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# WATTLE BARK.

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Report of the Board of Inquiry,

TOGETHER WITH

STATEMENT SHOWING THE PROFIT TO BE DERIVED FROM  
THE SYSTEMATIC CULTIVATION OF WATTLES.

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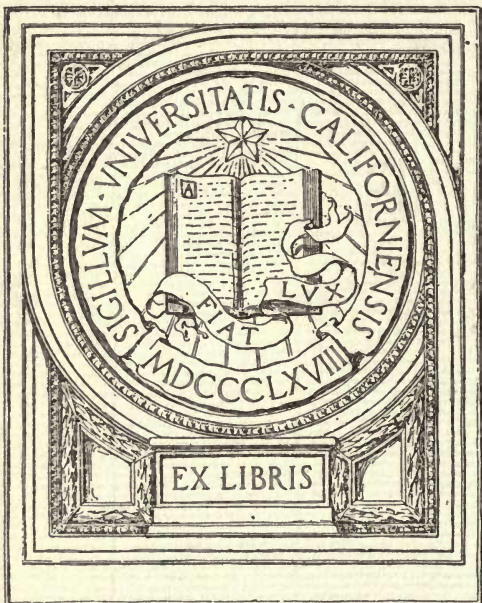
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# WATTLE BARK.

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*Victoria Australia. Wattle Bark*  
*Report of the Board of Inquiry,* *nc*  
*6/2/78*

TOGETHER WITH \*

A STATEMENT SHOWING THE PROFIT TO BE DERIVED FROM  
THE SYSTEMATIC CULTIVATION OF WATTLES.

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Report of the Board of Supervisors

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STATEMENT SHOWING THE AMOUNT TO BE DERIVED FROM  
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# REPORT OF THE WATTLE BARK BOARD OF INQUIRY.

THE Board appointed by Order in Council of the 7th day of January 1878 have the honor to report that they have made a full and careful investigation into the subject of wattle conservation and the concomitant industry of bark stripping. The Board were appointed "To consider and report upon the subject of wattle bark, and whether the indiscriminate stripping of the trees, caused by the increasing demand for bark in Continental and English markets, in addition to the requirements of Victorian tanners, was likely to lead to the early extermination of the trees or to a reduction of the supply necessary for the home trade even temporarily." The Board were also asked to state whether forest regulations could be so framed as to conserve and encourage the growth of the wattle trees in order that a sufficient supply of bark might be ensured for local requirements as well as for the maintenance of the export trade.

In first approaching the subject, the Board were impressed with the fact that during past years sufficient attention had not been paid to the cultivation of wattles, and that consequently a direct source of wealth had been neglected throughout the colony. Until the appointment of the Board little or nothing was known of the magnitude of the industry which might have been established, although the bark trade had attained large proportions, besides forming the basis of the leather industry, one of the most flourishing trades of Australia.

The Board have given every aspect of the question careful consideration, their decision with regard to the efficacy of an export duty on bark, and their recommendations on the subject of regulating the operations of strippers, being based on actual observations made in all the main wattle growing districts of the colony, together with a review of the evidence of close upon two hundred witnesses, who gave their testimony voluntarily.

The advance of the leather trade in Victoria has been most rapid of late years, a fact almost entirely attributable to the great advantage possessed by local tanners, in consequence of the cheap

and abundant supply of wattle bark, now acknowledged to be far and away the most powerful tanning bark in the world. Within seven years the exports of leather have increased from the value of £111,707 to £199,304, and the exportation of hides has nearly ceased, while the number of hides imported into the colony during the seven years just terminated were 392,228. The total value of the leather exported during seven years in question was £1,532,703, this being of course exclusive of the amount required for home consumption in the colony.

The Board, while considering the great importance of the leather trade, have not overlooked the interests of the comparatively large section concerned in the preservation of the bark export trade. As in the case of the leather trade a large increase has taken place in the exportation of wattle bark during the last seven years. In the year 1870 the total amount of Victorian bark exported was only 1,384 tons, representing £6,418, while in 1876 the exportations amounted to 9,724 tons, the aggregate value being £60,386. The Board have therefore been guided by the desire to establish both industries on a firmer basis than heretofore, and instead of making recommendations which might have seriously affected one or both, they have endeavoured to discover the best method by which the development of one industry would prove beneficial to the other, while guarding against the possibility of a diminution of the supply of bark by such means as would ensure its production in larger quantities and of a better quality.

The rise and progress of the wattle-bark trade in Victoria, as set out in all the evidence forthcoming, has been spread over the last thirteen years only. Thirteen years ago wattles were growing in most parts of the colony—covering large areas of country in the neighborhood of the seaboard, and contiguous to rivers, creeks, and marshes, also in gullies and ravines; but the quantity of bark exported was comparatively small. The facilities for obtaining bark at no great distance from the tanneries then in existence were so great that no difficulty whatever was experienced in obtaining sufficient bark to store a supply for three or four seasons ahead. The acknowledged superiority of the bark for tanning purposes, conjointly with the ease with which it was obtained, led the tanners in the first instance to export shipments to England. For the first two or three seasons the tanners were the only exporters, but in consequence of the steadiness of the supply and demand in the English market other persons ultimately engaged in the trade, and many of the tanners withdrew altogether from the position of exporters, content with obtaining a supply sufficient for their own requirements. At the present time there are about ninety-six tanneries in full operation in Victoria, employing in the aggregate about 1,150 hands constantly. Of these establishments the largest are



at Melbourne, Geelong, Ballarat, and Castlemaine, their supplies of bark being principally drawn from the districts of North Gippsland, Mornington, Bourke, Anglesey, Grant, and Dalhousie—the majority of the country tanners relying on their own districts for their supplies. The amount of bark annually required for Victorian tanneries ranges at present from 12,000 to 15,000 tons per annum, and the evidence of some members of the trade goes to prove that even this large amount would be subject to an increase in the event of a steady supply being ensured for some years to come. It was further asserted that the excellence and abundance of the Victorian bark had led to the reduction of the export trade in hides to the lowest possible minimum. The Victorian tanyards offered peculiar advantages, and not only were all local hides manufactured into leather in the colony, but the other colonies were laid under contribution. Thousands of hides are now every year imported from New Zealand, Queensland, and New South Wales; and this season a shipment has been received from South America; so that there can remain no doubt of the immense natural advantage possessed by this colony in the abundance of the bark supply.

The preponderance of the evidence given on behalf of the tanners went to prove that unless the supply of good bark—that is to say, the bark stripped from trees of at least five years' growth—was maintained, the tanning industry would suffer. Any diminution of the supply would lead to a speedy curtailment of operations, and instead of offering a market for raw hides, this colony would be under the necessity of exporting them—the great success already attained being solely due to the natural advantage possessed in the way of bark. One witness informed the Board that if the supply of bark fell off in Victoria, the tanners could not afford to import tanning material in lieu thereof; and further, that the firm of tanners with whom he was associated had extended their operations so as to include hides actually imported from India and England. Victoria, he asserted, possessed the incalculable advantage of a cheap and abundant supply of bark of superior quality, and to this circumstance alone was the success of the tanning industry attributable. To this statement another witness added, that the establishment of the bark supply on a sound basis would lead to the further development of the tanning industry. It has been made clear, therefore, that in dealing with the subject of wattle conservation the tanners have been actuated by the desire to secure, as far as possible, a solution of the difficulty. Their manifest anxiety arose from the danger of the bark supply becoming reduced in quantity on account of the increasing export trade, and at the same time deteriorated in quality from the reckless stripping of immature trees everywhere evinced. No discrimination



whatever has been manifested by the strippers—every tree capable of yielding a few pounds weight of bark being ruthlessly destroyed.

The neglect shown in fostering the growth of young wattles led the tanners to make strong representations on the necessity for imposing stringent regulations, and otherwise restricting the operations of the strippers. Several of the tanners advocated the imposition of a duty on the exportation of bark, and others went so far in their evidence before the Board as to recommend the framing of regulations as well as the imposition of a duty. Every witness, however, asserted that their only desire was to ensure the adoption of some measures for the establishment of the bark supply on a permanent footing. In the event of this end being secured, they confidently asserted that a large increase in the tanning trade would follow as a natural result.

The Board, in the course of their inspection of the resources of the wattle-growing districts, were afforded many opportunities of estimating the value and extent of the tanning industry. They had ocular demonstration of its importance, and also of the fact that the machinery and appliances were all of the highest type; having involved a heavy outlay of capital, the aggregate result being the manufacture of a superior article, partly, of course, owing to the employment of a high standard of industrial ability. It therefore became evident to the Board that the future of the tanning industry in this colony depended almost entirely on the conservation of the wattles; and bearing in mind the abundance of the natural supply, and the advantages that have accrued therefrom, the Board are of opinion that special efforts should be made, without delay, to encourage the development of the bark trade. There appears to be a general agreement between the tanners and other purchasers of bark, on the one side, and the vendors on the other, that the prices at present paid would be mutually satisfactory. At any price between £5 and £5 10s. per ton, it would pay to conserve wattles for the sake of their bark, and both the producers and tanners would be satisfied at that figure.

The Board carefully considered the expediency of recommending measures for the augmentation of the supply in years to come, and also to elevate the bark trade into the position of a national industry. Ever since the first utilisation of the wattle bark in this colony, the operations of the strippers have been comparatively free from regulations or restrictions of any kind, and the result has naturally been disastrous. At the commencement of the industry the men employed only stripped mature trees, the bark from which possessed the full natural strength. Year by year, however, the number of mature trees was decreased, the consequence being that, in order to obtain easily the quantity required, small trees were denuded, the bark of which was poor in quality. The tanners were



compelled to purchase this bark at higher prices than ruled formerly for the bark of mature age, the effect of which was stated by one witness to be that "581 tons of bark were now required to produce the same results as were obtained from 400 tons in past years. This was entirely attributable to the inferior quality of the bark brought into the market by men who had stripped without the slightest discrimination." The bark was at first shipped for the English market in the stick or bundle. In this form its quality could be more readily judged ; but, subsequently, when the supply of mature trees became diminished, nearly all the bark was chopped or ground prior to shipment, good and inferior being bagged together.

With the permanent establishment of the export trade a more reckless system of stripping appears to have been encouraged, chiefly owing to the difficulty experienced in the detection of bark of inferior quality. Not only has the bark been stripped from young trees, but the strippers have spread their operations over the whole of the year, another militating circumstance, as the great mass of evidence clearly established the fact that bark should only be stripped during three or four months of the year ; out of that season there is a depreciation of tannin in the bark. Owing to these causes, and also to the moist condition in which the bark has often been shipped, its value to the tanner has depreciated, and purchasers in England, finding the quality variable, have not entered into its regular employment as largely as might have been expected. Under ordinary circumstances, and with due regard being paid to the interests of the tanners, there is every probability that the Victorian wattle bark would hold its own in the home markets against the other tanning barks at present known.

The Board are of opinion that, with the enforcement of regulations, confining strippers to trees of mature growth, and to a certain season of the year, the quality of the bark could be maintained, and the supply rendered less liable to fluctuation or possible decrease. The dissemination of intelligible instructions to strippers, together with increased supervision on the part of the Crown officers, would, no doubt, produce a greater uniformity of quality even under existing circumstances. The knowledge that some provision was made for the protection of their interests would establish confidence in the minds of the English and continental tanners, thereby leading to an increase in its marketable value.

Directly opposed to the view taken by the representatives of the tanning trade was the evidence tendered by and on behalf of the exporters of bark, and also the testimony given by bark strippers themselves.

To such an extent did this diversity prevail, and so contradictory were the statements made, that the Board determined to institute a rigid personal inspection of the resources of the colony, and, in



conformity with this resolution, they visited all the districts from whence the supplies have been drawn. In most of the localities inspected strippers were observed at work, and the Board were enabled to satisfy themselves of the nature of the operations carried on, and no opportunity was lost of examining the strippers with regard to the probable future of the bark industry. Many sittings, open to the public, were held in all the large centres of population where tanning establishments were being carried on, and also in those townships where the bark trade was represented. The observations made by the Board, and the evidence taken, tended to reduce the question into one of supply and demand. The evidence and deductions of the various personal inspections may be relatively summarised under the divisions of Crown and private lands. It was pretty conclusively shown that the largest proportion of the present supply is derived from Crown lands, and tracts of country in the temporary occupation of pastoral tenants. In some instances selectors and freeholders stated that they had lately recognized the value of wattles on their land, and had consequently taken steps to preserve them. The number of wattle cultivators did not, however, bear comparison with the strippers who roamed the country promiscuously, taking bark without any further restriction than that of a quarterly license fee of 25s., and in many cases even the payment of this amount was evaded. Up to the present time bark strippers have had a very large field for their operations, but the area of Crown lands, although yet of vast extent, is becoming reduced, season after season, consequently the supply of wattles must be maintained in order to afford them employment in anything like the same ratio.

The Board found that the bark industry had lately assumed large proportions and afforded employment to a numerous class, the majority of whom were men with families. In addition to the men employed in stripping, a considerable number were engaged carting the bark to the various market towns and ports, while others found employment in bark mills, all independent of those actually engaged in the export trade. The strippers, as a class, were composed of unskilled laborers, many of whom devoted only a portion of their annual labor to the work of bark stripping. Their earnings were, as a rule, fairly remunerative, and where wattles were at all plentiful, whole families were comfortably supported. Many selectors, it was also observed, augmented their income by resorting to bark stripping—by this means maintaining successfully the struggle to pay off the accumulation of rent upon their holdings. In the words of one of their number: "Without the help afforded by the bark growing on Crown lands adjacent, it would have been difficult to have found means to clear and fence their holdings, so as to comply with the conditions of the Land Act under which their



licenses were issued." Of the mode of stripping generally it may be stated here that it has been characterised by shameful and wanton waste, the destruction of bark in a single year being estimated at fully one-half of the aggregate yield. In every wattle district of the colony the same thing prevailed, over 50 per cent. of the bark being left on the trees. The evidence disclosed the fact that trees carrying 80 and 90 lb. of first-class bark were denuded of only a third, and sometimes less, simply owing to the greed and rapacity of the strippers, who tore off the bark from the lower part of the trunk, leaving all the rest to waste. Trees also of moderate size, six to eight inches in diameter two feet from the ground, bearing from 30 to 40 lb. of bark, received similar treatment. In those districts stripped in past seasons, where mature trees were naturally scarce, the work of spoliation was complete, young saplings of whipstick size being ruthlessly destroyed for the sake of a few ounces of bark. A total want of supervision was, in many instances, apparent, the regulations, such as they were, being openly violated. The Board observed that, within half a mile from a police station, in one of the most important bark districts of the colony, the strippers were actually carrying on a system of destruction under the immediate notice of the authorities, without any interference being attempted. Only in one instance out of every twenty was the tree cut down either before or after stripping, although the Second Regulation—printed on the back of every license—stipulates that "no licensee shall remove the bark from any tree until such tree has been felled, and if any person offend herein he shall be punished according to law." Beyond this regulation, the State hitherto imposed no restriction on the actual operations of the strippers. The Board did not fail to probe this evident miscarriage of this provision, and it was found that the fault did not rest so much with the officers of the Crown as with the local administrators of justice. In some instances the offenders against the regulations were prosecuted and the charge fully substantiated, but so inadequate were the fines inflicted to check the indiscriminate stripping that the Crown officers were thoroughly disheartened. Often they would travel some 20 miles in order to serve a summons in one direction, the police court being as far away in the opposite direction, and the delinquent would escape on paying the nominal fine of 2s. 6d. or 5s. The disproportionate punishment meted out by the local benches of magistrates was, without doubt, an indirect incentive to careless and indiscriminate stripping, and the Board would, therefore, suggest that special attention should be directed towards maintaining the efficiency of the police supervision by the imposition of a penalty of not less than £5, with rewards where the convictions have been the result of unusual efforts.



Before selection became so general, the strippers, following the occupation as a regular means of subsistence, roamed all over the country, stripping wherever they pleased, and without much competition. The boundaries of the wattle areas have lately, however, become considerably circumscribed, and the districts open to the ordinary strippers are comparatively few in number. Although there is an evident desire on the part of the selectors and freeholders to devote more attention to wattle cultivation than formerly, yet there can be no reliance placed on this source, and unless some general system is adopted there is ground for apprehending a diminution of the supply. A definite system must be adopted, otherwise the future of both the tanning industry and the export bark trade will be endangered. Unless the Crown lands are more directly utilised in the future than in the past for purposes of wattle cultivation, the continuance of the supply must depend almost entirely on private owners. There is no doubt that the cultivation of the wattle for commercial purposes has remained an undeveloped industry, and that so soon as the subject is better understood the utilisation of many thousands of acres of private land at present lying waste will be commenced.

Raw material, like wattle bark, having nearly corresponding articles in competition on the markets of the world, must always be subject to fluctuation in price, a fact which will have due effect on those who cultivate the wattle as a direct source of profit. Particular care was taken by the Board to elicit a general expression of opinion on the subject of the marketable value of bark, the result being that the price may be fixed at from £5 to £5 10s. per ton, delivery being made at the tanyard or seaport. Any figure above £5 per ton, guaranteed for a few seasons, would have the effect of causing many holders of land to turn their attention to wattle growing as a regular occupation. Should any reduction take place in the price named, and prevail for any number of years consecutively, the cultivators of wattles on private lands might, for a time at least, relinquish planting, and a scarcity would consequently arise. This view was taken by nearly all the owners of land who gave evidence before the Board, and they were positive in their assertions that any reduction of prices would simply lead to the destruction of wattles on their land without any regard whatever being paid to the bark.

The primary object of the investigation was the discovery of means whereby the chances of the supply of bark failing could be reduced to a minimum, and no phase of the subject has escaped careful consideration. In arriving at their conclusions and making the recommendations appended hereto, the Board have been guided by the result of their personal observations in all parts of the colony conjointly with a careful analysis of the evidence of all the persons examined.



The age at which trees may be stripped with the best advantage has been determined at from five to ten years, and it naturally follows that, should any neglect be manifested in cultivating for annual strippings, a serious loss would ensue, not only to the cultivator but to the general supply, consequent upon the length of time that would necessarily elapse before the omission could be rectified. To obviate any cessation of the supply from private as well as from Crown lands, the Board entered fully into the cost of production, the age at which the wattle attains maturity, and the seasons during which the bark possesses the highest strength for tanning. At the present time there are tracts of Crown lands on which the wattle flourish luxuriantly, although the soil is so poor as to be practically valueless either for pastoral or agricultural purposes. These areas are peculiarly favorable to the growth of the wattle; and in such localities as the Victoria Valley, and the long sandy reaches of the Ninety-mile Beach and other parts of Gippsland, it was found that the trees attained early maturity, supplying at the same time a bark of full strength and in good demand amongst tanners.

Although there are here and there a few patches of soil of a better class, yet the land presents no inducements to the ordinary selector or grazier, and its utilisation, except for some such special object as wattle cultivation, is never likely to be attempted. With some discrimination certain areas of modified extent might eventually be selected, which would contain sufficient agricultural land to enable their holders to partially combine farming pursuits with the occupation of wattle growing. The Board also noticed that many extensive areas of land in the districts specified were leased for grazing purposes at a nominal rent, and it was often on patches most barren of grass or surface vegetation that the finest specimens of wattle trees were met with. For the purpose for which they are leased these lands are practically valueless, they may be denominated thorough waste lands. The State derives little or no revenue from them, the return in some cases failing to pay the cost of supervision.

The Board have inspected many of these areas, and from their personal observations are unanimously of opinion that, as soon as practicable, they should be withdrawn from ordinary selection, and set apart for wattle cultivation. By doing so the State would gain largely, and the interests of the pastoral tenants who are now in occupation would not suffer in any degree, as their evidence goes to prove that the land in question is almost useless, one witness stating that portions of his holding required forty acres to keep one sheep alive.

The Board consider that large areas of these poor lands should be leased out, in blocks of a certain size, for a term of years, the



lessees to be made subject to certain rules and regulations which would have the effect of ensuring the annual and permanent cultivation of wattles. The rest would be a matter of detail; but that the principle of wattle plantations should be adopted is one of the strongest recommendations of the Board. The evidence of witnesses in all the wattle districts sets forth that the soil is everywhere full of wattle seed, and that its power to retain vitality in a dormant state for many years, when not under germinating influences, was a remarkable fact. Many witnesses, speaking of their own experience, stated that bush fires had the singular effect of inducing the rapid development of a young forest. Wherever a bush fire had passed over the country, myriads of young wattle trees sprang up; and, in the course of their inspection, the Board were afforded abundant proof of the veracity of this statement. The wattles will also spring up in immense numbers where the surface of the soil has been disturbed; this being established by the appearance presented by a number of paddocks formerly under cultivation, but allowed to lie fallow for three or four years, being literally covered with wattles of both the species most prized by the tanners. No doubt can exist that the wattles are easy of cultivation, and remarkably prolific in the matter of seed. On poor lands, whether in the possession of the Crown or private holders, the wattles grow as readily as grass; in many instances more so. They spring up spontaneously, although the future supply must not be left entirely to voluntary growth; there must be at least an occasional scattering of the seed over the surface of the land. Cultivation will have the effect of increasing the quantity of bark available for commercial purposes to almost any extent. Under supervision, and with a proper system of pruning and stripping, mature bark may be increased at least fifty per cent., the consumer being justified in paying a better price than was possible under the reckless system of stripping carried on during late years.

The mimosa bark of commerce in this colony is derived from three species of acacia, the first in point of strength being *A. pycnantha*, more commonly known by the several names of the "broad-leaf," "golden," and "green" wattle. (For the purpose of more clearly defining this species, the Board has characterised it throughout their proceedings as the "broad-leaf.") Next, if not equal in strength, and certainly more common in Victoria, is the *A. decurrens*, or black wattle. And the third species is the *A. dealbata*, or silver wattle. The first named possesses a thick, glossy, ovate leaf, the bark being smoother and thinner than either of the others. It is chiefly found growing in the Geelong, Portarlington, and Queenscliff districts, in the neighborhood of Castlemaine and Avoca, in the county of Mornington, and along the sea-coast south-westerly as far as South Australia. Its bark is generally considered



superior to any other, but the habit of the tree is not so advantageous, being of slower growth, and it does not attain such large dimensions as the black and silver species. For tanning purposes the silver wattle is generally discarded. It is nevertheless occasionally stripped and mixed with other barks. It grows freely on the sides of creeks and rivers, and on wet, marshy soil, and the bark is weak in tanning material. The black wattle is of vigorous, robust habit, and for commercial purposes is equal to the broad-leaf species. It is in general demand, a regular supply having always been obtained from various parts of the colony. It is met with all over the Western district, in the north-east, and also in Gippsland. From the rapidity of its growth, and the ease with which it can be stripped during the proper season, the Board consider that for all practical purposes it is desirable to cultivate this species either alone or with the broad-leaf wattle.

Other tan substances have been mentioned as being employed in the tanning trade, the trees and shrubs producing which, however, are not indigenous to Victoria. As many of the tan materials from these trees are of high value, and indispensable to tanners, the Board incidentally elicited all the information available on the subject. In the opinion of the Baron von Mueller, Government Botanist, most of the trees known to be of practical utility for tanning purposes may be cultivated and successfully grown in the colony. The fullest information is given on the point in Appendix A, which Baron von Mueller has compiled in his capacity as a member of the Commission. The evidence of all the witnesses examined, with regard to these tan materials, went to prove that large quantities were consumed in this colony every year for the purpose of producing different kinds of leather. "Cutch"—also termed "terra japonica"—is a tan preparation which cannot be obtained in this colony at less than £20 per ton. It is obtained from the Indian acacias, and resembles in character a watery extract obtained from the bark of Victorian wattles. The latter being pure as against the imported cutch, which is usually met with in an adulterated form, is of superior strength, giving a return equal to 45 per cent. of tannin. The attention of bark-strippers should be directed to this fact with a view of inducing them to work up much of the waste bark left on the stripping ground. Measures for the utilisation of the Victorian bark in this way would be widely beneficial, as a new article of export would be added to the productions of the colony.

To maintain as nearly as possible an uniform standard in the tan strength of bark, a certain part of the year must be set apart as a season for stripping. By the adoption of such a method the supply and quality of the barks could be better regulated than has hitherto been possible. Trees would have a better chance to



mature, while tanners and exporters would be assured that their bark was stripped in the season when it possessed the maximum of strength. The mass of evidence sets forth that the four months of September, October, November, and December are those in which the sap rises without intermission, and the bark is then fully charged with tannin, and moreover easily removed from the tree. This season does not vary more than twenty-one days all over the colony, so that the four months specified will constitute the bark season for the whole of Victoria. The impression appears to have prevailed amongst bark-strippers that whenever the bark would strip it possessed full tanning properties, but this is erroneous. After a few days of rain, during other seasons of the year, a temporary flow of sap caused the bark to be easily detached from the trunk, and strippers invariably regarded this as a sign that it was fit for stripping, but the bark was greatly inferior in quality.

Amongst other phases of the question submitted to them, the Board endeavoured to obtain reliable information as to whether any experiments had been made with a view to obtaining a larger yield of bark per tree, or whether a more economic mode of stripping could be introduced than has ruled in past years. Several witnesses stated that, in their opinion, a decided advantage was to be gained by leaving a continuous strip of bark, say two or three inches wide, up the whole length of the tree—thus maintaining a constant flow of sap and sustaining the life of the tree. Other witnesses stated that they had practically tested the efficacy of such a scheme, but the Board came to the conclusion that the advantage was doubtful. The bark left on the tree might sustain life, and the bark itself be improved in weight, but the growth of the tree would be impaired, and before the second stripping could be effected new trees could be grown and advanced towards stripping. The plan of thoroughly stripping the wattle when once commenced is, in the opinion of the Board, the only one that should be recommended. Stripping should in all cases be thorough, as the higher branches often carry the best bark, according to some witnesses, and under no circumstances should there be any bark left on the tree.

Under the system that has prevailed during past years, the only regulation binding strippers was a provision inserted in the license form to the effect that all trees should be cut down before the bark was stripped. The Board from their own observations are aware that this regulation was seldom, if ever, complied with, and they would not recommend its inclusion in the code herewith appended. The felling of the trees before or after stripping would only encumber the ground, thereby checking the growth of young wattles and of grass, besides rendering the country more liable to heavy bush fires.



The wattle grows readily in almost any soil, and it requires so little attention as to make its general cultivation extremely profitable. Bush fires have in past years proved extremely destructive to the wattles, while whole districts have been periodically ravaged by swarms of young beetles and the blighting coccus disease. As previously set forth, there is reason to believe that the soil in many parts of the country contains an immense number of seeds of the wattle, which are quickened into life by the germinating influence of bush fires; but, owing to the great destruction of young trees, this supply of seed is not renewed, consequently the time is approaching when it will be completely exhausted, unless precautionary measures are effected.

The wood of the wattle is of considerable value for industrial purposes—it can be readily utilised for cask staves, for axle spokes, for axe and pick handles, and many other articles requiring a tough durable grain. When dried, it forms the best firewood known for culinary and all domestic purposes, also for ovens and furnaces. It emits a clearer and greater heat than other firewood, and it may be anticipated that as facilities for transit to the towns and cities increase, that it will be brought into more requisition than at present. The wattles may also be utilised for fencing, the trunks making top rails of the best description. The commercial uses of the wattle are multifarious, as, in addition to the value of the bark and the wood, a good profit may be derived from the sale of the gum which exudes from the trees. According to the latest advices, the price of Australian gum had risen very considerably in the English and Continental markets, an increase of over 30 per cent. having taken place in the prices between January and March of the present year, clearly proving that a better demand is setting in for the article. Under such a system of wattle cultivation as the Board desire to see established, the collection of gum could be made an easy and remunerative employment, more especially when the trees are punctured for the purpose of increasing the yield.

With the example of New South Wales and other colonies before them, the Board could not ignore the danger to be apprehended from a total cessation of the supply. A few years since New South Wales possessed an abundant supply of wattles, but now her tanneries are kept open almost entirely by means of the bark grown in Victoria and Tasmania.

Although other Victorian barks, such as the honeysuckle, the ironbark, and lightwood, severally yield a certain percentage of tannin, yet they can never replace the wattle, even if they were not also liable to exhaustion.

Most of the tanners who were examined on the point stated that, in their opinion, bark possessed the maximum of tan strength when stripped during the last four months of the year, that being



the season when the sap is most active. Independent of the fact that a renewal of the supply of tannin is thereby effected, the fact that the bark is stripped during the summer months and dried under ordinary summer temperature gives it a greater advantage than the bark stripped and dried during the wet months of winter. The bark being exposed to damp and moisture loses a proportion of its strength, the process of drying being longer facilitates the change of tannic acid into gallic acid, or acids of a similar character, substances of no service for tanning.

The character of the soil appears to affect, to some extent, the quality of bark, this being clearly proved by the members of the Board during their inspection of the North Gippsland district. A sample of bark was obtained from the limestone country beyond the Buchan River, and subjected to careful analysis. This analysis proved that the bark from trees growing on a limestone formation was greatly inferior in tannin to that of bark obtained from any other district in the colony, although the climate was in every way calculated to produce better results. Only a short distance away, other bark was obtained and subjected to the same test, when the difference was shown to be 13 per cent. From bark growing within five miles of the Buchan River 42 per cent. of tan material was obtained, while the bark taken from the limestone formation on both sides of that stream only yielded 29 per cent.; continuing this examination still further, the Board found that bark obtained from the Goulburn and Western districts were about equal in point of tanning strength—both being a little inferior to the best bark obtained from Gippsland. The bark in each instance subjected to analysis was of the black or “feather” leaf species. The bark of the golden or broad-leaf wattle was also tested, and the result proved that its strength exceeded all the other barks by fully 5 per cent. From actual experience, the tanners are satisfied that there is considerable variation in the strength of bark—due to the conditions of soil and climate as well as to the age and season at which the trees are stripped. The Board, while satisfying themselves on this point, also found that the size of the trees varied considerably in many districts, soil and position evidently effecting the difference. One of the largest black wattles met with by the Board in the Western district gave a mean diameter of 24 inches, its age being ascertained at 18 years. This may be taken as the maximum size attained by this species; and, although even larger trees may be occasionally met with, the wattle is at its prime when about 10 years old, and possessing a trunk of 9 or 10 inches in diameter. After that the trees lose their healthy, vigorous habit, and are usually attacked by disease or wood insects. In every district visited by the Board the most favorable specimens were selected for experimental purposes, and the following statement,



which shows the average size of wattles at the ages mentioned, may be applied to the two different species recommended for cultivation throughout the colony:—

Species.	Locality.	Years.	Diameter 3 feet from the ground.
Black ...	Glenisla to Dunkeld (Western district) ...	18	20 inches.
„ ...	Parish of Bairnsdale (North Gippsland) ...	20	16 „
„ ...	Tullarook to Yea (Goulburn district) ...	6	7 „
„ ...	Buchan River (North Gippsland, limestone formation)	6	5 „
„ ...	South Gippsland, heavy, rank, forest lands ...	25	17 „
Golden ...	Wallington, Portarlington, and Queenscliff ...	9	8 „
„ ...	Avoca and Castlemaine ... ..	10	7½ „

The following Table, which has been specially prepared by Mr. Bosisto, one of the members of the Board, shows the quantity of tan extractive in 100 parts of bark obtained from the districts respectively mentioned. The percentage represents the extractive matter useful to tanners only:—

Species of Wattle.	Locality from which Samples were obtained.	Percentage of Tan Extractive.
<i>Acacia pycnantha</i> —golden or broad-leaf	Portarlington, Wallington, and Queenscliff	45 per cent.
<i>Acacia decurrens</i> —black or feather-leaf	North Gippsland ... ..	40 „
„ „ „	Wando Dale and Victoria Valley, Western district	34 „
„ „ „	Goulburn Valley ... ..	34 „
„ „ „	Buchan River, North Gippsland, limestone formation	29 „

As the Board are of opinion that the matter of wattle cultivation will attract considerable attention from many persons who may be without the information necessary to enable them to engage in the systematic sowing and rearing of the trees, they append the following remarks on the subject:—Wattles grow on almost any soil, but their growth is most rapid on loose sandy patches, or where the surface has been broken for agricultural or other purposes. Where the soil is hard or firm it is recommended that plough furrows should be made at regular distances of say five to six feet apart, into which the seeds are to be dropped. The outer covering of wattle seed is peculiarly tough—hard and horny in character, thereby forming a protection which renders the seed comparatively impervious to ordinary germinating influences. It will, therefore, be found necessary to employ a more direct agency than simply covering the seeds with earth. Water, of a little less than boiling temperature, should be poured on the seeds, and they may then be allowed to soak in the water until soft. As the seeds



are small, and ought to be sown near the surface, a very light sprinkling of earth will suffice. It would be sufficient for all practical purposes of cultivation to drop the seeds at average distances of one foot apart along the furrows, in which case about 7,200 seeds would suffice for an acre of land. The wattle seed is, however, inexpensive, being obtainable in most districts for the mere trouble of collecting, or it can be purchased for 8s. or 10s. per pound. There are about 40,000 seeds of the *Acacia decurrens*, or black wattle, to the pound, while the seeds of the *Acacia pycnantha*, or golden wattle, are one-fourth heavier, and consequently represent not more than 30,000 to the pound. The seeds can, therefore, be dropped along the furrows at much shorter distances, and the seedlings thinned out at discretion, whereby the chances of a regular plantation would be increased. On loose, sandy soil, on which *Acacia pycnantha* can best be raised, it might not be even necessary to break up the soil in any way; but it should be borne in mind that any opening up of the surface would materially accelerate the germination of the seed and subsequent growth of the seedlings. On such open sandy soil the straight furrow line may be dispensed with and the seeds scattered broadcast. When the young trees have attained the height of 3 or 4 feet, the lower branches should be pruned off and every effort afterwards made to keep the stems straight and clear, in order to facilitate stripping and induce an increase in the yield of bark. In all instances where attention is paid to the cultivation of wattles, as a source of income, care should be taken to replace every tree stripped by successional sowings, in order that there should be as little variation in the yield as possible.

The Board would direct special attention to the enormous increase that has taken place in the exportation of bark during the last few months, as set forth in the following Return just obtained from the Department of Trade and Customs. The Return is chiefly valuable on account of the insight it affords into one of the natural resources of this colony, and the extent to which the export trade could be increased under a regular system of wattle cultivation, provision being, at the same time, made for an extension of the leather industry:—

*Return showing the Quantity and Value of Wattle Bark Exported from this Colony from 1st November 1877 to 30th June 1878.*

Period.	Quantity.	Value.
1877.—November to December ...	1,507 tons	£12,195
1878.—January to March ...	5,683 „	42,468
„ April to June ...	4,188 „	31,240
Total ...	11,378 tons	£85,903



Before November last the supply of wattle bark was said to be practically exhausted, but the fact of nearly 12,000 tons having since been shipped over and above the amount required for the important Victorian tanning industry proves conclusively that, with the exercise of a moderate amount of care and supervision, the supply may be increased to almost any extent. Up to the present time the supply has been derived from the spontaneous growth of wattles on lands for the most part in the possession of the Crown. From the fact that the supply has hitherto been maintained without the aid of cultivation, the increased yield likely to follow the adoption of a general system of wattle growing would ensure the establishment of a great export trade on a permanent basis, besides assuring the future of our own leather trade. A new channel can be opened up for the lucrative investment of capital, while by the scattering of seeds over the immense tracts of barren unprofitable land in the occupation of the Crown the entire aspect of the country will undergo a change. All along the lines of railway and by the roadsides in the country districts avenues and clumps of wattles can be grown, beautifying the landscape, while the right of stripping could be let annually (after the first five years) at a price which would go towards paying the cost of maintaining the roadway in good condition. No other country in the world possesses a more valuable tanning bark; and when this fact is better understood the wattles will be looked upon as one of the many sources of wealth possessed by this colony.

Before passing on to the recommendations which are the outcome of the investigations of the Board, it is incumbent on the members to draw attention to several matters that were prominently brought under their notice. Although not directly associated with the subject under consideration, the Board are nevertheless of opinion that the matters in question call for early attention at the hands of the Government.

In the evidence given before the Board by tanners throughout the colony it was uniformly asserted that an immense loss is annually inflicted, not only on tanners but also on stockowners, besides being a national loss, by the indiscriminate system of branding cattle on the most valuable parts of the hide, thereby leading to a depreciation in the value of the leather. Still greater loss is experienced in consequence of the careless, reckless, and often wanton manner in which Victorian slaughtermen flay the beasts killed in the abattoirs. The hides are punctured and slashed in every direction, one of the leading tanners in the colony giving the following evidence on this point:—

“There is an immense annual loss consequent upon the negligent manner in which skins are branded and subsequently flayed. I reckon that all round there is a loss of at least 2s. 6d. per hide by reason of bad flaying, not taking into con-



sideration the damage done by indiscriminate branding. I have often attempted to pick out a clean side from 1,000 hides, and failed to find one free from cuts. We cannot get sufficient clean hides to manufacture belt-leather simply on this account. I do not think it would be possible to get more than five pairs of hides suitable for belts out of any ordinary 1,000 hides supplied to the tanneries. For harness leather another forty might be obtained, but the remaining 950 would only be fit for soles or exporting. The Tanners' Association in America have taken action in this matter, and their regulations have had the effect of considerably reducing the waste. Were some such association instituted here, the gain to tanners would be very great, and the character of the leather trade in the colony would be improved. The Victorian leather is brought into keen competition with the American hemlock leather in the English market. I have been informed that while the quality of the Australian leather is intrinsically superior, the American article is beating ours, simply because of the shameful manner in which the Australian hides have been branded and hacked about before tanning."

Other witnesses examined fully endorsed this evidence, and the Board were themselves afforded several opportunities for personally satisfying themselves of the truth of the statements. That legislation is necessary the Board are perfectly satisfied, and they would therefore respectfully urge the Government to take immediate action in the matter.

In the course of their investigations the Board have been impressed with the necessity existing for a recognition of the principle of forest culture as well as of forest conservation. The wattle represents only one kind of the many trees which are of importance to our technological industries as well as to the preservation of our mercantile export trade, whereas many other plants are no less deserving of cultivation on an extensive scale. In the present report it is not necessary to enumerate the most important foreign plants adapted for cultivation in Victoria, and which are sooner or later destined to occupy a prominent position in rural or forest culture in this colony.

The Board have personally witnessed the destruction that has been going on amongst the forest timber, and they are convinced that the only effectual means of checking the waste, conserving the timber left standing, providing for future supply, and ensuring the cultivation of foreign trees, will be by the establishment of a responsible Board, which shall have power to act independently of any other department. An immense advantage could be gained by cultivating some of the more valuable timber trees, such as the various deal pines, the kauri, the red cedar, the white and cork oaks, the walnut, sweet chestnut, hickories, and the best of the willows. These are all admirably adapted for the soil and climate; they could be raised millionfold, as could the tea plant, the cinchona, numerous fibres and fodder plants, and a practically unlimited variety of grasses.

When once the principle of encouraging the growth of foreign plants in the forests and on the waste lands of the colony is recog-



nized as a State measure, a material contribution will be made to the industrial wealth and prosperity of the colony.

The attention of the Government is, however, directed to the wanton waste of native timber on all the Crown lands of the colony. In many districts the Board witnessed the destruction of thousands of splendid trees of the white and blue gums, mountain ash, stringybark, messmate, and ironbark species, trees of over 200 feet in height being sacrificed for the sake of a single sheet of bark. By the establishment of a responsible board, a much better system of supervision could be ensured.

Finally, the members of the Board beg to submit the following recommendations, which are based on the result of their personal observations and a careful review of all the evidence taken during the course of their investigations. Regulations are also appended which, if adopted, will render the supervision of Crown lands much more effective than has been possible under the system previously in force, while the chances of stripping being carried on in a wasteful manner will be considerably reduced.

1. That, in the opinion of the Board, the indiscriminate and reckless stripping of bark, as carried on in years past, will, if continued, cause such a reduction in the annual supply as will materially check the progress of the tanning industry and export trade.
2. That regulations can be so framed as to conserve and encourage the growth of the wattle trees on Crown lands, in sufficient numbers to ensure a continuance of the supply required for local wants, as well as the maintenance of the supply required for foreign markets.
3. That the principle of wattle cultivation should be adopted by the State, and also by all local governing bodies having the control of reserves or tracts of unoccupied land. Wattles should be grown on the main roads, along all the lines of railway, and on all lands which are not available for other purposes.
4. That certain areas of poor land at present lying waste should be reserved from selection (or alienation in any other form), and devoted to the systematic cultivation of wattles. These areas to be surveyed in blocks of, say, one thousand acres, and let by tender, as wattle farms, to any persons who shall produce evidence of the *bonâ fide* nature of their application. The farms to be let on lease for ten or more years; and on the expiration of the term of lease the land to revert back to the Crown, the lessee to be afforded the first option of

- re-lease, or to be entitled to compensation for all improvements effected during his tenure.
5. That it should be clearly stipulated in the covenants of the lease that the whole of the land should be devoted to the growth of wattles, and that successional sowings be made compulsory up to the last year of the lease, in order that a continuous supply be maintained.
  6. That those parts of the colony growing wattles at present shall be mapped out in districts; and, for the purpose of affording increased facilities for supervision, licenses issued in one district shall not be available for stripping in another. Each stripper, on payment of his license fee, shall receive a full and clear definition of the boundaries of the district within which he must confine his operations, such definition to be printed or written on the license form itself.
  7. That instead of quarterly licenses being issued at the rate of twenty-five shillings each, as at present, season licenses for the right to strip wattle bark on the Crown lands of the colony shall be issued at the uniform rate of one pound and ten shillings sterling.
  8. That stripping wattle bark on Crown lands shall only be permitted from the 15th day of September to the 15th day of January next following. Any stripping carried on out of the season so specified shall be considered illegal; and the offender shall be adjudged guilty of a breach of these regulations.
  9. That licenses for the right of stripping bark on Crown lands shall be issued at one central office only in each district.
  10. That each license shall be issued on the following conditions:—
    - (a.) No trees of less than five inches in diameter, when of the black or feather-leaf species; nor less than four inches, when of the golden or broad-leaf species, shall be stripped of their bark; the measurement to be taken two feet at least from the ground.
    - (b.) Any waste of bark, from negligent stripping, shall be punishable as an offence against these regulations. The licensee to thoroughly strip the tree in every instance.
    - (c.) Licensees shall complete the stripping of one tree before commencing to strip another.



(d.) At the time of taking out a license the licensee shall register a distinctive brand or mark, which he must place in at least one conspicuous spot on every tree stripped, and also upon every stack of bark before its removal from the stripping ground. Such brand to consist of one or two Roman capital letters, at least three inches high, and the trees and bark must be branded in such a manner as to be easily seen by the Crown lands bailiffs, or other officers appointed to enforce these regulations.

(e.) That any breach of these regulations shall render the licensee liable to a penalty of not less than five pounds for the first offence, and that the license shall be cancelled; the holder of such license to be disqualified from stripping on Crown lands during the current season.

(f.) All bark adjudged to have been stripped in contravention of these regulations to be confiscated.

11. Finally, it is recommended that the State should also encourage the cultivation of the wattle on selected lands still in a measure under the control of the Government. In all cases where a selector shall adopt the systematic rearing of wattles on his holding, and produce a certain number of tons of bark per annum, that this should be considered an improvement under the Land Act.

12. Should the recommendations of the Board be carried into effect, the Board are of opinion that the necessity for an export duty on bark or restrictions other than those specified in the Regulations will be obviated.

E. J. DIXON, Chairman,

J. BOSISTO,

M. L. KING,

GEO. R. FINCHAM,

JOHN REES,

THOMAS COPE,

FERD. VON MUELLER.



## APPENDIX A.

## IMPORTANT TANNERS' PLANTS, WHICH COULD ADVANTAGEOUSLY BE REARED IN THE CLIME OF VICTORIA.

*The Sumach plant.*—*Rhus coriaria*, a shrub or small tree of South Europe, North Africa, South-Western Asia, and also of Madeira and the Canary Islands, where it naturally grows on arid hills. The twigs and leaves, merely reduced to powder, constitute the sumach of commerce. It yields up to 30 per cent. tannin (gallo-tannic acid), and is a needful article for the production of the best Corduan or Maroquin leather. The cultivation of the sumach-bush is in no way beset with difficulties, as it will live even on poor soil. Under favorable circumstances as much as a ton of sumach may be obtained from one acre. Several North American species of *Rhus* (viz. *R. glabra*, *R. typhina*, *R. copallina*) produce also a good tanner's sumach, but it is necessary to collect the leaves in the spring, if white leather is to be obtained; the percentage of tannin increasing during summer, but the foliage then imparting a tinge to the leather. All these sumachs, with several others (from various parts of the globe), some of which have not yet fully been tested, were many years ago introduced already into the Botanic Garden of Melbourne, as well as the following species.

*The Scotino plant.*—*Rhus Cotinus*, a bush occurring in the countries around the Mediterranean Sea, thence extending to Southern Russia. The ground leaves and young branches constitute the commercial article. Both sumach and scotino shrubs become as early productive as the vine, while their products, unlike the wine, are ready for the market almost immediately after the harvest.

*The Valonia Oak.*—*Quercus Ægilops* and *Q. macrolepis*, two oaks of the regions at the Mediterranean Sea. The cups of the acorns constitute the Valonia. The same oaks furnish in their young acorns the Camata, and in the still younger fruits the Camatina. The Valonia oaks can here be raised as easily as the English oak, though they are not of quite the same celerity of growth. Both Valonia and cork oaks might with advantage be planted along our railway lines, and for shading roads, and they should also engage attention extensively in our forest culture. Valonia imparts a rich bloom to leather.

*The Divi-Divi plant.*—*Cæsalspinia coriaria*, a shrub or small tree, native of the moist sea-shores of Central America. Very likely this *Cæsalspinia*, like several of its congeners, would live in our extra-tropical latitudes. The husks of the pods form the Divi-Divi, one of the most powerful and quickly acting tanner's material. The extract of Divi-Divi produces a bloom on leather.

*The Huntingdon Willow* (*Salix alba*) furnishes tanner's bark for glove leather of particular fragrance. The Bedford willow (a form of *Salix fragilis*) is likewise rich in the tannin of its bark. Splendid glove leather is also produced in Scandinavia from elm bark.

*The Birch* (*Betula alba*) furnishes in its bark material for the Russian Juchten leather.

*The West Australian Tanner's Wattle* (*Acacia saligna*), which proves there so highly valuable, could be with the same ease disseminated here as our own wattle-acacias.

Many other plants might be mentioned as yielding tan-substances, but the above are the principal extra Australian plants which at our present yet early stage of colonization could be recommended to supplement our almost incomparable acacia barks for particular products of tanneries. The work of the writer on "Select Plants" can be consulted also in reference to a multitude of other tanners' plants, fit to be reared in our clime. On numerous important questions concerning the action of tan-plants, Dr. Morfit's large work on tanning and currying leather may be referred to.

## MEANS OF ASCERTAINING STRENGTH.

Exhaust the bark with boiling water, filter, add a solution of chromalum so long as a precipitate is deposited, let stand for a few hours, collect the precipitate on a filter; wash out, dry at 212° F., and weigh; then incinerate the dry precipitate, and weigh again the remaining oxyd of chromium. The first weight, minus the latter one, gives the amount of tannic acid. A less accurate method is to ascertain by a tan-meter the specific gravity of the tan-liquid. Closely approximate results are also obtainable by using a standard solution of isinglass or, better still, quinin, the strength of which to precipitate an ascertained quantity of tannic acid being known; the measurement can be effected in graduated test tubes.



The improvement of the strength of wattle bark during a year's storage seems to arise from the augmentation of catechu-tannic acid through conversion or oxydation of catechuic acid, the latter possessing no tannic properties. Bark, exposed to weather and particularly also moisture, deteriorates in strength by a change of some of the tannic acid into pyro-catechin or oxyphenic acid and into phlobaphen.

NATIVE TREES, BEYOND BLACK AND GOLDEN WATTLES, AVAILABLE FOR TANNERIES.

*Acacia melanoxylon*; the blackwood tree. The bark of this highly valuable timber tree has generally gone to waste, after from the logs the splendid wood was obtained. The bark is however very rich in tannic acid, and ought not to be left unutilized, although no blackwood trees should be sacrificed for the sake of their bark alone.

*Acacia penninervis*; similar to the golden wattle. It occurs in Victoria on the Ovens and Snowy River and their upper tributaries, ascending to subalpine elevations, taking there the place of *A. pycnantha*. An only experiment with the bark gave 18 per cent. of catechu-tannic acid.

*Eucalyptus leucoxydon*; the Victorian ironbark tree. The bark contains in a fresh state as much as 22 per cent. of kino-tannic acid; it is, however, available for inferior leather only, as the extractive substance of this bark imparts a dark coloration, and seems also to impair the tanning process. As an admixture to wattle bark, that of *Eucalyptus leucoxydon* may attain yet great importance, this bark moreover being so heavy and obtainable from gigantic trees. From stringybark, that of *E. obliqua*, as much as 13½ per cent. of kino-tannin can be obtained.

*Eugenia Smithii*; a large and very umbrageous myrtle tree, of the lower Snowy River, and thence extending along the lowland streams eastward. As much as 17 per cent. of tannin has been obtained from its bark in the laboratory of the writer.

*Banksia marginata*; the common honeysuckle tree. It is contended, that the bark of this tree and other *Banksias* can be utilized for tanneries only in a fresh state. It is moreover shown to be of much less tan-strength than our acacia bark. The bark of *B. serrata* of South Gippsland has proved to yield nearly 11 per cent. of tannin. *Banksias* cannot be reared with the same ease as wattles.

Table with 4 columns and 10 rows of data, likely representing tannin yields from various tree species. The text is faint and difficult to read.

Table showing the value of the bark of the above trees for tanning purposes, based on the results of the experiments conducted during the year 1874-1875.

Species	Yield (%)	Notes	Species	Yield (%)	Notes
<i>Acacia melanoxylon</i>	18		<i>Acacia penninervis</i>	18	
<i>Eucalyptus leucoxydon</i>	22		<i>Eucalyptus obliqua</i>	13.5	
<i>Eugenia Smithii</i>	17		<i>Banksia marginata</i>	11	
<i>Banksia serrata</i>	11				

## APPENDIX B.

VICTORIA.—Return showing the Quantity and Value of Bark the produce of this Colony exported during the Years 1870–1877; and specifying the Countries, &c., to which it was exported.

Whither Exported.	1870.		1871.		1872.		1873.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Tons.	£	Tons.	£	Tons.	£	Tons.	£
United Kingdom ...	1,297	5,870	1,485	5,825	4,145	18,979	1,615	7,012
New South Wales ...	...	...	...	...	167	586	1,329	4,853
New Zealand ...	77	505	21	145	49	394	180	793
Queensland ...	...	...	...	...	...	...	...	...
South Australia ...	1	6	...	...	...	...	...	...
Mauritius ...	9	37	11	50	30	164	16	90
Total ...	1,384	6,418	1,517	6,020	4,391	20,123	3,140	12,748
	1874.		1875.		1876.		1877.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
United Kingdom ...	542	3,125	3,116	28,695	7,367	51,575	5,420	39,541
New South Wales...	430	1,818	1,172	6,528	2,054	6,757	1,443	8,787
New Zealand ...	431	2,788	349	2,660	286	1,934	252	1,336
Queensland ...	...	...	...	...	17	120	...	...
South Australia ...	1	10	...	...	...	...	330	2,014
Mauritius ...	...	...	...	...	...	...	10	90
Total ...	1,404	7,741	4,637	37,883	9,724	60,386	7,455	51,768

VICTORIA.—Return showing the Quantity and Value of Hides imported into and Leather exported from this Colony during the Years 1870–1877.

Year.	Hides Imported.		Leather Exported.	
	Quantity.	Value.	Quantity.	Value.
	No.	£	Tons.	£
1870 ...	18,386	15,816	1,329	111,707
1871 ...	26,112	23,075	1,842	159,866
1872 ...	48,965	48,190	2,039	215,143
1873 ...	42,216	42,358	1,971	218,424
1874 ...	53,428	58,187	1,775	190,199
1875 ...	55,827	61,727	2,271	244,027
1876 ...	68,570	69,062	1,992	194,033
1877 ...	78,724	79,043	1,915	199,304
Total ...	392,228	397,458	15,134	1,532,703

VICTORIA.—Return showing the Value of Hides exported from and Leather imported into this Colony during the Years 1870–1877.

Year.	Hides Exported.		Leather Imported.	Year.	Hides Exported.		Leather Imported.
	No.	Value.	Value.		No.	Value.	Value.
		£	£			£	£
1870 ...	13,167	11,508	25,970	1875 ...	2,531	2,754	96,806
1871 ...	5,148	4,795	28,403	1876 ...	3,323	2,996	87,636
1872 ...	6,114	4,951	69,715	1877 ...	2,913	2,997	104,894
1873 ...	5,078	6,137	71,188	Total...	41,785	40,061	572,565
1874 ...	3,511	3,923	87,953				



## APPENDIX C.

STATEMENT showing the Profit to be derived from the systematic Cultivation of Wattles, compiled from the evidence given before the Board of Inquiry 1878.

*Receipts derivable from a Wattle Plantation of say 100 Acres, planted in the manner proposed.*

	£	s.	d.
Each acre planted with wattles, 10 feet apart, would carry 400 trees ; at end of fifth year trees would yield say 56 lb. matured bark ; stripping only every third tree 333 tons would be obtained off 100 acres ; this, at £4 per ton, would give for first stripping ...	1,332	0	0
In the sixth (or following) year, a similar number of trees would be stripped, the bark having increased in weight say 14 lb. ; the increased yield of second stripping would therefore be 400 tons, at £4 per ton, making ... ..	1,600	0	0
In the seventh year the remaining trees would be stripped, from which a still greater increase would be obtained—say 480 tons, at £4, making ... ..	1,920	0	0
The aggregate yield of bark during the first eight years would be 1215 tons, amounting in value to ... ..	4,852	0	0

*Estimate of Expenditure on a Wattle Plantation of 100 Acres during Eight Years.*

	£	s.	d.	£	s.	d.
Rent of 100 acres for eight years at the rate of 6s. per acre per annum ... ..	240	0	0			
Ploughing 100 acres in drills 10 feet apart ... ..	25	0	0			
Sowing wattles and actual cultivation, including cost of seed ... ..	37	10	0			
Supervision for eight years, nominal, say £10 per annum	80	0	0			
Pruning the trees, taking off useless wood, &c. (only necessary for two years), 10s. per acre ... ..	50	0	0			
Incidental and unforeseen expenses ... ..	27	10	0			
Interest on the whole amount expended during the eight years ... ..	240	0	0			
				700	0	0
* Actual cost of stripping and carting, as shown below...	1,515	0	0			
† Profit balance, exclusive of improvements or supple- mentary sowings ... ..	2,637	0	0	1,515	0	0
				2,637	0	0
				4,852	0	0

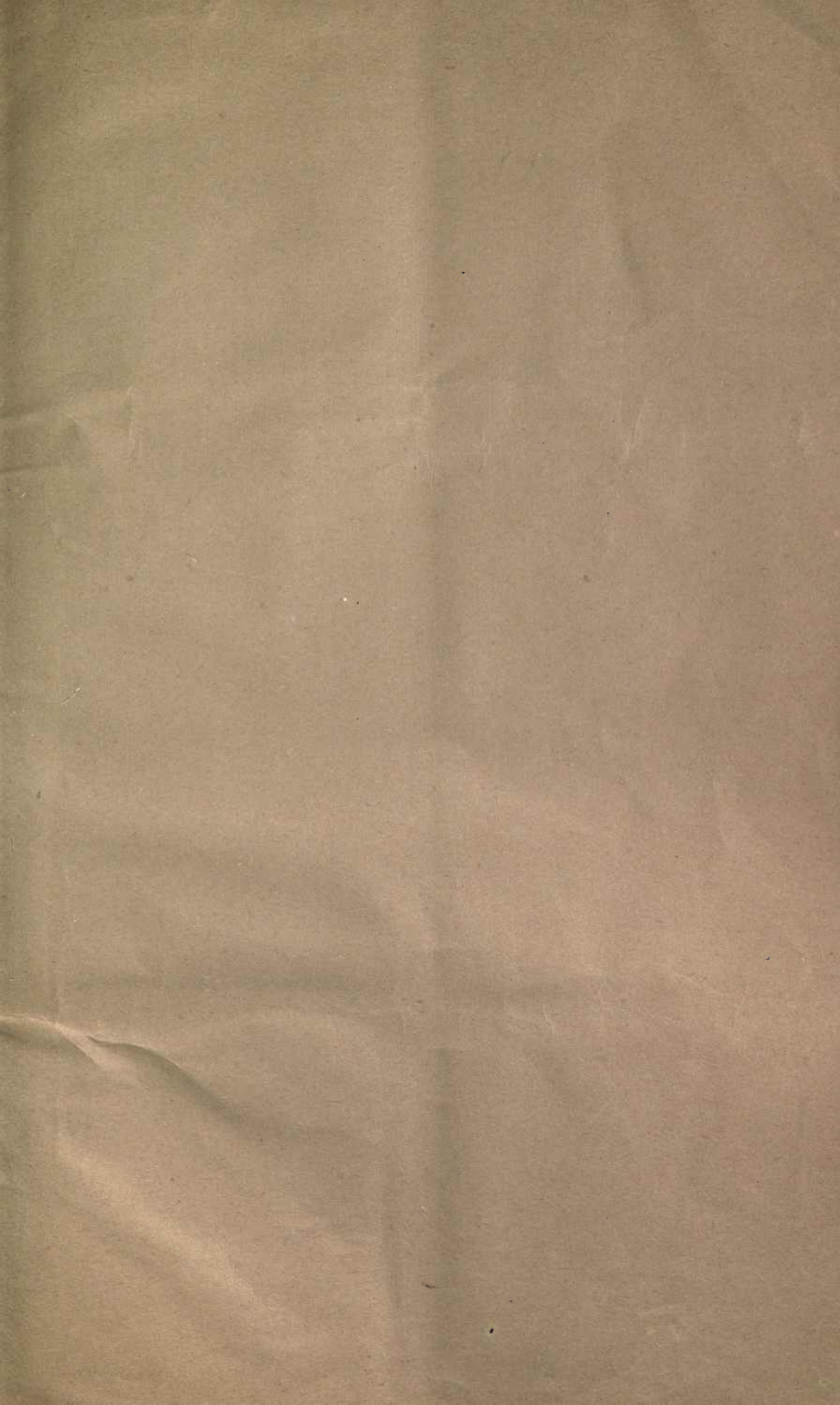
\* The cost of stripping would not exceed 15s. per ton, on account of the facilities presented by the regularity of the trees, while carting would represent another 10s. per ton. These combined charges would be 25s. per ton, and on 1,215 tons would be £1,515, leaving a clear profit on the 100 acres (after allowing for the primary expenditure) of £2,637.

† In addition to the bark taken off the land, a fresh supply would be available in two seasons afterwards, as the Board recommend that every tree stripped should be replaced by another sowing. All improvements effected may be calculated as additional profit.

JAMES THOMSON,  
Secretary to the Board.











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