Miscellaneous.

Wine-Making at Tilsonburg.

We make the following extracts from a letter to the Brantford *Expositor*, describing Dr. Joy's vineyard. After mentioning that the kinds in bearing comprise Clintons, Concords, Delawares, Adirondacks, Rogers' No 15, Salem, Othello, and others, the writer goes on :

Now all these grapes would be comparatively valueless if the Dr. had not entered into the manufacture of wine, which he has done most efficiently. A building has been erected about sixty feet in length and two stories in height, the basement having a concrete floor as solid as a rock, descending from either side, so that when flushed with water for cleansing, it passes away readily. The walls are also of concrete, two feet in thickness, and arched with the same material. This effectually precludes the possibility of sudden changes in the atmosphere. This is absolutely necessary for the safety of the wine contained in the huge tanks, 3 of which are of 1128 gals. each, and 7 of 518 gals. An immense cistern, the whole width of the building, the capacity of which is 15,000 gals., controllable by a faweet, affords water of the best quality for all purposes. Last year about 5,000 gals. of excellent wine were produced, and this year the quantity will be considerably increased. One part is worthy of mention—*no spirits* are used in the manufacture--and thus when your correspondent imbibed a quantity so great as to forbid mention, from the Dr.'s favorite brand, no effects followed, only a desire to possess a cow that would yield such fluid and *never go dry*.

The Dr. claims the use of a process devised by a celebrated French chemist, named Pasteur, whereby the wine at a certain stage is submitted to a sudden heating up to 140 degrees, Fahrenheit, and as suddenly cooled. The effect of this is to precipitate the ferment which is the destructive agent which our wine manufacturers have to contend with. This process has been adopted with the happiest results.

An Italian, named (I think) Berdotte, from the vineyards of his native land presides over the vats, and the Dr. brings his knowledge of chemistry to bear, thus rendering mistakes impossible. This subject is so agreeable in consequence of the inevitable basket with the mysterious contents covered with paper, which comes sometimes to correspondents as well as to editors, that I propose to visit the vineyard and surroundings of Russel Smith, Esq., Fairfield Plains, and give you a brief account of his doings in giving a pure and wholesome drink to the people in the *juice of the grape*.

The Manurial Value of Leaves.

The following, republished by the *Country Gentleman* from its columns of fifteen years back, is as good now as when it was first written :

Leaf manure has long been held in high estimation by gardeners and floriculturists, as affording one of the best substances known as food for plants. Many, however, regard it as a purely vegetable substance, whereas it is rich in mineral matters which have a direct and powerful tendency to improve the constitutional texture and character of any soil to which they may be applied. The alimentary substances which contribute to the sustenance and growth of vegetables are, for the most part, taken up in a state of solution by the roots. In this condition all the mineral ingredients discovered in plants are introduced into the system—such, for instance, as silex, lime, potassa, magnesia, alumina, &c. The sap, which is the medium of this transmission and assimilation, passes into the leaf, where the watery particles are thrown out by evaporation through the minute spiracles on the upper surface of the leaf, and the mineral matters retained and distributed through the plant, and in part through the vascular structure of the leaf itself.

To illustrate more fully the truth of the position assumed, we present the following analysis of the leaves of the pear tree, plucked in May, immediately after the falling of the blossoms :

Carbonic acid	11,560
Silicic acid	1,750
Phosphates	25,0 0
Lime	4,715
Magnesia	4,500
Potash	18,9:0
Soda	15,190
Sulphuric acid, chlorine, and organic acids, not determined	
	81 715

By comparing the results of the analysis of the same tree made in the spring and fall, it will be found that the older the leaf is, the greater will be the amount of mineral matters contained in it It will also be found that the foliage of trees contains more mineral matter than the solid wood of the trunk.

In the matured foliage of the elm (*Ulmus Americana*), upwards of 11 per cent of earthy matter - ashes may be found, while the solid wood contains less than 2 per cent , the leaves of the willow more than 8 per cent., while the wood has only 0.44 ; those of the beach, 6.67, the wood only 0.35 ; those of the European oak, 4.06, the wood only 0.22 ; those of the pitch pine, 3.13, the wood only 0.27 per cent.

These facts demonstrate conclusively that the application of leaves as manure must be succeeded by advantageous results. Every leaf applied in this way restores to the soil something of which it has, in the process of vegetation, been deprived. In this way the mineral ingredients of the soil are forced through a certain routine, and a constant circulation or reciprocity of action, is kept up between the soil and the vegetable beings it supports and perfects.

Entering the sap in solution through the mouths or spongioles of the terminal rootlets, they circulate through the system, and are ultimately deposited in the substance of the leaf, which, in due course of time, falls to the earth, and by its decay restores them once more to the soil, and in a condition the more favorable for again travelling the circuit in which they are destined endlessly to revolve.

The soils of our forests, it is well known, never run out, or are so far depreciated as not to be able to supply abundant aliment to the gigantic vegetation they are found to support. The reason of this is obvious. They annually receive back the greatest portion of the mineral constituents of the trees, together with no inconsiderable quantity of organized matter, derived from the atmosphere.

Were the leaves to be removed every autumn from the forest lands, the same as grain, grass and root crops are removed from arable soils, the impoverishment consequent upon such a course would be no less obvious in the one case than in the other ; they would "run out"—the vegetation would be weak and sickly, and to support it, we should be under the necessity of applying, annually, large and increasing quantities of manure

Leaves unquestionably afford a rich material for manure, and no farmer who has a wood lot in the vicinity of his farm should neglect to accumulate large quantities, to be used as a litter for his animals during the winter, or as a coating for his yards and other enclosures where animals are confined, and where the leaves will be in a situation readily to absorb the liquid voidings, and thus be reduced more speedily to the condition of aliment for growing crops. No compost heap should be formed without them where they can be obtained, and compost made exclusively of them and other decomposable vegetable matters, will be found not only an economical, but efficient aid of fertility on any and every soil.

The Universal Use of Arsenic.

Prof. Henry Wiertz writes as follows in the *American Gas Light Journal*:—

We object not only to allowing Paris green to be spread over our fields, to contaminate the soil of our market gardens, but even to its being allowed, as it is, to be kept on open sale in our shops, so that an amount of poison which would sicken a city—by introduction into a distributing reservoir, for example—could at any time be purchased, without suspicion, by any maniacal or fiendish individual, and so introduced, with far less trouble or liability of detection than many of the murderous performances of such individuals.

In America we are happily endowed by nature with a general absence of this deadly mineral, arsenic, from our rocks, our soils and our mineral waters, and we ought to keep ourselves so. Whether this is one cause or not of the known longer average of human life in America than in Europe, it will be safer and better for us to admit that it is one such cause, and not to throw away or destroy our advantage in this respect by sprinkling arsenic over our vegetation all through the land. It is true the predatory insects must be destroyed, but let it be with such poisons—and they are known to be many—which have been given us by God for these special uses—which are endowed with deadly doom for all the insect tribe, while almost without hurt for man. Among such none are more prominent or more familiar than the gas tar products, of which we spoke in this same connection in our last issue. Let these be used instead of arsenic.

Arsenic is, in fact, getting to be, throughout the world, almost as common as dirt. We doubt very much whether it would not be impossible, at the present day, in any country, to convict on chemical evidence before any jury, the most bungling arsenical poisoner, if he or she had a legal defender who would make such use as he might of the argument furnished him by the almost universal distribution of the venomous element throughout our most familiar walks of life. We have received medicines ourselves from drug stores, wrapped in arsenical papers, put up in Paris green paper boxes, with arsenical paper caps tied over the corks, etc. We have often seen confectionery exposed for sale to young children wrapped in the deadly green paper. We have often found young children sucking toys painted with the horrible stuff, and with their mouths stained through at with the venom.

The Paris-green paper is one of the commonest in use for binding school books, and we have more than once taken such books away from our own young children, which have been given them by their teachers Numerous deaths of children are well known to have been thus occasioned. No country can be called civilized in which such suicidal ignorance, such stupid slaughter of the innocent, is common. One more illustration only. It is very common to see a lawyer, or his clerk, put into his mouth, to moisten the gummed side of it, a beautiful green paper disk, with scolloped edges, to attach to some document. These things are found in every lawyer's office in the land, and used constantly. They are seldom made of any other than the Paris-green paper. Can this be ignorance, or are our lawyers all fatalists, and believe they can only "die when the time comes."

In commencing to write, we had in our mind to refer to some of the wonderful facts developed of late, in Great Britain especially, of open carts loaded with white arsenic passing in open day through the country in some districts, with drivers sitting on the top of the hideous heap ; such carts being often exposed all night openly to the rain ; of strongly arsenical waters flowing from mines and metallurical works, into streams of water afterward drank by large populations, and so on. These are facts.

Every body will remember the cargo of salt and arsenic together shipped to us from Europe a few months ago, which got a little mixed during a rough passage. This particular mixture was discovered in time, but have all such been discovered? The water we ourselves drink comes from a stream, on one of whose tributaries is a large chemical works, which so contaminates the said tributary with arsenic that cattle drinking of it have been poisoned to death. These things, we say, are facts, on both sides of the Atlantic ; but really while we wrote the first part of this article—especially when we thought of the recklessness of the public press, which has actually recommended their rural readers, in many cases, to pile on the Paris-green on their potato patches with a perfect looseness—these other things seem trifles as flat and stale as they certainly are unprofitable ; and our enthusiasm and zeal for the cause of humanity seems to wilt down into a sort of sentiment dity, which is certainly ludicrously lame and impotent, if not downright sickly.

Vegetable Gum and Gluten.

Gluten is one of the most nutritious of vegetable substances ; and wheat owes its superiority to all other grains in a great degree to its containing this substance in larger proportion. It has a gray color, is elastic, ductile and tenacious, soon decomposing when kept in contact with air, and emitting an offensive odor, similar to that of putrid animal matter. It is readily obtained from wheat or flour, through the agency of cold water, and pressing out the starch. Gelatin is an animal substance nearly identical with gluten, which enters largely into the composition of bones, horns, hoofs, &c. Isinglass and glue are formed of gelatin ; and when the lime is dissolved out of bones by means of sulphuric acid, this substance remains in nearly a pure state.

Vegetable gum is analagous to animal mucus. Gum is the substance which exudes from certain trees. It appears in the form of a thick fluid, but soon hardens in the air, when it becomes nearly white and somewhat brittle. Its characteristic properties are, easy solubility in water and insolubility in alcohol. Its composition is, carbon 43, oxygen 51, hydrogen 6, in 100 parts ; and all varieties are nutritious as food.

Mucus, or the animal counterpart of gum, is a secretion found on the surface of the living membrane of the intestines, and possesses the same characteristics and nearly the same composition. It may be obtained by evaporating the saliva to dryness, and is then similar to gum-arabic in appearance, but rather more opaque. The fluid found in the shell of an oyster, when evaporated, produces this substance. Sugar is essentially the same, whether derived from the maple tree, the cane, the beet or the milk of animals. In the last-named substance it constitutes about one-third of the whole solid matter. Its composition is nearly identical with that of gum.—*New York Herald*.

Disposing of Dead Animals.—A dead horse or other animal should be skinned and roughly cut up into as many small pieces as possible. A plot of ground a few rods square should then be ploughed deeply, and the carcass thrown upon the soil in the centre of the ploughed ground. Some freshly dry-slacked lime should then be scattered upon the heap, so as to cover it thinly but wholly. The loose earth is then to be heaped over it a foot in depth, and the pile covered with boards, so that dogs cannot get at the heap and tear it up. If the least smell is perceived, more earth should be thrown upon the heap. In three months the heap may be dug over or turned over with the plough, and well mixed. The bones that cannot be broken up should be taken from the heap, and the fine matter will be worth at least $20 per ton, to use in the hill for corn or cotton. The larger bones may be broken up and buried among the roots of grape vines or fruit trees.