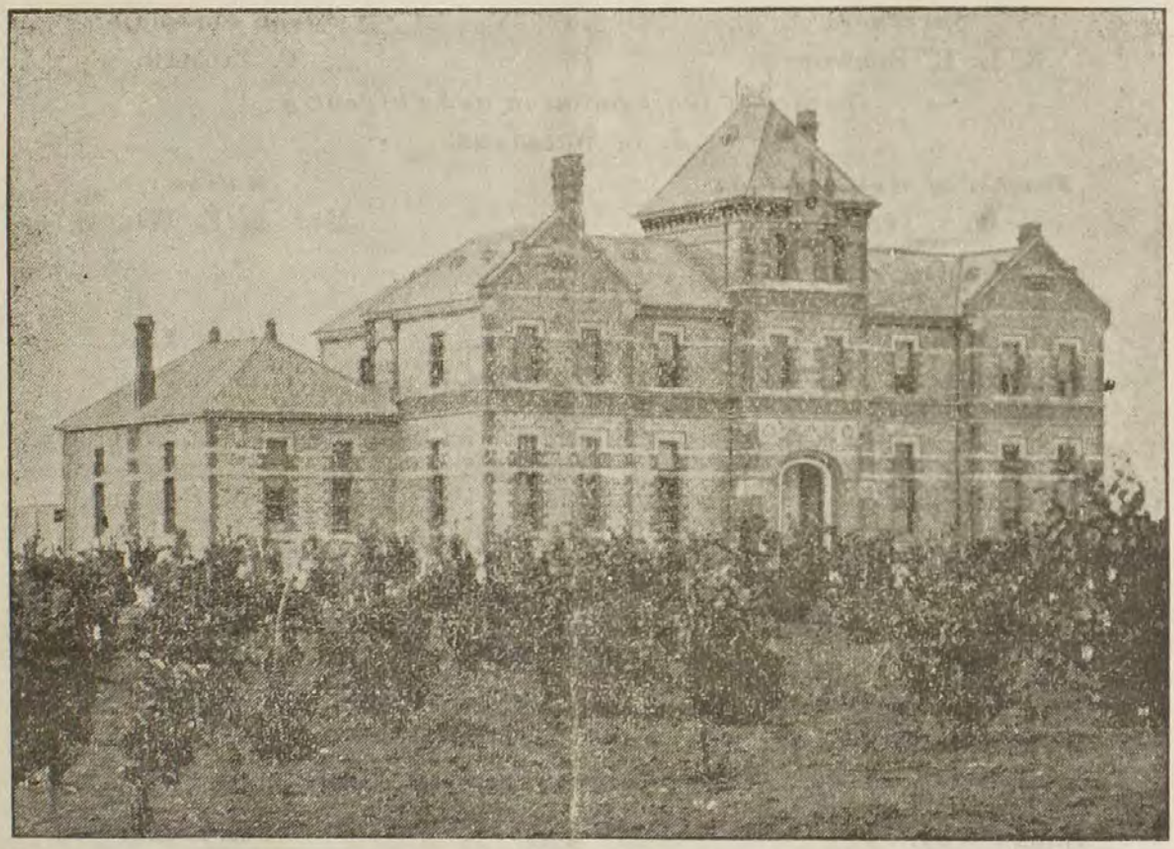
Vol. I.—No 7.

SEPTEMBER, 1899.

"Et conflabunt gladios suos n vomeres
et lanceas suas in falces."

. . The . .

Roseworthy Agricultural College . . . Student.



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Agricultural College, Roseworthy.

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THE

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Farmers' Visiting Day.

WHEN Dr. Cockburn was Minister of Agriculture he conceived the happy idea of arranging one day in the year on which the farmers could visit the Agricultural College at Roseworthy, to enable them to gain a practical insight into the working of this admirable institution, to see the results of the horticultural and viticultural experiments which the professorial staff are constantly making, and to listen to the advice which the head of the institution (Professor Lowrie) and his able colleague (Professor Perkins) and at all times ready to give to those who seek it. Show time is the most opportune period of the year to arrange for an

excursion to the college, for then the producers visit the city in large numbers, and each year so far they have taken full advantage of the thoughtfulness of the Government in making provision for them to visit the place. Never since the initiation of this movement have the farmers journeyed with lighter hearts to Roseworthy than this year. The recent bounteous rains put them all in good cheer, and the buoyant spirits and general Mark Tapley air of the 400 tillers of the soil who took the train at North Terrace station on Monday morning made quite a refreshing sight. Needless to say the state of the crops on either side of the line on the journey formed the chief topic of conversation, and it was universally acknowledged that they were looking splendidly healthy. The train pulled up at a crossing past the Roseworthy station, and here the excursionists alighted. Every conceivable kind of conveyance, from the ponderous German waggon down to the light pony cart, was in readiness. There was plenty of room for everybody, and though the road to the farm was somewhat rough, the drive was thoroughly enjoyable, the sun shining out gloriously and the gentlest of breezes blowing. A halt was made about a quarter of a mile from the crossing, and Professor Lowrie invited the attention of the farmers to some sheep and young horned stock, which were penned in a field of 187 acres, which was purchased by the Government in 1897, and which yielded last harvest 21 bushels to the acre. The sheep were magnificent specimens of pure-bred merinos, their fleece being thick and remarkably clean, and their condition excellent. Some of the lambs are crossbreds, being by a Dorset horn ram, presented to the College by Mr. J. Melrose, of Ulooloo. There are also a few three-part bred merinos from cross-breeds by the same ram. Farther on some excellent Jersey heifers were on view. Professor Lowrie then conducted the farmers to see the experimental plots, which form a conspicuous feature of the work of the College; sixteen plots had been put to the test of various manures, and the difference in the use of fertilisers, which are suitable for one kind of soil and totally unsuitable for another, was most marked.

The College building was next inspected, and it was not seen under very favorable circumstances, for its renovation, which was begun a few days ago, was not completed, and the sign, "Look out for wet paint" stared the visitors in the face at every point. There are 48 students now at the institution, and as the accommodation is inadequate to provide for that number, provision has been made for them in an adjacent cottage. The dormitories, lavatories, and spacious dining hall were models of well-ventilated and comfortable apartments, and the visitors were much impressed with the domestic arrangements for the students. Professor Perkins then took the visitors in hand, and showed them the vineyard, orchard, and wine cellars. There are about 80 acres now under vines being an increase of 25 over last year's acreage, while several improvements have been introduced into the wine-making department, which though small is excellently appointed. Professor Perkins is trying an experiment which, if as successful as it promises to be, will revolutionise vinegrowing as far as manuring is concerned. Instead of applying manure to the ground, a little hole is scooped out of the spurs, and a concentrated solution of manure is applied. Vines treated thus are three or four weeks ahead of other vines, and the difference between the two is most marked. The experiment was introduced from France, where excellent results have been obtained. After lunch Professor Lowrie conducted the party through a field sown with 23 varieties of wheat, the blocks varying from four acres downwards. These wheats were sown without any assistance from artificial manures, the better to determine their hardiness, and like the crops on the north side of the college, which were first visited, they looked exceedingly healthy, being of good height and color. There were also 300 acres sown with different wheats, chiefly for hay. One plot was a mixture of various wheats—King's, Leak's, and Purple Straw, the first-named preponderating. It was manured with 1 cwt. of superphosphate, ½ cwt. of bone-phosphate, and about 60 lb. of sulphate of ammonia to the acre. The sulphate

was used chiefly on the lower half of the land, which is wheat after stubble, while the other half is wheat after sorghum. In both cases, as a crop after a crop is being taken, it was thought a little sulphate of ammonia would be an advantage for hay. Professor Lowrie also invited attention to a fine herd of dairy cattle, a dozen or more pigs, which were "rolling fat," as one man put it, and one of the Government bulls, which has certainly improved the breed of the cattle on the farm.

THE LUNCHEON.

At the luncheon, which was served in the large dining room, the Minister of Agriculture (Hon. R. Butler) presided, and he was supported by the Commissioner of Crown Lands (Hon. L. O'Loughlin), Mr. W. J. Blacker, M.P., and Professor Lowrie.

Mr. Butler said they could not leave without proposing a vote of thanks to Professor Lowrie and the other members of the staff for their kindness in showing them over the farm. He regretted that the chairman of the council of the College (Sir Langdon Bonython) was prevented at the last moment from coming with them, and he also apologised for the absence of the Premier, who could discourse agriculture as well as any man in South Australia. (Cheers). He was glad to see the very great interest that was taken in the college compared with what was manifested a few years ago. A larger or more representative assemblage had never been through the grounds before. (Cheers). There were farmers present from the north, south, east and west, and, as a farmer himself, he must say that the more the producers visited the institution and studied the systems adopted there, and the more the experiments were scrutinised the better it would be for South Australia as a whole. (Cheers.) There was no better agricultural college, and none that paid so well as the Roseworthy institution, the expenditure on which was small compared with the grand work it was doing for the community generally. (Hear, bear.) Last year the cash revenue from the grounds was £11,000, and in addition to that 50 students had been educated at the college—a result with which they were all extremely gratified, and which reflected the highest credit on Professor Lowrie and the members of the staff. (Cheers.) Some people measured the value of the benefit of our public institutions by the direct benefits which accrued from them. To take that ground in connection with the College was absolutely unwarranted, because the indirect advantages which the farmers obtained from it must prove an immense boon to the country at large. (Cheers.) They might as well criticise the Produce Export Department, because they were not making 20 per cent. on their capital. (Laughter; and "Aren't you making it now?") They were getting on that way. (Laughter.) The depot was not started with the object of making a huge profit, but for the purpose of benefiting the producers of South Australia. (Cheers.) The producers had had enough of 20 per cents.—(laughter)—and it would be exceedingly stupid if he, as a farmer and the Commissioner of Crown Lands as one also, aided in doing anything which would be likely to retard the agricultural interests of the colony. (Cheers.) What affected the other producers must concern them, and what they had advocated in the past had undoubtedly helped the tillers of the soil. No farmer could say that, whether it was in the direction of cheapening money, the finding markets for their produce, or lowering the price of land, the present Government had not done more for the producer than any previous one. (Cheers.) In this work they had the assistance of good liberal members like Mr. Blacker—(cheers)—and they wanted no better proof of the confidence of the people than was afforded at the elections, when Government supporters were elected nearly everywhere they offered themselves. He hoped Professors Lowrie and Perkins would be long spared to fill their positions with credit to themselves and to the colony. (Cheers.)

Mr. O'Loughlin had much pleasure in proposing a vote of thanks to Professor Lowrie and staff. Twelve years ago the professor went to work at a worn-out farm, which now was beginning almost to pay its way. (Hear, hear)

This splendid result could only be brought about by the intelligence and perseverance of Professor Lowrie, who was like any ordinary farmer in this respect, that directly he paid off his mortgage he wanted more land. (Laughter.) The professor required more land on which to experiment, but he would not be troubled with paying the interest on the mortgage. (Laughter) It would pay the Government to give Professor Lowrie more land on which he could keep more sheep, and which would give him a better chance of turning his stalwart students to better account. (Cheers) They need not run a State farm when they had an institution like this to educate their sons in the highest principles of agriculture, and it should be made to pay its way as nearly as possible. The Government did not want to go too far, or they might be described as socialists. (Laughter.) Five-sixths of those present agreed with the policy of the Kingston Ministry—he would not offend the other sixth. (Laughter and cheers.) They were termed socialists for doing what they could to benefit the producers. Had not the State Bank kept down the price of interest? Had not the produce depot enabled them to get a better price for their butter and lambs; Could anyone deny it? (Cheers.) If there was a surplus of butter or fat lambs the Government found a market for them through the depot, and obtained better prices as well (" Bad seasons have interfered with the prices.") The seasons had nothing to do with it, and it was because they had embarked in these enterprises purely to help the producer that they were called socialists. The Government did not care what they were called so long as they benefited the producers and the people of South Australia generally. (Cheers) He saw men present from every part of the colony, and the information they gained on a trip of this kind must be of infinite benefit to them. (Cheers.) This outing was not thought of till the Kingston Ministry came into power, nor were the visits to the freezing works at Port Adelaide. A few years ago the idea was to promote visits of this character for the benefit of the few; this Government believed in doing things for the welfare of the many, and no matter what Government came into power they must continue on the lines of the Kingston Ministry. (Cheers.) Now that the Roseworthy College had got a foothold, he hoped they would make it one of the grandest institutions in Australia. (Cheers.) He asked them all to join in according a vote of thanks to Professor Lowrie and the rest of the staff. (Cheers)

Professor Lowrie, who was received with loud cheers, said it was needless for him to say, on behalf of the staff, that they were gratified to find that so much interest was taken throughout the colony in the college, and that this brought such a representative attendance of producers as they saw there that day. (Cheers). Indeed, this very fact made it easier, though, perhaps, he should say, more embarrassing to the staff, from whom probably something more was expected than they were able to offer. At the same time the position was much more pleasant to them to-day than it was 10 or 12 years ago, as some of the old students of the College would testify. It was much more pleasant to be working now, with a better equipment and a fuller college, to know that an able class of students were coming under them, and to realise that they were helping to advance the interest of agriculture in South Australia. (Cheers.) When he first started his work he felt he was "whipping a dead horse," and that in that operation he had but little sympathy from the community. The scene had, however, undergone a change, and the more sympathy the objects of the College commanded, and the more help the staff and the Minister controlling it received, the more efficient would it become, and the more beneficially would the money devoted to it be spent. (Cheers.) Everyone connected with the agricultural industry must feel as he did that no matter how it advanced, whether it be in the improvement in the quality of the wool, or the crops, or in the increased output and betterment of the milk supply, it did not damage any other enterprise, but on the contrary benefited the community in every possible way, the storekeeper, and everybody else associated with it in an indirect way

thriving as a result of its success. (Cheers.) Therefore it was a pleasure to him, as it must be to all present, to be connected with an industry the advancement of which benefited themselves and everybody else. He must refer to the good work of the Central Agricultural Bureau, and the work of the branches throughout the country, in disseminating valuable knowledge more rapidly than was the case a few years ago. (Hear, hear.) The land of South Australia, with a greater rainfall and more agricultural capacity, would yet see more improvement. If they followed out to their fulness the practices they were now so largely adopting—good fallowing, good, judicious manuring on agricultural and rainfall districts, and in other ways, they would soon reap the benefit of them. The multitude would fully benefit by what the units were doing now, and the community would be much more wealthy than it was at present. They were affected at Roseworthy by an adverse winter and an adverse harvest season at the start, but they were gaining a splendid recovery. (Cheers.) They could go through the world and look into any educational institution like this, and probably not find one which gave better commercial results than Roseworthy College. (Hear, Hear.) Of course the institution did not pay the whole of its cost, and that could never be accomplished until they had a great deal more land than was at their disposal now. The students' fees did not go beyond £30 each, and that went to pay servants, house attendants, and food. Therefore the salaries of the teaching staff had to be made up from the surplus of 1,400 acres. The farm itself, as distinct from the College, was a paying concern, and the surplus last year would have been more than sufficient to have paid wages, all improvement expenses, and interest on the capital account of the place. There were expenses connected with experimental work which were not incidental to an average farm, and if they could manage to have something on their side at the finish they would have reason to be well satisfied with the results. (Cheers.)

A vote of thanks to the chairman closed the proceedings.—"Advertiser."

A Letter from Harry.

DEAR "MIDDY"—I believe I have sat in front of this sheet of paper for fully twenty minutes without getting any further than the term of endearment. The fact of it is, I'm hanged if I know what to write about now I have begun. But just as I was hunting up my complete letter writer, it struck me that there was one event which you had not been posted up in. I refer to the time when ten of we "third years" "went and saw" but did not "conquer"—when we "went looking for wool and came home shorn"—in plain words when we went to the pruning match in Adelaide, and came back with only three certificates between us.

Had we paid any heed to omens, we should have stayed peacefully at home, for the morning was cold and misty when we arose betimes to catch the early train. Of course our consciences would not allow us to ask Day to drive us in at that unearthly hour: not but what he would have done it had we asked him, and expressed himself as only too pleased to do it: but for all that we didn't think it would be right, so we walked.

Beastly fag that walking into Roseworthy, or to use your own expression "fiendish," especially when you think that there is none too much time to spare, and tear along for dear life to find in the end that you are there half an hour too soon. However, once settled down in the carriage we soon forgot our troubles, and fell to discussing how we should spend our time in Adelaide if it proved too wet to go out to the match.

Professor Perkins met us at the "South Australian," and was a veritable father to us for the day; hired a cab to take us out, and spread an ample lunch before our famished gaze when we arrived at our destination.

As for the proceedings at the match you can pretty well guess what they were like, since you assisted at the same function last year. We pruned our vines, and for the rest of the time, while the judges were coming to a decision, we stood about in groups and looked more and more disconsolate as the time dragged on and the temperature fell lower and lower.

When we got back to the city we felt like so many ravening wolves: our breakfast and lunch had of necessity been light, and the day had been cold; so you can see nature demanded liberal compensation to restore equilibrium. So most of us us went to Balfour's and astonished the natives to a considerable degree. At last one of the waitresses ventured to ask where we came from. I asked her whether she had ever heard of the Agricultural College, Roseworthy. She said that explained all, and brought on more cake.

We caught the last train back to Gawler, and Baker drove us out here.

That is all about it, old chap. Of course you saw the names of the three who got their certificates, in the paper—Freebairn, Seppelt, and Richardson. They sit side by side at table, and, fortunately for themselves, were impersonations of modesty when they heard the news; not vaunting themselves nor becoming puffed up.

We congratulated them heartily, but did not crown them with laurel, nor yet with vine leaves, lest the prosperity should prove too much for their virtue.

We hope to see you among our other old "pals" soon, when we shall be able to talk over old times together, and tell you little scraps of news which are too trivial to write. Wishing you all good luck, believe me,

Yours very sincerely,

HARRY.

Report of the Football Season, Ending August 1899.

As we enter upon the Cricket Season, we look with no little satisfaction on the numerous successes obtained and the well-fought battles lost during the past Football season; indeed the College team has been more victorious than teams of previous years.

Football having very little consideration amongst our neighbors, it was noticed unless we again joined the Gawler Association, the matches that might be arranged would be "few and far between."

With this difficulty in view the Professor was approached on the subject. Having obtained his permission the club joined that Association, much to the pleasure of the enthusiasts.

To open the season a team from Gawler, really the Willastons, journeyed to the College. Certain of our best men were at Kapunda playing tennis, but, nevertheless, the visitors suffered a rather severe defeat.

This win marked a splendid beginning and great hopes were entertained for the coveted position of Premiers.

When the South Gawlers came out to the College on May 6th to play the first Association match our hopes were defeated, having been beaten by 5 goals 9 behinds to 2 goals 7 behinds.

On May 13 the Willastons proper were driven to the College; of course, judging by our previous success against this club, we entered the field confident of winning, nor was the barracking of the College spectators in vain, as may be seen from the following scores—College 10 goals 12 behinds. Willaston—1 goal 7 behinds.

Perhaps the best game of the whole season, at any rate the most exciting, and according to certain authorities, the best game that has been played on the Gawler oval for some years, was the match against Centrals. Both teams were well represented, the game was exceedingly fast, and at the same time friendly, ending in a win, by a narrow margin, for our opponents. Centrals 6 goals 10 behinds, College, 5 goals 5 behinds.

We next encountered the Willastons at the College, and did not have much trouble to gain the day. College 6 goals 4 behinds, Willaston 3 goals 9 behinds.

As is generally the case a trip by drag to some distant country town is taken. On this occasion, with Mr. Baker's best five-in-hand, Kapunda was the destination. Although not fully represented we were one too many for our antagonists; result—College, 5 goals 1 1 behinds; our opponents, 5 goals 7 behinds.

The conversation for several days after this trip pointed to the fact that those who were fortunate enough to have gone, were much impressed with Kapunda, or more correctly the young ladies of that town; so much so that certain fellows would willingly have played a second match there providing the drag did not leave immediately after tea.

The customary trip to town to play the colleges was as usual at the commencement of the June holidays, so on June 8 we met the Princes on the oval. Unfortunately the ground was rather slippery, and, therefore, to some extent, marred the play.

The game was very fast, especially in the last quarter. However, our superior weight and equally good training gained for us the day. R.A.C. 6 goals 15 behinds, P.A.C. 3 goals 11 behinds. It will be seen the kicking on both sides was poor.

The following day St. Peters' were our opponents. The ground was, if anything, worse than the previous day, so that it was with great difficulty the ball could be handled. A more even match than on the former day resulted, perhaps because we had not fully recovered from the previous day's exertions. However, our hopes were anticipated. R.A.C. 5 goals 5 behinds, S.P.S.C. 3 goals, 7 behinds.

On Saturday the 10th, Way College, the lightest team of the three, strove hard to avert a like defeat as was meted out to their other college friends, but by scoring a number of goals in the first half, and then strengthening the back lines we held them in check. R.A.C., 6 goals 6 behinds. Ways, 3 goals 9 behinds.

Having defeated the above-mentioned colleges on three consecutive days speaks very highly for this year's team, it being many years since a like performance was accomplished, at any rate we desire to call it a record.

During the stay in town the team was photographed by Mr. S. G. Spink, which picture was a credit to that gentleman.

On July 15 Prince Alfreds played a return at the College. On arrival the team was conducted over the farm and cellars, thence to the dinner-table. By all appearances our town cousins seemed to be enjoying their holiday; the worst was to come. An uphill game, on a warm afternoon, with a good deal of limestone above the ground of the oval, can it be wondered at that not a few returned to the city tired and bruised.

Before leaving, Mr. Cowan on behalf of his team returned thanks for the enjoyable time his fellows had had.

Our rivals were not very well represented; this in some way accounts for our easy win, namely 10 goals 10 behinds, P.A.C. 3 behinds.

Owing to certain teams coming up from Adelaide our Gawler fixtures for those dates were postponed.

The last match of the season was against the South Gawlers. Owing to several of the best men being absent, and the umpire decidedly partial towards

our opponents, we received a rather severe defeat. Souths 16 goals 8 behinds, College 1 goal 1 behind.

Our name appears second on the list of the Gawler Association, which is the highest position yet obtained by the College.

Laffer umpired in every match at the College and also in Town with general satisfaction, for which our thanks are due.

Way, Hodge, and Seppelt, were the main followers for the season, indeed they were the backbone of the team. Way was conspicuous by his ruck play. Hodge could be fully depended upon when an important mark was to be taken; his dodging baffled his opponents. Seppelt was noted for his hard work all through the game. Gordon also made a very useful follower.

Tothill proved a tower of strength in the back lines; always to the rescue with good runs and long punt kicks, he relieved time after time.

Richardson at centre was ever conspicuous. In fact, he may have been said to be the best centre man in the Association.

Gurr was very useful forward; his clever dodging and sure kicking placed him easily above the other goal kickers.

Among those players that showed marked improvement on last year's form the following may be mentioned—Read was a strong defence back on the wing; Weaver, who made a worthy follower. Terry and Chillingworth were capital wingmen. Holthouse, and Warnes, and Camper also showed improvement towards the end of the season.

Among the new additions to the team were—Blue, a splendid wing man; Vaudrey, as goal-sneak; Eckersley, who played right back in goal.

The names of Goddard and Chapman were omitted, whereas they both added weight and force to the team.

Way captained the team, and was never once absent from that post. All through the season he had the confidence of his co-workers.

[The writer of this report (H. S. Cargeeg) has in his natural modesty forgotten to mention that besides being a very capable and energetic secretary, he is one of our best players. Our thanks are due to him for the way in which he has carried out his numerous duties, and I am sure no one will demur at his having a full share of what he terms the "backbone" of the team.—Ed.]

Management of Citrus Trees.

About twelve months ago, through the kind permission of Mr. Luffman, Director of the Royal Horticultural Gardens, Burnley, Melbourne, I was enabled to spend several weeks with him while he was giving the winter treatment to his citrus trees, and as it is, I believe, different to anything practised here, it may prove interesting. He gives it as the most approved system adopted in Spain, where he had the management of a large citrus orchard. Although he thoroughly believes in this treatment, he recommends anyone to experiment on a few trees before adopting it extensively here.

The principal operation is the pruning, and this is done thoroughly every year as soon as the main crop is ripe enough to pick. The chief way in which citrus differs from other fruit-tree pruning is that the wood is reduced not by shortening nearly every shoot, but by thinning them out and leaving those required for building up the framework of the tree, or as fruit shoots, their full length. In shape the ideal is a broad dome, with a short stem and straight branches, forked as little as possible. The branches should slant up from the ground with more or less of an angle according to the nature of the tree, and in no case hang down, as that helps to prevent light penetrating through the tree. The best fruit is borne on short, stout, one-year old shoots, which are left about

six inches apart right along the branches. Horizontal shoots are always better than upright ones, as they are more likely to bear fruit. While one set of these is bearing a crop innumerable buds will burst in the old wood of the branches to form new fruit shoots for the following year. These are thinned out to the right distance apart with the pruning shears at pruning time, or, preferably, by disbudding while young. As soon as the crop is taken off, the old fruit shoots are cut right away, unless required to fill up a blank on a branch, for they will continue bearing good fruit for several years if wanted, but the young growth is better when attainable. Once in about every ten years a tree should be pruned hard back on to thick strong wood and started over again, allowing only vigorous wood shoots to grow. This means that each year ten per cent. of the trees are pruned to recoup their strength and will have no fruit for that year.

The building up of the tree is rather peculiar. For the first three or four years pruning with knife and shears should be avoided if possible. The shoots are thinned out by disbudding and only strong and vigorous wood allowed to grow, which should be trained into place by tying to small stakes. The first branches, four or five in number, start at about nine to twelve inches from the ground and then the stem ends. The bending of the branches to bring them to position causes strong shoots to grow near the base, the best of which are chosen and again bent so as to take up a position above and parallel to the branches previously formed. This operation is repeated until the tree has reached its full size.

The chief advantages claimed for this system of pruning are, firstly, that the tree is kept open so that light and air can readily penetrate through it, thus giving the fruit a chance to set in every part, and none of the centre being wasted as is the case in many unpruned trees. In that way the *quantity* of fruit a tree of a given size can bear is increased. Secondly, all the fruit is borne on young healthy shoots, so that its *quality* is greatly improved and a more even sample obtained.

To keep up strong growth and good cropping manuring in some form or other is, of course, necessary. Fresh stable manure tends to throw too much rank useless growth. It is best mixed with three or four times as much soil and allowed to thoroughly rot down before being applied to the trees. Decayed vegetable matter is good The best way to apply it is to take out a trench round the trees, about as far from the stem as the ends of the branches. This is made 15 to 18 inches deep, and 2 or 3 feet wide. The manure is put in the bottom, and then the surface soil put back. The subsoil is left on top to be under the influence of the air and light. Such a dressing should last 4 or 5 years, and then another trench is put round outside the old one. When all the ground has been thus treated an opportunity is taken, just before pruning hard, to start again close to the tree, cutting through old surface roots which are in worn-out soil, and making them branch out vigorously in the new soil put in the trench. Manuring in this way should be done in autumn, so as to give the roots time to get a fresh start before the tree is in full growth. Only fibrous roots should be found in the surface soil, the main ones being well down in the subsoil.

Good cultivation to assist in retaining moisture in the ground and good drainage to increase the growing time of the tree are generally recognised principles in agriculture, and need not be specially referred to.

A dressing of soot now and then has a very beneficial effect in cleaning the land, while fine quicklime has a similar effect on the upper part of the tree if dusted over the leaves.

I am entirely indebted to Mr. Luffman for this system of citrus growing, and have since been experimenting on a number of trees. The results so far are satisfactory, but of course it is too early at present to prove that this treatment will be suitable to our climate, and as Mr. Luffman says it should certainly be proved before practising it extensively.

Seeding Operations for Season 1899.

NOTTLE'S.—This field, 220 acres in extent, was purchased in 1898; about 80 acres of it carried wheat last year, and this block has been cropped again in order that the whole area might be thrown into one field. The wheat on that block last year yielded 17 bushels to the acre, and the stubble has been sown partly with oats and the remainder with wheat. The other part of the field was fallowed last year, and has been sown with King's wheat; a few acres on the flat malted and had to be resown on June 11. The fallow (apart from the area taken up by the Experimental plots) has been dressed with superphosphate at the rate of 150 lbs. per acre.

EXPERIMENTAL PLOTS (MANURES) AT NOTTLE'S, FROM NORTH SIDE.—1899.

No. of Plot	Area	When Sown	Quan. per Acre	Mauure used
	Acres	May	Cwts	
1	2½	9	2	Lake Fowler Coy.'s.
2	½	10	2	Trotman's.
3	1	10	2	Guano (Wills & Co.).
4	1¼	10	—	No manure.
5	2½	10	2	Basic slag (supplied by F. H. Snow, Esq.)
6	2½	10	3	Basic slag 2 cwt., nitrate soda 1 cwt. (F. H. Snow, Esq.)
7	2½	10	3	Basic slag 2 cwt., muriate potash 1 cwt. (F. H. Snow, Esq.)
8	2½	10	—	No manure.
9	2½	10	4	Basic slag 2 cwt., muriate potash 1 cwt., nitrate soda 1 cwt. (F. H. Snow, Esq.)
10	5	11	2	Ohlendorff's guano super. (Gibbs, Bright, & Co.)
11	5	11	2	Bonedust (Anders).
12	5	11	2	Bonechar (Hackett).
13	5	11	2	Lawes' English super. (Elder, Smith, & Co.)
14	5	11	2	Lawes' English super. 1 cwt. and bonechar 1 cwt.
15	5	12	2	Lawes' English super. 1 cwt. and bonedust 1 cwt.
16	1¼	12	—	No manure.
17	2½	12	1	Lawes' English super.
18	1¼	12	2¾	Lawes' English super. 2 cwt. and sulphate of ammonia ¾ cwt.

FIELD No. 9.—This field is sown with a number of varieties of wheat, 23 in all, in blocks varying from four acres in extent downwards. No artificial manures were used, the better to determine the hardiness of the wheats. The plots are numbered from the east side, as follows :—

EXPERIMENTAL PLOTS (WHEATS).—No. 9.

From East Fence, South of Track.

1. Bartlett's.
2. Jerkin.
3. Bartlett's X.
4. Innominate.
5. Steinlee.
6. Warwick.
7. Fan.
8. Gluyas.

From East Fence, North of Track.

1. Sunrise.
2. Bearded Innominate.
3. Steinwedel X Ward's.
4. Unnamed.
5. Sydney Purple.
6. Ranjit (Marshall), 7 rows.
7. Go Ahead, 12 rows.
8. Baart X Steinwedel.
9. Bakewell X King's Jubilee X Imported Fife.
10. Beardless African Baart, 7 rows.
11. Bearded Herrison. 3 "
12. Polish. ... 1 row
13. Red Tuscan 4 rows
14. White Velvet 6 "
15. Belatourka... 5 "
16. Patetz Surprise 2 "
17. Hunter's White 1 row
18. Stand Up... "
19. Woolly Ear "
20. Makin's Early "
21. Red Chaff "
22. Eppweizen "

Only part way from North fence to track.

(King's to the corner at entrance to field from Farm buildings).

FIELDS NOS. 4 AND 5 (300 ACRES).—Sown with various wheats, chiefly for hay. On the corner nearest the Farm buildings is a block, Petatz ; the rest of No. 5 is a mixture of various wheats—King's, Leak's, Purple Straw, but chiefly King's. It was manured with 1 cwt. of superphosphate, ½ cwt. bone phosphate, and about 60 lb. of sulphate of ammonia to the acre. The sulphate of ammonia was used chiefly on the lower half of No. 5, which is wheat after stubble; the other half of No. 5 is wheat after sorghum—in both cases, as a crop after a crop is being taken, it was thought a little sulphate of ammonia would be an advantage for hay.

Kingsford and Cattle.

TO THOSE who take an interest in stock-breeding, a chance of inspecting Mr. Angas's herd of stud cattle is a boon, and one which is eagerly sought after by all, including the students of A.C.R.

To the kindness of Mr. Angas, and to his energetic and capable manager, Mr. Forbes, we owe the pleasure of being able to see and examine closely the cattle now in show condition at Kingsford.

Situated as it is in beautiful undulating country four miles from Roseworthy, "Kingsford" makes an ideal stock-breeding estate. The natural shelter and well-drained hills, which give beautiful sweet pasture, enable cattle to run out for the greater part of the year. Of course, when cattle are being topped for shows they are stall-fed.

That, however, does not imply that they have only a few square yards to move in. On the contrary, each beast has a nice warm shed, with plenty of clean bedding, and a large yard in which to walk in the daytime. Consequently, the cattle, though in many cases mountains of flesh, have a free action while walking which is entirely lacking in beasts that are cramped up in a small space.

The cattle are of two distinct breeds, Hereford and Shorthorn. The patriarchal Waterloo VI. is still king of the Shorthorns. He is still hale and hearty, and, although nine years old, Mr. Forbes says that he is as lively now as ever he was.

He is a beautiful roan, and is without doubt the best Shorthorn bull in Australia. He was shown first at nine months old, and has never been beaten in the prize ring.

For many years he has been the champion of all the colonies, and has again this year beaten allcomers at the Melbourne and Adelaide Royal Agricultural Shows.

When shown in Sydney two years ago he turned the scale at twenty-seven hundred pounds, but would now go two hundred less.

Besides being such a magnificent animal himself, he imparts all his good qualities to his progeny. This is seen by the young cattle sired by him. They are all of exceptional quality, and will in time worthily uphold the proud position obtained by the old bull.

The cows and heifers are models of beauty, and even the most inexperienced eye can see that they are of first-class quality.

The aged cow Rugia Nibblet is in fine condition, while many young ones promise to develop into very good cows. Mr. Forbes had a number of yearlings fresh from the paddocks at Point Sturt, and although looking rough from the winter's exposure, they will all develop into fine animals.

In the Hereford division the old imported bull "Magician" still holds the premier place.

He is, like the other old bull, a magnificent beast, and is considered one of the best bulls in Australia. Two of his stock—Magician II. and Count Comely XI.—are exceptionally fine animals. Several yearlings also look very nice.

We all feel very grateful to Mr. Angas for allowing us to see the cattle away from a show crowd, and we will look forward to the time when some of us may have cattle of a like description by having our ideas of cattle and management based on such a typical herd as that at Kingsford.

Old Students' Association.

THERE is very little to report since last issue. Several old students have called in to see me about the work of the Association, and all seemed interested in its future success.

The committee are making necessary arrangements for the next general meeting to be held Friday evening of Show week, and anticipate a successful gathering.

Monday after show will be the special day for visiting the College, and Professor Lowrie is making arrangements for us to spend a social evening at the College, and to return on the next day.

I shall always be glad to hear from old Students, or to receive a call from them when they are in the city.

T. E. YELLAND,
Hon. Secretary.

S. A. Farmers' Co. Union Office,
38, Waymouth Street, Adelaide.

Subscriptions Received.

WE have to acknowledge with thanks the receipt of the following subscriptions since last issue:—Professor Lowrie, £1; F. L. Faulkner, 10s.; C. J. Landseer, 10s.; W. M. Gordon, 6s.; J. L. Williams, A. W. Nicholas, N. S. Stuckey, 5s.; Professor Perkins, 4s.; C. C. Castine, F. E. H. W. Krichauff, Sir Langdon Bonython, L. W. Stanton, T. Hardy, H. Richardson, W. J. Colebatch, M. Colebatch, A. G. Pritchard, J. G. Goldsack, H. J. Yelland, R. James, W. T. Charley, H. A. Phillips, H. B. Robson, 2s.; cash from students, 27s.

Balance Sheet, September 20th, 1899.

RECEIPTS.	£	s.	d.	£	s.	d.
Balance on hand—						
Cash ...	3	4	7			
Stamps and Wrappers	0	3	3			
				3	7	10
Subscriptions received ...				7	13	0
Balance owing Mr. Haslam				1	0	10
Total				£12	1	8

EXPENDITURE.	£	s.	d.
Printing Vol. 4	5	15	0
Printing Vol. 5	5	15	0
Postage	0	11	8
Total	£12	1	8

Old Students' Day.

On Monday, September 18, the first annual visit of the old students to the College took place.

It was decided some time ago to have a visiting day this year, preferably on the Monday after the Adelaide show. Professor Lowrie then issued an invitation to all old students, requesting them to stay all night, so that they might have a thorough look at the place which brought back so many reminiscences of their younger days to their minds.

A number of the old identities availed themselves of the opportunity, and when they had all met after having duly discussed all exciting adventures which occurred in their time, a football match was played. This proved very exciting, but as both sides were out of training, was not very fast.

When final time was called it was found that no one had kept the scores, so that the first match Past and Present must go down as undecided.

Arrangements had been made to hold a social evening, for which a number of ladies and gentlemen came out from Gawler.

From half-past eight onward for four hours singing, recitations, and dancing were the order of the day.

Mrs. Oldham favored us with several songs, which were greatly appreciated by all present. We have also to thank all those who contributed songs, etc., that evening, and who are always ready to assist us in any way possible. At an informal meeting of the Old Students Association held early in the evening it was decided to make the visit an annual fixture, so that next year we hope to have a more complete arrangement made for an event which will recall many recollections to our minds of the time when we are old students.

Notes on the Coastal Districts of New South Wales.

By W. T. CHARLEY.

Along the eastern side of the great range of mountains running parallel with the east coast of Australia the month of April is characterized as being one of the most pleasant of the twelve we have to do with in the year.

Nature has provided this portion of the country with a splendid geological position, and endowed it with an excellent climate and fertile soil.

The moist conditions of atmosphere which generally prevail here, and which are so conducive to the growth of rank vegetation, are derived from the gentle sea breezes which move towards the mountains, bearing with them the invisible vapor which is so eagerly sought for by the leaves of plants.

The luxuriance of the growth of vegetation in the semi-tropical districts in a good season makes one's heart glad to think how kind and grateful Nature is at times to provide us with such abundance of material wherewith man and animals can afford to treat themselves with a fair amount of luxury.

The back of the summer at this time of the year is broken, and the oppressive heat which raged during the previous few months has become abated. Moreover, the autumnal rains have come and gone, having brought with them cooler conditions of atmosphere, and left a natural stimulant for the growth of fresh pasture and new growth of tender foliage in the trees. It is as though nature, in providing the necessary and welcome rains at such an opportune time to induce an accumulation of fodder for winter use, has bestowed upon her constituents some munificent gift.

The region to which I wish to refer lies between the Blue Mountain and New England ranges and the seaboard which skirts the South Pacific Ocean.

Tne climate of this area of country at about the time of year already mentioned is probably a fit comparison with any climate in the world. There is such variety. On the tops of the ranges named, which are contiguous with each other, and in fact, except for their names are one and the same, may be found climatic conditions resembling in some considerable degree those of England, though perhaps it would be better to say New Zealand, for in this latter country the natural habits of the native flora would make the comparison easier to comprehend and more harmonious.

Between the mountains and the coast we have an atmosphere which is possessed of greater temperature and humidity and more approaching those conditions which are found within the tropics.

If we take Goulburn, Moss Vale, and Mount Victoria as typical of the average conditions of climate in the Blue Mountains, we find that in the winter time there is usually a great amount of snow deposited on the ground ranging in quantity with the severity of the season. I remember in the winter of 1896, in and around Mount Victoria there was a fall of snow which covered the ground up to the depth of two feet. This was a very severe winter, and wherever any pastoral interests were being carried on, the grass being totally covered for a considerable time, necessitated the removal of the live stock towards the coastal districts where, under the influence of the sea, warmer conditions prevailed ; otherwise the mortality amongst the animals would have been great.

Pure, bracing, cool air with now and again periods of dry, warm winds from the western plains characterize the prevailing average summer in these parts.

At the foot of the mountains the climate as stated before is moister and has a greater temperature, which of course one would expect from a stretch of country exposed to the humid influences of the sea on the east, and sheltered from the hot, dry winds which blow in the summer time from the west by this range of hills, while the difference in altitude makes the change in temperature obvious.

These conditions of climate are more or less depressing, and have an enervating effect on some people, while others prefer the moist heat of the coastal districts to the dry heat of the interior.

There are times in the summer when the weather becomes very depressing, but they are of very short duration generally. It would be the exception to experience more than three consecutive days of intense heat here without a cool change. The breeze might commence by blowing from the north and gradually veering round to the west, when suddenly a telegraphic message is flashed up along the coast, and the flag is unfurled in Sydney, indicating that a "Southerly" is approaching, and will reach the metropolis in a few hours. What a relief to the citizens of Sydney ! Hemmed in this vast city by compulsion of business duties, where really fresh air is a rare thing, the inhabitants on a summer's day are always on the lookout for a southerly buster, for with it comes a great reduction in temperature, and a very exhilarating influence. So sudden does this change happen at times that the thermometer will drop fifteen to twenty degrees in nearly as many minutes.

These southerly breezes are felt very intensely and appreciated very keenly over the whole area of the Pacific Slope to as far north as they have been destined to go, but to the west of the ranges their invigorating influence on plant and animal life rapidly assumes diminished proportions.

(To be continued.)

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