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Poetry.

"HAYSEED."

Timothy and millet seed,
Redtop and clover,
Scatter them broadcast,
Sow 'em all over,
Powdered with hayseed,
Brown locks and hair,
Cute little barley straws,
Sticking everywhere,
Hurrah for hayseed!
How it makes them stare.

Timothy and millet seed,
Redtop and clover;
Songs of running brooks,
Lays of the plover;
Odors of hay mows,
Gold of the corn.
Hayseed will rule the world,
Sure as you are born;
Ring the bell for hayseed,
Toot the mellow horn!

Timothy and millet seed,
Redtop and clover;
Granges every where
All the country over;
Hark! to the wild goose
Heralding the Spring,
All his song is "Hayseed!"
Hear the arches ring.
Amen, to Hayseed;
Hayseed is King!!

Mrs. M. E. CLARKE.

In Western Farm Journal.

Vineyard.

Fruit Trees and Vine Growing.

Editor of the State Ag'l Journal:

DEAR SIR: Much attention is at present devoted to the cultivation of fruit trees, and especially to that of the vine in this country; but this attention is more on paper than in practice. We have theories enough, but practical and experienced men who could carry them out are comparatively rare, or are unable to demonstrate this knowledge in the vineyard.

Vine culture, which has been the origin of so many fortunes in Western Europe, received a good start during the years 1865, 1866, and 1867, in different parts of the United States, when the vine was planted extensively; suddenly, however, this progress ceased, on account of the poor success which attended a cultivation which had to suffer from ignorance of the nature and treatment of the vine. Soils were even badly chosen or badly prepared; the vines were not selected with relation to the differences of climate, and besides, there was a total lack of proper care and attention during the course of vegetation. The failure of open air culture was inevitable under such circumstances. Another capital mistake, was the planting of two large an area at a time, and with too few vines; thus, some cultivators had only 400 to 500 vines to the acre,

when there should have been from 4,000 to 5,000. In France, in fact, there are scarcely even less than 6,000.

In some cases, the inexperienced proprietors superintended the plantation and cultivation, in others, men from northern Europe, who perhaps had never seen a vine before, were charged with the duty. As the vine does not yield beyond the 49 deg. of latitude in Europe, and as it is evident that these foremen and gardeners could have obtained no practical knowledge yet in this country; it is not too much to say that a native of Greenland would have been just as capable of undertaking the labor as they were. Those men may have been learned botanists of skillful gardeners, but they did not know the vine and the care which it requires. Nurserymen were thus compelled to abandon the vine, or nearly so, for want of competent vine dressers. Many Americans who spared no expense to place the cultivation of the vine on a solid basis, thus saw their hopes dashed to the ground and even concluded that the climate of this country was not favorable.

This is a great mistake, for though few vineyards in the United States yield more than one-tenth what they should, yet the proprietors are satisfied. What would these gentlemen say at the vineyards of Burgundy, or to those in the neighborhood of Bordeaux, or even to a simple wall of Thomey! The revenue of one acre cultivated on Thomey system

years. The annual vine production of France alone "is estimated to amount to \$500,000,000, [five hundred millions of dollars,] more than half of which is exported;" and from this, it may easily be inferred what an important role the vine played in the payment of the French war indemnity! and that, with its cultivation in this country, occupying the position it should, our National debt would also be paid.

When wine production has assumed its legitimate importance in the United States, six millions of people will find employment in it, and property of every description having any connection therewith, will have doubled again and again, and the wealth acquired in it will have an element of stability which is lacking in so many speculations.

I shall not attempt to decry tea as a beverage, although I might state the fact that a mixture composed of three-quarters water, and one-fourth pure wine, with a little sugar added, warmed, if necessary, and allowed to stand, but a moment, would form a drink which would be a better digestive than the Chinese favorite. The saving which would be thus effected would amount to hundreds of millions of dollars annually, which are now put, not only in the pockets of the Chinese, but of the English. The fact that the Union lies between the 25 and 49 deg. of north latitude, would enable every one to cultivate his own vineyard. But, even excluding the use of wine as a drink, millions of acres of vines are not the less necessary for dessert, cooking, medical purposes, and for preserves of all kinds. The grape, too, is so dear, that three-fourths of the world are deprived of its use.

The vine can be successfully cultivated outside in every State in the Union, but beyond the 49 deg. the varieties which can be grown, are very limited, viz: Concord, Hartford Prolific, Diana, Catawba, &c.; the neighborhood of New York city is more favorable; the Middle and Western States are well adapted, but differ according to climate and exposure; the Southern States are still better, near the border of the Gulf especially, and there, all the American with some European varieties, can be grown; most of the latter flourish remarkably well in Southern Florida and Texas, but only in stony, sandy, and dry and elevated soils. Sparkling wine (champagne) can certainly be made in North and South Carolina, on ac-

count of the nature of its soils. The Delaware and Iowa varieties makes a very fine sparkling wine (champagne); the Water, to-Kan, and Allen's Hybrid are also adapted for the same purpose, I expect, but have not tried them yet; delicious wine is also made from the Adairondac, Israella, Eumelare, Eve's Seedling, Norton Virginia and several of Rogers' Hybrid.

Oidium can be thoroughly cured by the application of flower of brimstone, but it must be employed with intelligence, as at all times of the day are not equally well adapted for the application. The disease appears, however, before the plant is so advanced as to be injured permanently. Sudden changes of temperature, will, however, reproduce the evil, but the practical dresser will forestall its appearance.

Our nurserymen have always been foremost in advancing the cultivation of everything calculated to increase man's comfort and happiness, and as soon as the vine culture shall become more popular with the public, our arboriculturists will again take their parts in extending its propagation.

I have the most profound respect for the ladies of Ohio and Indiana, and sympathise with them in their crusade against alcoholic drinks which work such misery, but they cannot confound a natural and harmless drink with the poisons of the bar rooms.

would result to the nature for the substitution of wine for those villainous compounds, would be simply incalculable.

It may be asked, how can such results be obtained? I answer: Let the Government, or a State, county, village, a society, university, even private family, make the experiment on a few acres. Let them engage a horticulturist of the modern school, a man who possesses the requisite practical and theoretical knowledge, well acquainted with the country and its climate, and able to practically demonstrate the culture of the vine on the Thomey system. 1st, for families; 2d, for the market; 3d, on a large scale, according to the last method of vintage.

These three methods are altogether very different. The improved system of Dalbray applied to all kinds of fruit trees should also form a great portion of this instruction, which, I believe, to be one of the most essential and useful. Gardeners and delegates would diffuse a knowledge of the proper treatment of the vine throughout the Union, if practical and public courses of lecture and demonstration were given on the subject. The preparing of soil, the planting, pruning, palcing, disbanding and of the vine, could be systematically taught as the modern pruning of every kind of fruit trees. The culture of fruit trees, as conducted in this country at present, is but a primitive system of farming, and has not yet produced a bunch of grapes, or even a pear, peach or plum, that would be considered fit for the dessert in Europe, if I except the pears and apples of California, which certainly are remarkable for their size.

Dalbray began his public course on arboriculture in Paris, at the Garden des Plantes, in 1840, and in three years the old routine system was done away with in France. A similar experience could be obtained in this country, and the results above mentioned would be realized in less than twenty-five years. Dalbray was the originator of fixed natural frame works, for fruit trees, in 200 different forms, which offered the advantage of being regular, profitable and attractive, and immediately after the publication of his work, those of Dubreuil, Alexis-le-Pers, Malot, Hardy, appeared, which are highly spoken of by Robinson and M. Rivers, well known English writers.

The work of A. Fuller contains some of the best views as to the system of vine arbor in

this country, and the author gives a sound advice to the public to go and select their plants, and an experienced judge of the different varieties, forms and qualities.

If any of your readers should desire any further information on this matter I would be happy to furnish all in my power.

I remain, sir,

Very respectfully yours,

Ch. Bulot.

Flushing, L. I., N. Y.

Miscellaneous.

A Tree That Keeps a Standing Army.

(Scientific American.)

Among the varied means of defense developed by plants in their ceaseless struggle for existence, there is perhaps none more wonderful or effective than that of a species of acacia which abounds on the dry savannahs of Central America. It is called the bull's horn thorn, from the strong curved thorns like bull's horns, set in pairs all over the trunk and branches. These do not help to protect the tree from the attacks of browsing animals; but it has more dangerous enemies in the leaf-cutting ants and other insects. Against these the tree maintains a numerous standing army for which it provides snug houses stored with food.

When first developed, the thorns are soft and filled with a sweetish pulp, much relished by a species of small springing ants, never found except on these trees. Making a hole near the point of one of each pair of thorns, these ants eat out the interior, then burrow through the thin partition at the base into the other thorn, and treat it in the same manner. The hollow shells thus formed make admirable dwellings, none of which are left untenanted, as any one may discover by disturbing the plant, when the little warriors swarm out in force and attack the aggressor with jaws and stings.

The leaves of the plant are two-winged, and at the base of each pair of leaflets, on the midrib, is a gland which, when the leaf is young, secretes a honey-like liquid, of which the ants are very fond. This ensures their constant presence on the young leaves, and their most zealous service in driving off other insects.

A still more wonderful provision of solid food is made for a similar purpose. At the end of each of the small divisions of the compound leaflet, there grows a small fruit-like body, which, under the microscope, looks like a golden pear. When the leaf first unfolds, the little pears are not quite ripe, and the ants are continually employed going from one to another to see how they come on. As these fruit-like bodies, which appear to have no other use than as ant food—do not ripen at once, the ants are kept about the young leaves for a considerable time. When an ant finds one sufficiently advanced, he bites the point of attachment, then, bending down the prize, breaks it off and bears it away in triumph to the nest.

These ants, a species of *pseudomyrma*, are found, as already noticed, only on these trees; and that the trees keep them only as a body guard seems evident from the fact that, when planted in localities where their little protectors do not exist, they are speedily defoliated by leaf cutters, which let them severely alone on the savannahs, while their honey glands and golden pears offer no attractions to the ants of the forest.

Apparently both acacias and *pseudomyrmas* have been mutually modified in the course of time, until they are now quite dependent on each other for support and protection.