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***WINE CONGRESS. DISEASES OF THE VINE.***

The second annual Australian Viticultural Congress was resumed at Balfour's Cafe on Wednesday morning. There was a good attendance of representatives of all the wine-growing States, and the new Federal president (Colonel P.W. Fallon) occupied the chair.

**Disease-Resistant Stocks.**

The Victorian Government Viticulturist (Mr. F. de Castella), in the course of a lengthy paper on "Resistant stocks." Said 12 months ago he had emphasised the gravity of the phylloxera menace, and the wisdom of establishing none but vineyards which had nothing to fear from phylloxera—in other words, they should be established on resistant stocks. Even in districts as-yet clean, and (seemingly) remote from infection, the plantings of any but resistant vines were foolhardy. In regard to the necessity for the resistant stock being admitted, the question which naturally arose was, "What is the best stock to plant?" Unlike their apple-growers who almost exclusively pinned their faith to the Northern Spy stock for protection from woolly aphis, which, incidentally, was rather closely related to phylloxera, the vine-grower had a considerable number of stocks to select from. Those which enjoyed the greatest measure of popularity in Victoria today might be counted on the fingers of one hand. A few more were gradually forcing their way to the front, but there was a still larger number of stocks, of proved value which for various reasons had not been extensively planted, sometimes because they had not been so much boomed by nurserymen. There was, unfortunately, no stock which could be singled out in a general way as the best of all. Given conditions of soil, climate, and scion variety, one stock was usually better-suited than others, though it was, of course also possible that two or more stocks might give equally satisfactory results. It was obviously desirable to plant only the best stock for each particular case – the stock which would produce the heaviest yield of the best possible wine (or other vine produce), and that over a long series of, years; in other words, the stock must insure quantity, quality, and longevity. The qualifications looked for in a stock were often in conflict. Thus, quantity and quality were to a certain extent antagonistic, as were also fruit-production and vigour of vegetation. The last named sometimes tended to mislead the beginner. Vigorous growth, though very attractive, was not everything. They wanted, after all, to grow grapes, and not wood. It sometimes happened that the vine which grew most canes and leaves yielded little fruit. It was usually in the moderate or middle course that the greatest measure of satisfaction would be found.

Their experience of the resistant stock had been mainly gained in Rutherglen and adjacent localities in north-east Victoria, and it must be admitted that most of those vineyards had been planted on remarkably suitable vine land – suitable more particularly for resistant stocks, and this both chemically and physically. Chemically, in the absence of lime in excess, chlorosis, so frequent a cause of trouble in Europe and Algeria, was unknown in the northeast of Victoria, and they were able to use stocks which might prove unsuitable in some parts of Mildura and South Australia on limey soils. Physically, Rutherglen soils were of distinctly "easy" types. The yellow box (*E. melliodora*), so frequent in this district, was a remarkable subsoil indicator. Wherever that tree grew spontaneously, almost any resistant stock would thrive. In some other parts of the Commonwealth it was quite likely that problems might arise such as were unknown in northern Victoria. Resistant stocks were the indigenous or wild vines of eastern North America. The lesions caused, by phylloxera on the roots were of two kinds – nodosities, which only affected the small root terminals and did little damage, and 'tuberosities, which were situated on the larger roots and were infinitely more dangerous, since a deep-seated tuberosity was capable, of cutting off a large root. When a sufficient number of roots were thus cut off, the vine must die. On resistant stocks which possessed that quality in a high degree tuberosities were scarce and shallow, and were gradually exfoliated. They had to thank America for the resistant stock; but they had also to thank her for phylloxera. It was indeed in the fitness of things that she should supply the remedy for the devastation of which she was indirectly the cause. It was to France, however, that they were indebted for the patient research and brilliant investigational work which had made the resistant stock the success is now was. Few pure forms of American species were today used as stocks. The majority planted were hybrids, of which vast numbers had been raised. Though there was now little difficulty in selecting a suitable stock for any given soil and scion, it was not always easy to pick the very best, and yet that was what should be aimed at when planting a vineyard. Public opinion was not an infallible guide; the popularity of stocks fluctuated, even among those which long experience had proved to be thoroughly reliable.

A certain amount of courage or even of recklessness was needed for the establishment, on a large scale, of "mother vine” plantation of new stocks, no matter how promising they might seem. Could those charged with the responsibility of propagating those vines be blamed if they adhered to the safer course of multiplying stocks of absolutely proved value, rather than gamble on the chances of striking something better, no matter how promising the trial might seem? Careful experimentation was the only reliable guide, and for that there was a vast field. In Victoria propagation had so fully occupied the activities of the viticultural branch that experimental work had had to take second place. Nor had the need for such been very urgent with them; in the easy and not very “phylloxerating” soils of north east Victoria the success of the "five fundamentals" had been so striking that they had not been driven by dire necessity, to seek for anything much better. Other parts of Australia might be less fortunate, and problems would doubtless occasionally arise in connection with such questions as phylloxera resistance, adaptation to soil (in connection with which must be considered drought resistance), tolerance of lime, or salt, or excessive soil moisture, etc.), and affinity between, stock and scion. Resistance was the keystone of reconstitution. A resistant stock which did not resist was a contradiction in terms which savored of the ridiculous. Yet resistance was only relative; no vine on which vinifera varieties could be satisfactorily grafted was absolutely resistant. Phylloxera could live on the roots of even the best stocks, but without injuring them, or multiplying to any extent. In irrigated vineyards very high resistance was less necessary, and any stock which succeeded at Rutherglen should amply suffice in that respect. Irrigation undoubtedly reduced the activity of phylloxera, though not sufficiently to permit the survival of the European vine on its own roots. Nothing short of submersion – flooding once each year for 40 days without a break – could enable the ungrafted vinifera to defy phylloxera. The European vine was not exacting as regards soil; it would grow almost anywhere. The American vine was not quite so accommodating; nor was that surprising, seeing that it comprised several distinct species, each of which grew wild in a different region with soil conditions more or less special to it. Though hybridisation had somewhat mitigated such differences it had not eliminated them altogether, and the suiting of the stock to the soil still demanded careful attention. They were fortunate, however, in now having stocks suited to every soil in which vines were grown in pre-phylloxera days. Climate must also be considered. A stock well suited for a cold district might prove unsatisfactory in a warm, dry one.

In a discussion which followed, the President said Mr. de Castella had probably done more individually than anyone else for the benefit of viticulture in Australia. Mr. O. Seppelt congratulated the writer on his splendid paper, which was of great importance to vignerons. In South Australia they had found certain varieties of resistant stocks were proving highly satisfactory, but others were a failure, and as the work of reconstitution was tremendously costly vignerons appreciated what Mr. de Castella had to say.

Mr. W. G. Smith said the, paper would be valuable for the information, not only of present day vignerons, but of future generations.

Mr. B. W. Bagenal said Mr. de Castella's reputation was international.