

planted just exactly like the other. And it has only been recently that the secret has been discovered. They have been hunting for the soil all the time, regardless of the vines, and are only beginning to look where to find good vines. Here in this State we have had hundreds of varieties of vines, and it has only been in the last two years that I have known any practical experiment to be made in each particular vine, by trying particular soils, and the varieties—just enough to make comparisons. Mr. Crabb did that last year, and found it wonderfully effective. He found certain vines producing color that he never knew he had, whereas the Zinfandel had no color. Now he has graduated the Zinfandels and is putting in the Marbac.

STUDYING THE VINE.

The study of this vineyard commences with the study of the individual vine, and you cannot ascertain what you can do with the vines until you have made each wine carefully and separately. You cannot tell, of course, when the wine is six months or a year old whether it is going to make a fine wine or not. The particular characteristics that indicate a fine wine are finely developed flavors, and those that are chemically produced by age in the wine, and you cannot find a finely developed ether in a young wine. You cannot tell in a young wine what ether it will produce, so our study is to get back. You cannot say, because you have had good wine for six months, that you have actually got a fine wine. But if you have made a very good wine with a grape the history of which you have learned, you know that that grape in other countries is one that produces a fine wine, where other grapes produce a poor wine. You have to believe that it will develop, and you can afford, perhaps, to gamble on it and keep your wine, and find out whether it does produce it or not. You take the Cabernet Sauvignon. It is a nice, sour wine, nothing extraordinary you keep it one or five years and get the extra ordinary. The fact that it has always been extraordinary whenever they have been able to ferment it well, is pretty good proof for us—sufficient for us to gamble on in keeping it. Then the wine on the Rhone, which is a sample of wine, is representative of the railroad from here to San Bernardino. You might say that you were traveling up and down the Rhone, traveling from San Bernardino here. It is in the valley of the Rhone that the Cote Rota and Hermitage wines are made. They stand equal to the Bordeaux, but they are made of the deux grapes. It is practical to ascertain these things very rapidly, for it is not much trouble to graft a vine this year. You may have a few grapes this year, but not enough for a test, but next year you can make a sample of wine, and you can determine minus whether it is satisfactory or not very soon.

To go back to Spain. We ought to study Spain and make Sherrys, because there is a market for them.

Sherry does not necessarily mean that stuff they sell in barrooms, made up with cooked wines and potato-spirits. That is not Sherry at all. Like Rhein wine, you may make up a kind of wine by taking the Berger and putting a little Muscat with it and call it Reising. It may pass as such, but it is not these fine sherrys, but it is made precisely as the fine Burgundies and fine Bordeaux, from the particular grapes you raise, and there is no way of imitating those things. You cannot do it. You may make up something that passes current over a bar with a man who has no other way of passing on, but it will not pass current where it has to pass the test of a table where a man has the choice of the world to pick his wine. We have never had any reputation for our Sherry because we have been trying to make Sherry out of the sour grapes from the table and we make a little bit of wine from Hook, Burgundy and all out of the same grape.

There are some interesting little books published by a very intelligent man, containing some information on this matter. The author was in Vienna and Paris Expositions on vines. Of course he made the study of wine a specialty, and published a lot of works that he thought the people needed. Of course, an Englishman writing on wine, is not particularly well writing for the grower or wine-maker. He is writing for the

drinker, and there are many points that he overlooks. On that same account most of the English books are practically worthless for the reason that they are only written for the wine-drinker, and they generally expatiate on rare wines that do not constitute one per cent of the wines of commerce. But the books of this author outline some of these propositions, and suggest some facts. In "The Wines of the World" and "The Wines of the Rhine" district, and calls attention to the names of the grapes that are raised in that district. I recommend these books to your attention. "The Wines of the World" and "Facts about Sherry," being interesting rather than scientific, and "The Wines of the World" he names the vines that are grown in certain parts of the district, and gives pictures illustrating the methods of the work. One, a picture of where a man, pressing out wine with his bare feet, is giving a man a drink by putting his foot up and letting the wine run down his leg. (Laughter.) There was a time when we had our wine made by Chinamen. I do not know which is the worse.

PORT WINE.

Portugal is a country we ought to study because we are largely going into Port Wines. Count Villanajoe gives the grapes that produce that wine. He shows that a certain vine gives quality and another is raised for the sake of quantity—one gives fineness in one way and one in another. Among these is the Bastado. Consulting some of our works we find there is no thorough description of any of these vines except that Count Villanajoe states that the Bastado appeared to be the same as the French Trousseau. Compare also the same vine with the vines that are growing in this State, experimentally, side by side with the Trousseau, and they appear to be the same vine. Compare it also with the fact demonstrated here two years ago, that some of the Trousseau in Santa Clara were being allowed to get too sweet, and it was almost impossible for it to ferment and make a wine, and our port wine makers seized upon it and said: "That is a port wine such as Englishmen like." Others have planted the Trousseau, failing to propagate enough because they did not know the soil. I doubt but we have in this State a sufficient quantity of the Trousseau and Bastado to trace the likeness. They have been introduced in the last two years, and we shall very soon be able to thoroughly identify the grapes. There is a certain grape which I have tested, and the best port wines I have tasted here have been made from it, proving again that we may assume that by having the Trousseau we could make a good port wine. Here is the fact, that having the Trousseau, and making port wine, we can make a good wine. I prove both ways, for I prove that if we want to make port wine let us plant the best port wine grapes.

I met a gentleman in London, Mr. Tilva, a partner of Mr. Cousins, Mr. Cousins being the managing partner in London of the sherry trade, the firm of Porrestor & Co. That firm, to protect themselves, have their vine vineyards in the country where the wines come from. Mr. Tilva told me: "I had a great fear at one time that the California grapes would be the best for the market for port wine. I was in New York last year, and I looked at your wines and tested them wherever I could to see whether there was any danger, but I found immediately that there was no danger at all. You do not come out of the country, you could not hurt us." They had got hold of a lot of these Mission ports that were satisfactory to the general trade, but there was no danger that they would sell where the great port market is. You cannot sell them there, where a man sits down to the table and drinks a quantity of port wine, where he puts it away in his cellar and keeps it for fifty years, and is proud of it. You cannot sell it there; but if you take the Trousseau and plant it, it will pay you better to raise three tons to the acre than to raise one ton, because the material will be saleable.

We are here in a country that is more like Spain and Portugal, Madeira and Italy and the south of France, than any other part of the world, yet we have not one single vineyard planted systematically for port wine with port wine grapes, or for

sherry with sherry grapes, or Madeira with Madeira grapes—not one. The study has been all going to pieces; they have not studied systematically. They have got everything in the world but system. We may discover things that no other part of the world has discerned. The Zinfandel—we do not know where it came from. It is reported to come from Hungary, but nobody knows it. It is better known here than anywhere in any other part of the world. It is a valuable grape; but among the hundreds of varieties that we have there are very few that will be profitable, except those already known in other countries, the history of which we know. The Reising is a grape that is raised in the great wines of Bordeaux. The reason why those table wines were so highly appreciated was that they were so salutary. Yet there is no single vineyard in this State planted with the Bordeaux vine—not one. There is not a single vineyard in this State planted systematically with the Burgundy vines. Of the true Rheinish type there is the Berger; that succeeds well here. It came from the Rhine here, but it is not known on the Rhine to any great extent. It is a vine that would not ripen on the Rhine, but it would ripen on our soil, being up north on the low ground. It appears to be of the family of the Folle Blanche. I am only suggesting these things, to prove the truth of the theory that we can get at this question without wasting generations. We have got to do it all we have got to do is to go right back to the beginning and trace it up. If there is a grape that is valued only for its quantity, we do not want it. We want quality.

COGNAC.

Cognac is a subject worthy of special study here, because we are necessarily brought into the brandy market. We must distill a great deal; we must make a great deal of brandy. We have a big whisky market to encounter, but brandy has never been known to fail to give whisky if you have good brandy. Whisky never stood up against Cognac anywhere. But we ask people how they like our brandy? They say: "Brandy has got a black eye this year; you cannot sell brandy now." I would like to see a man who would not drink table brandy that was made in this State. I do not see why he drinks it. A large proportion of the brandy is simply made out of the lees of the wine press, made carelessly; no attempt to take away disagreeable odor or disagreeable taste. Who is to blame for that? We can give whisky if it is less like it? No one will like that which has a bad smell and a bad taste. The best test for brandy, and the only one as merchants test it, is by smelling it. They never taste it. If it does not smell good it will be every day hurt. When a man gets a gallon of it to retail, he finds that his customers do not like it, and he swears that he will not have another drop in his house. There is no reason in sending out that kind of brandy. But beyond that, you may take a man who has a quantity of brandy of different types, for brandy is nothing but the essence of wine distilled; the ether will distil over just as the alcohol does. Muscat wine makes Muscat brandy, Reising wine makes Reising brandy, and Zinfandel wine makes Zinfandel brandy. They all show the bouquet.

To come back, what is it that causes a certain wine always to give you a headache? I do not know. It is not the strength; very few imagine it is the strength. You can drink whisky that does not give you a headache, and you can drink a quantity of wine, equally strong, with impunity. It must be something else besides the alcohol—it is the ether. That ether is distillable. If there is anything in the wine that is distillable, it is the ether. The ether is not in your brandy, and if the wine makes your headache, the brandy will; you cannot get rid of that. The world has made brandy in every place where they have made wine, more or less; and yet there never has been one drop of brandy that has not caused the headache, the only practical one, and that

is Cognac—I do not mean Cognac in name, but Cognac in character. You can get a brandy, but it is only the distillation of certain grapes that will give you the brandy that the world likes. You may make something just as good, perhaps, but you have got to experiment to find out, and you have got to beg people to like it. So that I would advise any man, if he thinks that he can make as good a brandy as Cognac, all right, but the world likes you may make something else. But you cannot sell it in the London and South American markets.

The Cognac grape is a heavy bearer, the only case I know where large bearsers give fine quality in the product. There is the Fictoria grape, which is a heavy bearer, but has all them spart; that is as much alike as the Reisinges. Then associated with them are the Columbar and the San Pierre and Cognac. Now, I do not think it a very difficult thing, knowing this, to start out right; knowing that up in the Cognac vineyard they grow the vines that they make good brandy, that the world likes, the wine only runs six or seven per cent. of alcohol, and they have to distil it there, because the wine will not perfect itself. Further south, at the foot of the Pyrenees, they grow the vines that make good brandy in the south of France they make good brandy of the same grape. They have never been known to fail in any climate of soil—I mean a climate suitable to grapes of course. Our Berger is unquestionably one of the Folle Blanche family of vines, and is sending on to get the varieties of the Fols, and I believe that when I get them will get the Berger. The Madeira vine will undoubtedly do well on our coast. They grow on an island in the sea, surrounded by a climate similar to our southern California, and they grow on the coast of Catalina or San Diego coast, and you will probably reproduce the conditions of the Madeira. It is so with other vines. You have got your grapes. Such and such grapes give quality. You cannot get along without quality.

I do not think, gentlemen, that I shall have to take up your time further. I think have outlined enough to show you that this talk about what we shall plant is not so mysterious after all, provided you know what you want to do. If you want to raise raisins you do not have to tell you that Zinfandel will not make raisins. You do not want them to tell you that the Muscat makes raisins. The Muscat makes raisins in Spain, and the Seedless Sultan in Turkey. We only know what they know, and we could have done just exactly the same from the beginning and not made any mistakes.

I find that the chances are against anybody discovering anything. If you do find it you are a wonder. The chances are that not one in fifty will ever do anything. You may find it, but you need not care about trying to find something new suitable to California, but let us take the climate first, and the vines to suit that climate, because the soils vary in every one of these places. Even in the Norea district of France, clay, sand and gravel, and you cannot grow from the same grape, and you cannot grow the same kind. Wins in one part will be nine per cent of alcohol, and yet the same kind of wins only three miles from there in another direction will be over-seventy per cent. In one there is slate rock tipped up on the mountains, and in the other there is sand. How the difference arises you cannot account for; all you can do is to draw a general line, and take your chances of being successful within that line.

Every vineyard ought to have an experimenter on the place, who can have one vine of each variety to make a little wine from. For the most of the vineyards there is no need of experimenting largely, but let each vineyard do its share. [Applaus.]

CHARLES KOBLER.

Mr. Charles Kobler being called upon said: "Gentlemen—I will give you a few of my ideas as what we can do to practically improve our present wine, and I will only indicate to you what Mr. Charles Wetmore has so elegantly expressed that our Mission wine is not exactly a wine to do for. It is not a wine to do for, it is a wine of three or three inches below the ground, split the stump with a hatchet and put in other vine and let them grow along, and in three years we will have a new vineyard. You can do this by doing one thousand, two thousand, at a time. It is not a wine to do for, it is a wine to do for, and let each vine plant out a thousand or two thousand a year, and we can extend the vineyard by cuttings, and in five

in short, the two hundred vines appeared as if there were no phylloxera working on the roots. This taught us that one remedy is to apply proper culture and proper manure.

But if we come to the conclusion to extinguish the insect, we take the circle of attack out of the ground, and cut the roots and the branches and the trunks all of the very same spot, and either leave the spot for one year without planting anything, or else plant a phylloxera resisting stock.

Now you want to know which variety we consider the best, and that requires the most power of resistance. First of all is the Riparia. That has shown in France the most power to resist, and also in Germany. We have tried it here, and it grows in the same hole where we had taken out the old phylloxera infested roots, and it grew in and is doing very well indeed. Grapes that we put on the Riparia have grown very well indeed, and are bearing good fruit already. After the Riparia I suppose I should mention the Lenoir. The Lenoir is also an American vine, and excels in one way over the Riparia in that it grows in a soil that is very useful in our vineyards. The wine made from the Lenoir grape excels in having a very dark color and in having a good quantity of tannin. It is a good grower, a splendid bearer, and shows all the signs of being a useful grape, and is one of the best of the country—in Napa and Sonoma counties.

We know that the phylloxera will hurt as a great deal. I have no doubt about that in the course of time every vineyard will be ruined. I am sure that I have proved, if we do not know how to attack the insect, we will avoid their injuries. When, therefore, we discover an attacked vine all that we have to do is to kill the insects at once, and plant a resistant variety immediately, or at least, if not immediately, the next year. We have done this, and we have done it another spot, and the third year another. Whenever we discover them we go immediately after them and take them out and extinguish them, and plant these resistant varieties. The Mustang is one of them. We have done this, and it will prevent them from ruining our vineyards, and by planting resistant stocks in their place I should not wonder if in ten or twenty, or twenty-five years all of our vineyards will consist of resistant stocks. We have lost fear altogether of phylloxera in our neighborhood. We have done this, and we have done it in our vineyards. You are lucky, you have no phylloxera down here, as we hear to-day, so I suppose this question is not very interesting for you here. We are troubled to a great extent with it; it appears on new plantings, and it is very difficult to get phylloxera spots all at once, or attacked, but they cannot ruin us; we have the resistant stock to fall back on. [Applause.]

THE CHAEMAN—Other subjects will come up day by day till we get through with everything. For instance, on the question of grafting and pruning, Mr. Wetmore and Mr. Wheeler have brought a great many drawings of the different modes of grafting and pruning for different kinds of grapes, and those will be exhibited here tomorrow. Then there are many engravings of grapes, and those will be exhibited tomorrow. Then we will discuss the subject of markets for our produce, and how to reach them, and how to overcome present obstacles. On the question of fermentation, Mr. Harasby will deliver an address tomorrow. Then again we have samples of wine from the different vineyards. Mr. Shorb, Mr. Maybury and others have brought some from here, and Mr. Krug, Mr. Crabb, Mr. West, Mr. DeTurk and others have with them samples of wine from other parts of the State which will be exhibited here and it will be interesting to some one else. Besides that, we want the ladies here. This is not a meeting of gentlemen alone. If the ladies are interested in this question, you will be more interested yourselves. Mr. Wheeler has his microscope here and is prepared to show the phylloxera and to tell you all about it.

MR. RICE—I would like to ask Mr. Wetmore one question. He was making comparisons of California with Spain and Portugal and Italy. I wish to ask him whether

he means California as a whole, or Southern California or Northern California?

MR. WETMORE—I mean California as a whole, clear up to the Oregon line, more resembles Spain than France, Germany or any other country. The extreme northern end of the State, where the Mediterranean and dryer country than it is in the southern part. The climate is modified partially by the coast breezes in certain spots, so that there are certain broad distinctions to be made. So in Spain there are altitudes, and there are districts where the Atlantic blows on them and other places where the Mediterranean breezes come, and that is the reason why I say Spain rather than any other country, because as you go up the coast north of San Francisco you have places where you cannot raise grapes—it is cold. You have practically the Atlantic coast. Then south of Point Conception you have a Mediterranean coast. In San Diego you can raise grapes in view of the sea, which you cannot do in Sonoma or Marin. In San Francisco harbor, where you are situated from the northwest wind, the climate is perfectly lovely for raising grapes. You can raise the finest fuchsias in the sand hills, but it is too chilly for grapes—the vine grows, but it will not bear. It is modified by the sea air and the altitude in this State, and in Spain it is the same way. There are mountains and there are places where they raise Burgundy Pinots, so that you can study a country like that to a better advantage than a country where they raise only one type. In Burgundy they cannot raise the southern varieties, but here, by modifying the climate according to locality and position and the influence of the sea, we can succeed with many varieties. [Applause.]

Adjourned until Friday at 1 o'clock.

[CONCLUDED NEXT WEEK.]

[In another column we explain why we are unable to publish the report of the second and third days' proceedings in this issue.]

The Drying of Fruit.

A cannery has long been wanted by the fruit-growers of this valley, but the new and thorough inventions for drying fruits has made it much less necessary. A cannery would, of course, afford an additional market for all kinds of soil products, but where a factory of this kind can take only a portion of the fruit crop, and that, too often, at prices that suit the canners only, the result is nearly always unsatisfactory to the producer. Where fruits are dried the orchardist is at all times enabled to get the full market value for his goods. They do not have to be sold immediately on ripening, with the bulk of the profit going to the canner. In places which have only one canning establishment, with a large number of producers depending on that market, it is very rare that satisfaction is not expressed as to prices. As a rule, nearly every grower wishes to dispose of his fruit at about the same time, owing to its perishable nature, and this enables the canner to fix his own prices on their products. With the drying process the producer is independent of any temporary market, and he may arrange to can himself attend to the details of putting his fruit up in the best possible shape. The market for dried fruits is said to be almost boundless, and that at very remunerative rates. The establishment of a cannery in our valley, and, as a very desirable addition to the industries of this section, but it would not be wise to depend wholly upon such an institution for a market. Without it, however, our fruit-growers can realize a large and satisfactory return the present season, if proper arrangements are made for drying their coming crop.—Downey Signal.

The following does not look very promising for those holders of hops, who got in at high prices, and have refused to let go when they could have got out at a dollar a pound. In discussing the prospects for a crop of hops in England, the *Sussex Advertiser* says a powerful stimulus has been received by the growing vine in the warm sunny days, and night frosts, be a very serious loss. The vine grows faster than the tiers can follow it. It is a long time since so bountiful a hop harvest in England was promised at a corresponding date.

PHYLLOXERA AND WINE PROSPECTS IN THE MEDOC DISTRICT.

Messrs. W. & A. Gibley of Chateau Londenne, Médoc, France, write to the London Times under date of May 16th as follows:

After six or eight months of weather similar to that experienced by us in England during the early part of this year, an entirely different state of affairs has now commenced in the Médoc. The *Shakspearean* saying, "The rain it is ever coming down," has been fully exemplified almost daily in the south of France since about November last; but this continued wet has now been replaced by hot, fine weather, particularly suitable to the vines. The French have a proverb, "quand la pluie roussit, commence en lion elle fruit en mouton," and the lute rousse finished about the end of the first week of the present month.

This long duration of wet weather has had the effect of rendering it almost impossible to get upon the land, and consequently all operations connected with the vines are some two or three weeks in arrears. No doubt a continued spell of fine weather would do something to overtake this lost time, but it seems more than probable that this year's vintage will be a late one. A rose which was in flower during the month of October in place of, as usual, in September.

The vines, it is true, present an extremely healthy aspect, there being a good show of grapes. The flowering, which follows the setting of the leaves, is in progress, and takes place until next month; and it is customary to estimate that 105 days must elapse between that period and the commencement of the vintage, which would bring the date for this, under the most favorable circumstances, to the latter part of September.

An especial feature of interest just now is the efforts being made on most of the larger estates to check the ravages of the phylloxera. As you are no doubt aware, the prize of \$12,000 offered by the French Government for the discovery of a means of destroying the phylloxera has not yet been awarded; but in the meantime an almost uniform plan of operations is being pursued by nearly all the proprietors.

This consists in making a bole a few inches in depth, round the foot of each vine, in which, after filling with water, a certain quantity of sulpho-carbonate of potassium is placed, the object of the water being to carry the insecticide—which serves at the same time as a manure—down to the roots of the vines where the insect makes its abode.

This operation is necessarily an expensive one—costing about a halfpenny per vine—as most of the vineyards are on sloping grounds, and water, which is here a somewhat scarce article, has therefore to be pumped up and carried all over the vineyards by means of pipes.

Still, as far as can be judged at present the effect of the sulpho-carbonate of potassium has been favorable to the vine, if only from its properties as a manure. Many of the vines, the roots of which had been injured by the phylloxera, are now enabled to throw out new roots, and the appearance of the foliage seems to show that the plants have acquired fresh vitality.

Unfortunately this treatment by sulpho-carbonate of potassium appears, however, to be a partial remedy, as the vines may be injured again annually, as is the case with sulphuring for the *oidium*, and at an expense such as in the case of the smaller proprietors render its yearly continuance almost impossible. It is for this reason that we have been induced to give our attention to the discovery of a remedy, coming under the attention of some of our scientific men in England, they may serve to direct their minds to the discovery of a more perfect remedy. The subject should certainly be an interesting one to such men.

Dr. V. E. Riley, of the Royal Agricultural Society, and others, who have for years devoted their time to the investigation of the composition of different manures, and to the chemical ingredients necessary to give back to the soil that which continued cultivation, and, we should add, perhaps over-cultivation, have taken some interest. To the British public, also, the subject of the vintage in France is one of yearly increasing interest, in view of the growing demand for light wines, while to France the

question is one not merely of interest, but of vital importance. The failure of the grape harvest of the past three years has been more disastrous for France perhaps even than that of the corn harvest in England, inasmuch as against our total consumption of wine, which is only equal to half a gallon annually, per head in France, must be obtained at a cost similar to that of wheat, and unless they can be so obtained this quantity must be procured from Spain, Italy or other countries.

This if Mr. Bright's assumption is correct, that the large sums of money paid of late by England yearly for the purchase of corn from other countries, has been a serious disaster to ourselves, the sum of nearly £14,000,000, which was paid last year by France, chiefly to Spain and Italy, for the supply of wine, must have undoubtedly been a matter of serious importance to that country.

The Vine in Spain and Portugal.

The Vice-president of the Central Horticultural Society of Spain at the present time is in an exceedingly thorough manner, and has just published some particulars in regard to the cultivation of the vine in Spain and Portugal, which are of interest so far as they affect the question of the wine production of those two countries. He states that the vine in Spain at the present time is in an exceedingly prosperous condition, as inferred from the large quantities of wine exported by that country. In 1879 Spain exported to France 50,336,000 gallons of wine. This quantity increased to 125,884,000 gallons in 1882, and the increase thus shown is a very gratifying one. In 1882, the wine vintage actually in Spain is more than 440 million gallons, or about two-thirds of the quantity produced annually in France since the invasion of that country by the phylloxera. The deficiency of the late vintage has compelled France to seek from abroad wines suitable for blending purposes, in order to make up for the deficiency in her own production. In consequence of these demands, Spain has recently increased the extent of land under vine-cultivation with a rapidity which appears almost marvellous. It is to be regretted that in the manner of making and storing the wines thus produced in Spain has not kept pace with the increased rate of production. Cellars for this purpose are often wanting, and the various vats and implements employed in the wine-making process are frequently obtained, also, of drawing off the wines before the completion of fermentation. For these reasons French buyers, in many cases, prefer to purchase the vintage on the spot, with a view to making the wine under their own superintendence. Such an arrangement, however, presents considerable difficulties, both for producer and purchaser, and it is very desirable, therefore, that any steps which would serve to improve the present system should be adopted and encouraged. As an illustration of what may be accomplished in this respect, we refer to the districts of Alicante, Xeres, and Malaga, where the English houses have established themselves, and have adopted many and great improvements. Thus, the descriptions of vines for planting in these districts are selected with the greatest care. The manure employed is of a primitive kind. The cellars are well constructed and systematically arranged. Unfortunately, however, it must be admitted that in some of these districts the phylloxera has committed considerable ravages, while the methods adopted for remedying the same are not generally successful, and the evil consequently gains rather than loses ground. In reference to Portugal, Mr. Joly observes that the climate there is admirably suited to the cultivation of the vine. The extent of land planted is about 1,000,000 acres, and the quantity of wine annually produced exceeds an average of 88,000,000 gallons, the greater part of which is shipped to England. Here also, however, the phylloxera has made its appearance, and is rapidly extending its ravages; but well-organized measures are being intelligently adopted to check the activity, and intelligence displayed this country is now in a position to strive efficaciously against the further propagation of the evil. There are numerous botanical gardens in Portugal

