilson, which proves to be the most profitable on your grounds? By no means. The only sensible rule is to stick to those fruits which do well on your grounds, regardless of what some persons east, west or south may say about them. To know just what to grow in any certain locality, of all the different kinds of fruit is great wisdom indeed, and can only be obtained by actual trial, but once obtained, keep the knowledge and profit by it.

FIVE BUSHELS of grapes upon a single vine, make glad the heart of its owner in Indiana.

A RICH harvest of prunes is anticipated this season in different parts of Europe.

A NEW enemy of the horticulturist has appeared in St Joseph county in the shape of a raspberry borer, which attacks the root and eats the pith. Many of the bushes which bore luxuriantly last year, are entirely dead in consequence of the work of this insect. —*Lansing, Mich., Journal.*

WINTERING CABBAGE.—To keep cabbage through the winter, pack in sawdust in the barn, and allow the whole to freeze, the sawdust being such a non-conductor of heat that once it becomes frozen through, it will not thaw out until well into April, and cabbage will come out almost as nice as when put in.

A CERTAIN CROP.—Under the improved system of agriculture and of draining, great preparations had been made for securing a good crop in a certain field where Lord Fife, his factor, and others interested in the subject, were collected together. There was much discussion, and some difference of opinion as to the crop with which the field had best be sown. The idiot retainer, who had been listening unnoticed to all that had been said, at last cried out, "*Saw't wi' factors*, my lord; they are sure to thrive everywhere."

MARK YOUR TOOLS.—You can easily mark your name upon steel by a process called etching. Coat over the tools with a thin layer of wax or hard tallow, by first warming the steel and rubbing on the wax, warm until it flows, and let it cool. When hard mark your name through the wax with a graver and apply by aquafortis (nitric acid); after a few moments wash off the acid thoroughly with water, warm the metal enough to melt the wax, and wipe it off with a soft rag. The letters will be found etched into the steel.

Agricultural Chemistry.

Relative Value of Cattle-box Manure and Farm-yard Manure.

CHARLES LAWRENCE,
In Journal Royal Agricultural Society.

Having been informed that, amongst the minor contributions invited for the journal of the society, any analysis of matters with which farmers have to deal would be acceptable, I send three analyses of manures which I have had made at various times, by Professor Way and Dr. Voelcker. Nos. 1 and 2 were made some years ago.

No. 1 is a comparative analysis I was desirous of obtaining to test the relative values of *farm-yard* manure and manure from the *cattle-boxes*. My object having been a fair comparison of the value of manure made under nearly similar circumstances in other respects, I obtained a sample of manure from an open yard in which animals were being fatted, rather than from a mere stock-yard for young beasts; and the other sample was taken from my boxes.

No 2 is an analysis of a sample of manure taken from my boxes, made at a subsequent period by Professor Way. The small proportion of ready-formed ammonia would operate unfavorably on the minds of farmers who have yet to learn that ammonia is the result of fermentation and decomposition, the *prevention* of which is a main object of the box system of feeding.

No 3 is analysis, made by Dr. Voelcker, of manure taken at another period, soon after it had been removed from the same boxes, and heaped. Those who have not previously inspected this system of feeding, and have had an opportunity of seeing at one moment the boxes full of the accumulation of some three or four months' manure, invariably express their surprise at the sweetness of the range of buildings; and, in a few minutes afterwards, on setting the forks to work to empty the boxes, still greater surprise at the almost instantaneous evolution of volatile gases on the admiss on of air to the dense compound below.

No. 1—Analysis of Box Manure and Yard Manure.
By Professor Way

	Box Manure.	Farm yard Manure.
Water per cent	71.4	71.8
100 parts dried at 75 to 80 Fahr. gave of ammonia	2.73	1.7
Matters soluble in water, organic and inorganic	1.07	4.6
Which left on incineration a fixed residue of	2.18	2.78
This fixed residue consisted of—		
Silica	Not determined	
Phosphoric acid	0.30	0.26
Alkalies, potash and soda	2.00	0.80

For the sake of showing at a glance the difference between the two manures, the results are given under another arrangement, as follows:

	Box Manure.	Farm yard Manure.
Water per cent	71.4	71.8
100 parts dried at from 75 to 80 Fah:—		
Nitrogen equivalent to ammonia	2.37	1.7
Organic matter removable by water	6.42	1 82
Inorganic do. consisting of phosphoric acid	0 30	0.26
Alkalies	2.00	0.80
Silica, a considerable quantity, not determined	Lime and Silica	
Lime, a trace	Not determined.	

No. 2.—Analysis of Box Manure from Mr. Lawrence.
By Professor Way.

100 parts of the manure contained—	Per cent.
Water	72.53
Organic matter	21.80
Mineral matter or ash	5 67
	100·00

An approximative estimation was made of the relation between the straw and the real dung (both being dry), and the result was as follows.

	Per cent.
Straw	41
Dung	59

The following is the analysis of the ash:

Ash of Box Manure.

Soluble silica	27.90
Phosphoric acid	5.11
Sulphuric acid	1.11
Carbonic acid	0 95
Lime	14.41
Magnesia	2 40
Peroxide of iron and alumina	7.31
Potash	11.70
Soda	2.05
Chloride of potassium	None
Chloride of sodium	3.82
Sand and clay	21.80
	99.15

Examined for nitrogen, the manure gave—

1st experiment	0.47
2nd experiment	0.45
Mean	0.46

} per cent. on the manure in its natural state.

This last (0.46) would eventually produce 0.56 per cent. of ammonia.

The ammonia actually existing as such in the manure was found to be 0.2 per cent.

The following will be the ingredients of 100 parts of the manure:

Water	72.350
Organic matter	21.800
Silica	1.637
Phosphoric acid	.299
Sulphuric acid	.065
Lime	.840
Magnesia	.140
Peroxide of iron and alumina	.458
Potash	.692
Soda	.120
Chloride of potassium	None
Chloride of sodium	.224
Sand and clay	1.270
Carbonic acid	.055
	99.944
Nitrogen in the original matter	.460
Equal to ammonia	.560

The *sand and clay*, although in large proportion in the *ash*, only exist to the extent of 1¼ per cent. in the manure itself. The way in which this impurity is introduced will need no explanation.

A striking fact is the small portion of *ready formed* ammonia in the manure, only two parts of 56 being in that condition. This circumstance may be taken as conclusive evidence of the very small extent to which fermentation of the material proceeds in well constructed boxes.

No 3.—Analysis of sample of manure. By Professor Voelcker.

	Natural Per cent.	Dry Per cent.
Water	66.426	
Organic matter	26.806	82.318
Ash	(5.758	10.628)
	Natural. Per cent.	Dry. Per cent.
Containing—		
Insoluble silicious matter	1.795	5.215
Phosphates	2.313	7.102
Equal to phosphoric acid	(1.001	3.410)
Carbonate of lime	0.282	0.866
Magnesia and alkaline salts	1.387	4.199
	100.000	100.000
Contain Ammonia (N. H3.)	1.067	3.279