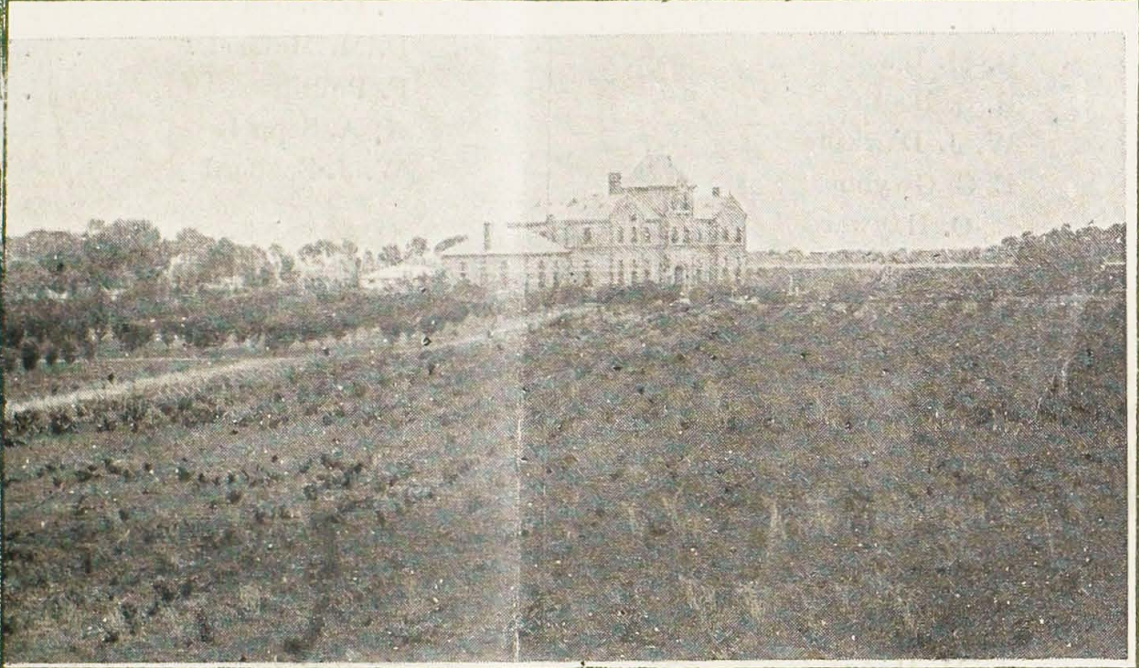


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The Student.



Roseworthy Agricultural College.

Vol. II., No. 1.

JUNE, 1902.

YARDON & PRITCHARD ADELAIDE.

PRESENT STUDENTS.

THIRD YEAR.

F. F. Berry
G. M. Black
R. S. Booth
W. J. Dawkins
E. C. Gwynne
R. O. Hayward

H. G. Lloyd
D. M. McLeod
F. Phillips
N. A. Seppelt
W. J. Spafford

SECOND YEAR.

E. G. Alcock
N. Brookman
F. Bruce
R. Barrett
R. L. Cox
— Dobbie
F. S. Faulkner
L. M. Hodge
A. J. Inglis

P. Knappstein
A. G. Martin
F. Nicholas
R. E. Seppelt
L. R. Seppelt
L. Smith
T. Sprod
— Watson

FIRST YEAR.

T. F. Gill
F. Inglis
T. H. Howe
A. Campbell
A. C. Jacobi
T. A. May

J. Naish
P. H. Pickering
C. G. Savage
R. H. Macindoe
H. Mazure
R. Weise

“Et conflagunt gladios suos in vomeres et lanceas suas in falces.”

Agricultural College,

ROSEWORTHY.

SOUTH AUSTRALIA.

The Hon. the Treasurer and Minister of Agriculture :
THE HON. R. BUTLER, M.P.

The Staff :

Principal :
PROF. J. D. TOWAR, M.Sc.

Viticulturist :
ARTHUR J. PERKINS
(Diplômé de l'Ecole d'Agriculture de Montpellier).

Housemaster, Secretary, and Lecturer on Natural Science and Book-keeping :
F. W. RUSSACK.

Lecturer on Chemistry and Physical Science :
W. R. JAMIESON, B.Sc., LOND.

Assistant Viticulturist :
H. E. LAFFER
(Diploma Agricultural College, Roseworthy).

<i>Surveyor :</i>	<i>Farm Foreman :</i>
R. L. E. BOSWORTH, B.Sc.	C. JARMAN.

Teacher of Woolclassing :
GEO. JEFFREY.

Teacher of Blacksmithing and Carpentry :
J. L. WILLIAMS.

Old Collegians' Association.

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W. S. BIRKS	C. F. HEYNE
H. B. ROBSON	H. A. PARSONS, LL.B.
A. M. DAWKINS	L. H. MEUCKE (TREAS.)

T. E. YELLAND, SECRETARY.

Agricultural College

RUSSELLBOROUGH
SOUTH AUSTRALIA

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THE HON. R. BUTLER, M.P.

THE STAFF:

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Assistant Principal
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Lecturer in English and History
A. W. BRACK

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Lecturer in Botany
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Director
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Director of Horticulture and Gardening
J. A. WILLIAMS

Old Students' Association

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J. E. HENKE
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H. A. PERKINS (Jr.)
Hon. Treasurer
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W. E. HINES
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Hon. Secretary
E. W. WILLIAMS

The Student.

Published under the joint direction of the Present Students and the
Old Collegians' Association.

J. WALLACE SANDFORD, F.C.S., Editor for O.C. Association.

W. J. DAWKINS, Editor for Present Students.

VOL. II.—No. 1.

JUNE, 1902.

EDITORIAL.

THIS issue of the "Student" is the first number of Volume II. of the Roseworthy College Magazine, and containing as it does contributions of articles from the pens of past and present students, will, we confidently expect, have the effect of keeping those who have left more in touch with their old College than has previously been the case, and at the same time widen the scope of the paper, so as to make it of greater interest to a larger circle of readers.

A new era in the history of the College has commenced with the arrival from the United States of America of Professor J. D. Towar to take the position of Director of Agriculture and Principal of the Roseworthy College, recently rendered vacant by the resignation of Professor Lowrie after twelve years of hard but fruitful labor. Professor Lowrie has made the College what it now is, and this is but one of the many evidences he has left behind that will ever serve to remind of his beneficial term of office.

Professor Towar has come from the country that has made far greater strides in agricultural education than any other in the world, a country whose colleges, experimental farms, dairies, and stations, with those of Canada, have invariably been pronounced unqualified successes, and to whose farmers we can well afford to look to as examples of the certain product of alertness and foresight.

The Minister for Agriculture is endeavoring to amalgamate the Agricultural Bureau, the Council of the Roseworthy College, and the Dairy Board. His idea is to appoint a smaller board to do their work, thus combining the greatest economy with efficiency. It is to be hoped that the new Council will contain at least one old student of the College from amongst several who possess good claims to such a position.

Visit of the Council to the College.

WE note with pleasure that the Council paid a visit to the College lately. The Chairman (Sir Langdon Bonython), Messrs. Krichauff and Stanton and the Secretary (Mr. Lee) made an official inspection, and made several recommendations. At our March meeting there was a prolonged discussion, in which it was pointed out that the Council visited the College only at very long intervals, and it was thought that at least three official visits should be made a year. We trust that while the Council is in existence it will keep in touch with the work that is being carried on at the College, and this can only be done by periodical visits.

Tablet to Fallen Soldiers.

THE fund is now open for the erection of a tablet in the College dining hall in honor of those from the R.A.C. who fell in the South African War, and we would ask all our readers to send a shilling or two to allow us to perpetuate the memory of our gallant fellow-students.

Old Students' Cup.

The Cup which the Old Collegians' Association offered as usual for the diploma examination was won by Mr. R. H. Martin. As the trophy is awarded to the student who gains the most marks in the practice, as well as science of agriculture, competition is always very keen, and the prize is highly valued by the successful competitor. The winner of the Old Students' Cup always possesses in it an enviable recommendation as an up-to-date agriculturist.

Arrival of the New Professor.

YOUR Secretary sent a telegram to Professor Towar at Serviceton, the border railway station with Victoria, welcoming him to South Australia. On the platform at Adelaide to meet the Melbourne express in which the Professor and Mrs. Towar came were several heads of Government departments, and Professor Perkins, while the old students were represented by the Secretary, Mr. T. E. Yelland, and Messrs. H. A. Parsons, L. H. Muecke, A. G. Pritchard, and H. B. Robson.

Mr. A. M. Dawkins.

WE regret to announce that Mr. A. M. Dawkins has tendered his resignation as a member of the College Council to the Minister of Agriculture. He has been asked, however, to withdraw it, pending the alteration of the Council by amalgamation with other boards, including the Agricultural Bureau.

Scholarships.

AT the recent examination for the awarding of scholarships four were granted out of the six available. There were seven competitors, three of whom did not qualify. The following are the successful ones:—District No. 1: A. C. Jacobi (Agricultural School); District No. 4: T. A. May (Clare); District No. 6: P. H. Pickering (Agricultural School). C. G. Savage (Agricultural School), who competed in District No. 1 and qualified, was awarded a scholarship for one of the vacant uncontested districts.

Annual Meeting.

THE annual meeting, which is to take the form of a welcome to Professor Towar, will be held during the September Show week this year. It is hoped that the attendance of both present and past students will be a large one. Due notice will be given as to the time and place of the dinner and meeting.

Advertisements.

WE would draw our readers' attention to the advertisements appearing in this paper. Old students are connected with some of these firms, and others have always taken a practical interest in the College. Support those who help you, and place your orders with those who advertise in the "Student."

The Roseworthy Agricultural College "Student."

TO THE EDITOR.

Sir—Permit me through your columns to thank the College officials, staff, students, and friends for the very cordial welcome extended to me upon my arrival both at Adelaide and the College. If the reception Mrs. Towar and I have received, the friendly spirit of the people we have met, and the enthusiasm of the staff and students at the College are any indication of the allied forces that will join in pushing forward the good work that is so nicely progressing at Roseworthy, then the continued prosperity of the institution is practically assured. It is too early yet to define any new plans or even offer suggestions, but I promise my best efforts to manage wisely and judiciously my branch of the work, and to introduce new American ideas and methods only after thorough study and due deliberation. Mrs. Towar and myself trust that students and friends will gather frequently and informally at our home, and help make merry and cheerful these rooms and halls which for so many months have remained vacant and silent.

I am, Sir, &c.,
J. D. TOWAR.

AN APPEAL.

BY H. A. PARSONS, LL.B.

The Editor has asked me to write something for this magazine. It is a compliment, and I ought to thank him for it. I am afraid, however, my gratitude is as indefinite as his request. If he had only supplemented it by an indication as to what I was to write about he would have relieved me of a present difficulty. I feel rather like a parson without a text, and so I think I had better preach a sermon. The sermons of which our grandparents used to tell us, and of which their fathers insisted on their retaining an accurate memory, at least for the regular Sunday parental catechising, were always elaborately divided into heads and sub-heads, and in this particular sermon let us take as our first head "The Duties of the Present Students of the Agricultural College." They have their syllabus of lectures and time table of work on the farm. Each has its appropriate time, each, if carried out, its present reward, each, if neglected, its probable permanent loss. Some things are not included in the syllabus or the time-table, but they are part of the duties of every student.

We can take as the first sub-head "Loyalty to the College." A man that is not loyal to his College is not worth anything. If there are any such students in the College send them to Coventry until they reform. What would be thought of an Eton boy who was disloyal to Eton, or a Harrow boy who would speak except in terms of reverence of Harrow? Why should it be otherwise with the students of the Roseworthy College? The College is what the students make it, and it is worth sticking up for. The College fills a real want in the educational system of this country. South Australia is not supported by politicians, who are like the ephemeræ, and die in a day. The mainstay of South Australia in the early days was her peasantry, and in these bad times she looks to them more than ever. The College is the reward given by this country to her early agriculturists, so that it might satisfy the needs of to-day, and increase the harvest of to-morrow. Just as Waterloo was won on the playing grounds of Eton and Harrow, so the greater battle against drought and all the adversities that Nature inflicts South Australia with will be won by the past, present, and future students of the Roseworthy Agricultural College.

The next sub-head is "Loyalty to the Staff of the College." They are appointed to important work, much is expected of them, and I suppose all of them would willingly admit that

the success of their work depends on the students. The College speaks by its students. See that its voice is heard to its credit. No student, past or present, needs urging to be loyal to the memory of Professor Lowrie. That is the heritage of all. He deserves their gratitude and respect, and it is gladly acknowledged. Nor is it necessary to say more concerning Professor Perkins than that what Professor Lowrie has done for farming, Professor Perkins is doing for the great and growing industry of viticulture. To-day, however, we have a new principal in Professor Towar. He comes with the best of credentials, a splendid reputation, and an enthusiastic desire to foster our agricultural interests. Without the help of his students he will probably fail. The students themselves are to be the result of his teaching, and if they want to do this country a real service, let them see that the result is good, and that they render him that loyalty which is cherished for his predecessor. Really, these two sub-heads comprehend the duties of present-day students. If they do their duty by the College and the staff they will do their duty by themselves. Their work will be a success, and they and the students of the future and all this community will be benefited.

Now let us take another head and deal with the "Duties of Old Students of the College." I hear the Editor grumbling that space is limited. Apply that proposition to anything except the press, and we admit that space is infinite. However, we are finding, perhaps to our cost, that the press is the new God of the age, and I suppose our ideas on the subject of space must be adapted to the new religion. Now, all that I have written concerning the present applies to the past students. What is the good of a fellow who doesn't stick up for his Alma Mater? It is like a son running down his mother, and equally as bad. The College has the right to the respect of all old students: it demands their loyalty alike to itself and its staff, and, generally speaking, its expectations are realised and its demands satisfied. If we look at the work some of the old students are doing we realise that they are showing how science can be successfully applied to the industry of agriculture, and that they are full-page advertisements of the College as a training ground for agriculturists. The realization of this fact should give an increased sense of responsibility to old students. Their successes redound to the credit of the College, and their failures injuriously affect its reputation. If the above statements are accepted, it follows that old students are expected to be the leaders in the agricultural industry of South Australia. Now, it is well known

in Nature that every force which is diffused is wasted and spent, but if energy is concentrated, and (if I may use the term), disciplined and generalised, its effects are tremendous. Applying this principle to the general body of old students, we see that while they are disunited, the influence they exert is as nothing compared to the authority they could wield if welded together. It was chiefly to bring about this welding that the Agricultural Old Students' Association was formed, so that the old students might speak as with one voice. Much has been done already, but there is room for great improvement. There are still numbers of old boys who from a variety of insufficient reasons have not become members of this Association. They are missing a great opportunity, and neglecting a positive duty. The Association invites them to join at once; indeed, it urges them to do so.

It might be said by some that if old students carry out their every-day work with success and distinction, and are members of the College Association, that nothing more should be expected of them. For my part I think even all that is insufficient. We are entitled to expect of old students not merely success in their individual work and business and loyalty to the College, but that they shall be useful members of the general body politic. In South Australia the administration of local affairs is chiefly left to local bodies. Each District Council manages its district affairs and discharges a great and rapidly increasing number of important local duties. Old students are specially qualified beyond the usual run of District Councillors for such positions. The sacrifice of time is surely not too much to ask. Personally, I hope in time to see at least one old student on every District Council in South Australia showing an example of administrative capacity and using the greater opportunities created by such a public position of distributing information on agricultural matters to the good of the community and the popularising of the College. Even when this result is attained, there will still remain the wider field of Parliament, where specially trained agriculturists can bring their knowledge and experience to bear in the framing of the laws which bind us.

FARM NOTES.

It is not intended in these notes to discuss the work of the College farm during the whole year, but merely to furnish some idea of that which has taken place during the recent months of seeding.

The rains that fell during March gave birth to a very hopeful outlook, but since then these feelings have been crushed somewhat. The weather following these rains continued dry and hot, with the result that the feed that did get a start wellnigh succumbed on account of lack of moisture in the soil at a later date.

This state of affairs, however, did not delay seeding operations, which were continued in the hope that rain might soon come.

After the March rains, No. 7 was ploughed up, and then run over with the harrows to level down and kill any young weeds coming on.

At the completion of harrowing here, two scarifiers were put on No. 4 to root out the sorghum, and the spring-tooth harrows were run over the bare fallowed portion, aided by scarifiers when the sorghum was finished. This was to render subsequent operations less difficult.

On Monday, April 14, the scarifiers and harrows were put on No. 7 again, and in the afternoon of the same day drilling was commenced with oats, three varieties being sown here :

1. Cape.
2. Algerian.
3. Calcutta.

A 2 cwt. dressing of super was used throughout.

From here teams were moved to Ebsary's, in which paddocks the experimental plots were mainly laid out.

In these paddocks the soil worked up very loosely, and fine, on account of its dryness, and yet just sufficient moisture was present to start germination were the seed planted deeply enough.

Drilling commenced on April 21 in B, which was put in with variety wheat plots, 2 cwt. manure being used per acre throughout.

The following constitutes the plots numbering 1 to 11 as in this field :

No.	Variety.	Quantity Seed per acre.	Manure per acre.	Date Sown.	Area.
1.	Defiance ...	55 lbs. ...	2 cwts. ...	April 21 ...	8
2.	Dart's Imperial ...	52 " ...	2 " ...	" 21 ...	8
3.	Tuscan ...	52 " ...	2 " ...	" 22 ...	6
4.	Leak's Rustproof ...	69 " ...	2 " ...	" 22 ...	5.375
5.	Marshall's No. 3 ...	65 " ...	2 " ...	" 22 ...	6
6.	Majestic ...	75 " ...	2 " ...	" 23 ...	4
7.	Medeah ...	72 " ...	2 " ...	" 23 ...	1.647
8.	Purple Straw ...	66 " ...	2 " ...	" 23 ...	6
9.	Gluyas ...	70 " ...	2 " ...	" 23 ...	6
10.	Perkin ...	71 " ...	2 " ...	" 24 ...	5.90118
11.	Warwick ...	68 " ...	2 " ...	" 24 ...	4a. Or. 33.5p.

In field C the varieties were concluded, making total of 17, as follows:

No.	Variety.	Quantity Seed per acre.	Manure per acre.	Date Sown.	Area.		
					a.	r.	p.
12.	Newman's ...	64 lbs. ...	2 cwts. ...	April 28 ...	7	3	4
13.	Smart's ...	63 " ...	2 " ...	" 25 ...	5	0	0
14.	Fan ...	65 " ...	2 " ...	" 25 ...	5	0	0
15.	Californian Purple	49 " ...	2 " ...	" 25 ...	5	0	0
16.	Bearded Innominate	64 " ...	2 " ...	" 26 ...	5	0	0
17.	Early Purple Straw	78 " ...	2 " ...	" 26 ...	4	2	13.7

The soil in field C seemed dryer than in B, but up to date the germination in the former is better than that in the latter.

Field A consists of:

1. Variety manure plots.
2. Quantity manure plots.
3. Drilling v. broadcasting test.

Sown with King's wheat.

In this field, as in previous years, the soil was very firm, and it is thought will form a better plant on this account.

The plots are as follows:

VARIETIES MANURE.

	Seed per acre.	Sown.	Area, acres.
1. Wallaroo super ...	57 lbs. ...	April 29	10
2. " special ...	64 " ...	" 29	5
<i>Adelaide Chemical Works—</i>			
3. Guano super ...	60 " ...	" 29	2½
4. Mineral super ...	64 " ...	" 29	2½
5. Superphosphate ...	69 " ...	" 30	2½
6. Mineral super ...	65 " ...	" 30	2½
7. Super B ...	68 " ...	" 30	2½
8. D. & J. Fowler Lion super	67 " ...	" 30	1
9. No manure ...	72 " ...	" 30	1

QUANTITY MANURE TEST.

10. 1 cwt. super per acre ...	63 " ...	" 30	2
11. 1½ " " " ...	78 " ...	" 30	2½

BROADCAST AND DRILLING.

12. Broadcast seed and manure	65 " ...	" 30	5
13. Drilled seed and manure	63 " ...	May 1	8½

Unless otherwise specified, manures sown at rate of 2 cwt. per acre.

Dahlitz was next in order to be operated on, and showed a plentiful crop of weeds prior to the entrance of the scarifiers. Two days' work, however, considerably improved the appearance of the field, so that it presented a very good tilth.

Here experimental hay work was conducted. The first plot of 23 acres consists of a mixture of late wheats and oats in proportion of half a bushel of a mixture of late wheats to one bushel of Calcutta oats, sown at rate of 75 lb. per acre.

The remainder consists of a mixture of equal proportions of King's and Tuscan wheats sown at rate of 65 lb. per acre. Two hundredweight superphosphate per acre throughout.

On May 7, No. 4 was started, and presented a tilth; a better one would never wish to see.

Forty acres in this paddock were sown with sorghum for summer crop, and on this patch the Tuscan plot was commenced, and it is intended to dress part of this with farmyard manure as an experiment in mulching. This is followed by Warwick, Dart's Imperial, Neumann's, and a small portion put in with a mixture of various wheats.

The whole is intended for hay, and was dressed as far as the farmyard manured portion with 2 cwt. superphosphate per acre.

No. 16 was next to be completed, and was sown with King's and Bearded Innominate, 45 acres being dressed with 2 cwt. super per acre, and the remainder with 1. This paddock was finished May 21, and between the dates April 14 and May 21 over 500 acres were sown, which is a very good record.

During this time only a few showers fell, and seeding was not delayed to any great extent, but the moisture was not in sufficient quantity to do much good; indeed, in some places has done a little harm in the way of malting.

Agricultural Old Collegians' Association.

The Autumn reunion of old students of the Agricultural College was held on Thursday evening, March 6, at the Exchange Hotel. Mr. C. F. Heyne presided over a representative, although small, attendance. Several important subjects were considered. Every effort is to be made to erect in the College a tablet to the memory of those students who fell in South Africa, and subscriptions are now being received for that purpose. A discussion on the Agricultural College Council resulted in the following resolution being carried unanimously: "That this meeting condemn the action of the Council for its want of interest and knowledge of the working of the College, and desire that the Government should take steps to appoint members who are interested in agricultural pursuits, and take a practical interest in the College." It was pointed out that some of the members of the Council had not visited the College for several years, and, therefore, could not possibly be familiar with the wants of the College. It was resolved that a copy of this resolution be sent to the Minister controlling agriculture.

DAIRYING IN WESTERN AUSTRALIA.

BY H. J. YELLAND.

Dairying is one of the industries of this State that is sadly neglected. Several reasons for this neglect present themselves to us:

1. The amount of suitable land with a suitable climate is limited. In the North-West large cattle stations are to be met with, but the climatic conditions are adverse to the production of good dairy produce. The Eastern portions of the State are practically void of the milk-producing elements. The rainfall being unreliable and scant, combined with the absence of good rivers, makes the interior incapable of carrying stock for the production of dairy produce. The South-West seems to be the only portion of the State where dairying can be carried on with any degree of success, and there it makes very slow progress. There is only one factory in the district where cheese is made, and that is not in a flourishing condition at present.

2. Where the land and climate are suitable (in South-West), a large tract is very thickly timbered. This is without doubt the best land of the State, but requires an expenditure of about £15 per acre to clear it, and for dairying purposes the profits filtered through the dairy, with its numerous expenses, will not justify the first outlay.

3. People do not understand the making of cheese, and are arraid to start it. In certain parts, however, it can be made with profit, and only requires some stimulant to induce a growth of this industry.

4. This State is not an agricultural State, its chief industries pertaining to mines. But the land is good, and will grow most fruits almost to perfection within the ranges of hills which line the western coast.

5. People maintain that they cannot compete against the Eastern States in this industry. But by comparing figures supplied by the Dairy Expert of this State with those of South Australia this cannot be so. From the only cheese factory of the State the produce was disposed of for 9½d. per lb. by public auction in Perth. They could easily compete against the Eastern States on those conditions, providing, of course, that a sufficient quantity of milk was handled.

On further investigation these figures are not so favorable as they at first appeared. The Expert's statement was:

"The Bussleton cheese brought $9\frac{1}{2}$ d. per lb., or equivalent to $2/4\frac{1}{3}$ for butter if the milk of common cows is used."

From this we see that the milk cannot be of the best, for the milk, according to him, produces three times as much cheese as butter.

As a rule, with average milk, 1 lb. of cheese is made from 10 of milk, and 1 of butter from 25 of milk, i.e., $2\frac{1}{2}$ lb. of cheese can be made from milk that would produce 1 lb. of butter.

Rich milk produces more cheese than milk deficient in butter fat, and if average milk produces 1 of butter to $2\frac{1}{2}$ of cheese, and the milk from the South-West of this State produces the proportion of 1 of butter to 3 of cheese, then the milk must be much inferior, and if it takes 1 gallon of milk to make 1 lb. of cheese, then it requires 3 gallons of milk to make 1 lb. of butter.

This means that the percentage of butter fat here is only about 2.8 to 3, whereas in the average milk it is 3.5.

If this low percentage of butter fat in the milk is due to the breed of cows kept, it can easily be remedied, and we can then compete with the Eastern States as far as local consumption is concerned, but if it is due to unsuitable pasture lands and adverse climatic conditions, then a very difficult problem in the dairying division of the Agricultural Department of this State remains to be solved.

I regret having to write this prior to my visit to the Bunbury and Bussleton districts, which I anticipate making in a short time with a view to seeing the value of this industry in this State. I shall then be pleased to forward you a fuller account of the industry from personal observation, instead of having to rely to a certain extent upon agricultural literature published by this State.

Tablet to our Fallen Comrades.

We have not had a very ready response to our appeal for subscriptions to the above fund, and regret that those old students who were so closely connected with, and were comrades of those who lost their lives on the battlefields of South Africa, have not sent along their subscriptions. Still, we believe that they have not forgotten those whose lives were so nobly sacrificed for their motherland and to the glory of Australia, and that they will send along that which they intend to give as soon as they receive this issue of the "Student" in case it may slip their memory again. The com-

mittee wish to place some definite scheme before you at the next general meeting, and if they have a good long list of subscriptions in hand it will greatly assist them in their work. Any subscriptions, either to the Editors of this paper, or to the Secretary of the O.S. Association, will be acknowledged in our next issue. The following are those who have already subscribed to the fund: H. A. Parsons, 21/; E. G. Spicer, 10/; C. C. Castine, 10/; T. E. Yelland, L. H. Muecke, J. Wallace Sandford, C. F. Heyne, 5/ each; H. Grierson, 2/6.

PROFESSOR TOWAR.

BEING THE SENTIMENTS OF A STUDENT.

We are pleased to say that Professor Towar, newly arrived in our midst, bids fair to rise even above all our high expectations previously formed of him. He is a man possessed of face and figure to command respect and confidence anywhere, and this, coupled with his other qualifications, ought to make him a general favorite with every one. The new Professor takes a keen interest in sports—football especially seems to rank as a favorite with him—and we all know that this alone ought to win over to him the hearts of a great number of the boys. Coming as he does to an entirely strange country, with different conditions, Professor Towar will doubtless find many difficulties confronting him in his position of Professor of Agriculture. However, with the previous records we have of his career in the United States, I think there will not be very much doubt as to his successfully coping with these difficulties, besides accruing to himself credit here, as he has already done in his native land. The Professor already likes what he has seen of our country, and thinks that it ranks well with the others. Let us hope our climate will not dishearten him, as it has done other men. He has had bad luck coming to us in the middle of a spell of unusually dry weather. However, "It is an ill wind that blows nobody any good," and there is the advantage of knowing that he has seen our country (anyway, those parts which have not had sufficient rain to start things going) at its very worst. To conclude, I think Professor Towar has favorably impressed everybody, and not only this, he has come up to the estimate everybody had previously formed of him. Let us, therefore, take this opportunity to wish him every success in his new career in South Australia.

CORRESPONDENCE.

Mr. H. Grierson, of Milang, writes, making a good suggestion in reference to fixing a single date throughout Australia on which to calculate the age of pedigree cattle. He points out that while all blood stock date their age from August 1, in the case of cattle the date varies with the different States.

[The idea of fixing a uniform date for cattle is a very good one. At present in South Australia and Victoria the age is counted from July 1 previous, but in New South Wales, where the great Sydney Show is held during Easter week, the month of March is the point of time from which the ages of cattle are calculated, thus placing exhibitors of young stock from other States at an obviously great disadvantage. The adoption of a uniform date is, therefore, unnecessary if competitors are to be placed on an equal footing, and we would suggest June 1 as perhaps the most practicable and generally suitable.

While dealing with the subject of dates of live stock, it may not be out of place to mention the great want of some definite classification for the exhibition of sheep in South Australia. As the matter stands at present they are shown as either under $1\frac{1}{2}$ years or under $2\frac{1}{2}$, age being reckoned at the date of exhibition, but as lambing generally takes place about six months before our Show, the date of which varies sometimes by as much as a week, a standard is badly required. It has been suggested that the best times for the calculation of the ages of sheep would be for Merinos the middle of April, and for Longwools the middle of May.—EDS.]

VINEYARD NOTES.

From year to year there is a sameness in the work necessary on a vineyard—that is, the seasons for the various operations come round in the same rotation, and there is little difference in the general method of procedure. With the light, unevenly distributed rainfall we have at the College, it is most essential that the land should be thoroughly cultivated to produce a fine loose layer of soil on the surface. As soon as the moisture has penetrated sufficiently, the first deep ploughing is given. Many people would stand aghast on hearing the plough tear through the roots in the centre of the rows where an extra deep furrow is turned, but we know that this will do the vines very little harm. Any damage done in this respect is only temporary, for, with the extra

depth of loose soil, a greater quantity of moisture is absorbed. Consequently, the vines are better able to withstand the long, dry summer.

The second ploughing, shallower in this case, follows in due time, and then repeated scarifying soon leaves the vineyard free from weeds.

The season of 1901-2, so far as the College was concerned, went to two extremes. In the first place we had a very favorable winter and spring; the summer, on the other hand, being exceptionally dry. June gave us very heavy rains, but as the worst patches were already ploughed, the work was not interfered with for long. Light rains fell in July and August, and by the beginning of September, with the advent of "Farmers' Day," everything was in fairly good order.

The planting season was also very favorable. The new block of twenty acres, which had been planted twice previously, and each time unsuccessfully, was once more tried.

Into each hole, before the vine was planted, a handful of super was put, the vine being placed directly on top of it. The result was very satisfactory, for as soon as the weather began to warm up these vines grew away beyond all others not so treated, and by the time hot weather came along, were well established. Good October rains kept everything going, and, with the good start these young vines got, caused them to make splendid growth. The average take was about 85 per cent., and but for one very heavy patch in a hollow, would have been well over 90 per cent. The vines in bearing set a very heavy crop, raising hopes of an extra large vintage. The summer, however, was against us, for from October till the end of March we had only a few points of rain. Vintage passed off successfully, and, on the whole, very satisfactorily.

The grapes were allowed to dry up somewhat, consequently the result was a heavier wine than that made in previous years. This will blend in with the older wines and make them of a more even type. One tank of pure Shiraz gave a density of $=1.100$ Gay Lussac.

This was rather high to ferment out, but we determined to try it, and in the end were rewarded by success. It gave an excellent chance to test the efficacy of our cooler, and proved that for wine-making on a small scale, where there is a limited supply of cool water, the principle is correct.

The cooler consists of a double row of tinned copper tubes standing in a tray at the mouth of a canvas sleeve fitted to the end of an iron cylinder. At the other end is a fan driven by steam power from the fly-wheel of the crusher.

In front of this fan is a battery of spray nozzles, and the spray from an ordinary spray pump is carried by the draught of the fan on to the surface of the tubes.

The wine to be cooled is pumped from the bottom of the tank through the tubes and back again into the top of the tank. By this means we could cool a thousand-gallon tank at the rate of 2 deg. C per hour. This may not sound very much, but the effect was readily seen on the liquid, for in a couple of hours a tank which was fermenting violently could be brought back to normal limits. By enlarging the cooling surface and increasing the spray much better results might be obtained.

The cost of the coil, &c., is comparatively small, and the same water is collected and used over again. By next vintage we hope to have the apparatus fixed permanently, and, if possible, to have all pumping done by steam power.

There are now nine large casks in the cellar, each having a capacity of 1,000 gallons, only one more being necessary to completely fill the place. They were built by Messrs. E. J. Adams & Sons, of Hindmarsh-square, and are very fine specimens of the cooper's art. Made of Memel oak, with three-inch thick staves and well finished, they combine great utility with a handsome appearance.

Our next move will be to introduce casks of 500 gallons each into the lower cellar as soon as the stock of wine warrants such an undertaking. Our area under vines now totals 70 acres, and with this amount we shall remain satisfied, at any rate, for some years.

New trellis work to the extent of about seven acres has been erected since last vintage, and we hope to do another four acres before the spring. This will mean an extra ten or twelve acres bearing for 1903, which should materially increase the yield for that year. Though we had five acres more bearing this year than in 1901, yet, owing to the dry season, the total yield of fruit was less, the weight— $23\frac{1}{4}$ tons, as against 25 tons for the previous vintage.

As the new vines come into bearing the wine produced should be of better quality, for in the past, with such a small yield, far too large a proportion has been Mataro grown on the sandhill. Starlings are proving as great a pest as they are elsewhere, and in a few years, at the rate they are increasing, will constitute a serious problem for the vignerons to deal with.

Pruning started some weeks ago in order to give the new hands practice.

Though we are unable to plough until good rains fall, the

dry weather enabled us to kill all weeds started by the early showers.

Stone raking is now in full swing, the road connecting the College with the cellars being completed. This will supply a long-felt want, as all who have been along in winter well know. Though prospects are at present not over bright, we must make the most of it, and hope to have some rain by the time the June number of the "Student" is published.

VINTAGE, 1902.

As day by day the grapes are seen to be getting ripe, and the exams. are looming near, many are the enquiries as to when "vintage" will begin.

Whether this anxiety is born of a wish to begin the wine-making, or a wish to have the work over so that the holidays may be started, is a question which must not be enquired into too closely.

Of course, the fact that grapes may be eaten ad lib., and without fear of a fine, during picking time, does not weigh with the average student, and their zeal must not be put down to such a source. As the all-important day approaches various are the speculations as to how long the operations will last, whether the yield will be more or less than last year's, or whether the starlings have done as much damage as in previous seasons.

For a few days all vineyard hands confine their attention to the cellars. Tanks are scrubbed and prepared for the "must," casks are steamed, and everything to be used in connection with the wine-making is thoroughly cleansed by a vigorous application of plenty of water and student muscle.

All is in readiness by a certain date. The elevator and shoot are fixed in position, and the engine has had a preliminary run. Everything is in going order, and ready for the strain of vintage.

The work list is posted, so that each man knows his allotted place, for, in order to have everything work smoothly, there must be no confusion. The students crowd around the notice-board, some smiling because they have a dray, or some such easy job, others disappointed because they are on "stock" or "stables," and cannot take part in the first start next morning. These, however, have one consolation; they can stay in bed an extra hour, for whereas vintage hands start work at 5.30, and have late breakfast, those on farm do not start till 7 o'clock. Punctually at 5.30 a.m., Professor Perkins leads his

army, each bearing a pair of shears and a couple of kerosine tins into the first plot to be attacked, and soon "snip, snip," the grapes are being transferred from vines to buckets. All is going merrily, and to the rattle of tins and the cry of "buckets," the fruit is poured into boxes in the drays to be taken to the crusher.

Meanwhile at the cellar the final touches have been given, steam is up, and every bearing oiled ready to start.

Soon some one announces that "Carboy is bringing the first load." The dray is backed in to the scales.

The boxes of fruit look innocent little things, and some one, not realising that each holds over 2 cwt., gives an energetic lift at the rope handle. Owing to the holes being too big for the knots on the rope, the handle parts company with the box, and the said some one is violently deposited in the arms of the person behind him.

That "things are not always what they seem" is quickly forced upon the minds of all present, and by united labor the boxes are stacked on the scales.

"Weight right?"

"Yes."

"Then let her go."

And with a rattle of the elevator and a hiss of steam from the cylinder of the engine, the first grapes are carried aloft.

"Now we shan't be long," some one remarks, and so it seems. But stay, there is an ominous bumping going on in the crusher.

Investigation proves that it is only a choke caused by the grapes, which are rather dry, being fed too fast for the machine to clear properly.

This is soon rectified, and everything goes on smoothly as more loads come in.

"What! that cannot be the 'knock-off' bell for breakfast at 8 o'clock?" But it is, and we realise that we have been out three hours, which, on ordinary days, would seem a long time indeed.

There is no great enthusiasm over breakfast this morning, and those students who generally have two plates of porridge can only manage one.

The work bell rings, and once again the pickers turn out, this time not so enthusiastically.

Plot after plot is finished, and the weights are duly made and recorded. Time soon passes, and dinner time arrives with a welcome rest and a change of occupation for some.

The first day finishes with one and a half tanks full; that is, about one-third of the whole vintage finished.

The "fake head" is put on the first tank, and next day bubbles of gas are seen escaping from the top. Fermentation has started quickly, and will soon be going vigorously.

Each day is similar in proceedings to the first one, and at the end of the third picking is practically finished. Fermentation is now going strongly in the first tanks.

So far the weather has been moderate, and the yeast has not been very active. But a change takes place, and on Sunday above all days.

The morning opens with an innocent northerly breeze, which by ten o'clock has increased to a stiff wind, hot enough to have passed over a furnace.

However unpleasant this may be for human beings, the yeast apparently hails it with delight, for the tanks bubble and boil up till they are one seething mass of froth.

The temperature is rising dangerously, and willing hands set to work cooling. The fan blast hums and forces a beautiful draught over those working the pump. Turn about is taken till by hard work the temperature has been brought back to normal limits.

In the evening the wind steadies off for a time, and then, with a sudden change, it turns about and blows cool and brine-laden from the west.

The danger is practically over, and probably before another such day the fermentation will be finished. At any rate, we have seen how effectual our cooler is.

Every thing is finished, the skins are pressed and carted out, while the dark-red "press wine" is stored apart from the rest for blending later on.

All machinery and everything used is taken down and once more cleansed from all signs of grape juice, and though this work falls on a few, willing hands soon have everything back in its place till next year.

With three rousing cheers the drag starts for Roseworthy, and the year of 1901-2 has ended, crowned by a very successful vintage.

A Trip Through the Abandoned N.W. Runs.

By H. J. McDougall.

Starting from the Purple Well, Andamooka, on Wednesday, July 10, 1901, on horseback, accompanied by a pack horse, I travelled via Chance's Swamp Well to Nolan's Well, a distance of thirty-five miles,

through sandhills principally, with a few open limestone flats. At Nolan's Well there is a fine cement tank, and troughs going to ruin, and no appliances for drawing water, but I believe the water is very bad, being both salt and bitter. Having camped there for the night, I started early next morning for Parakylya head station, situated in a big cotton bush flat, which had been under water from the rain of February, but had all dried away except a little drop in a dam near the house. The buildings here are in fairly good repair, and so are the horse and cattle yards, which are built of pine. On all of the country traversed so far there was plenty of herbage, geranium and other sorts, and also large numbers of Sturt Peas, patches of the ground on the limestone flats being red with their showy flowers, and on the low-lying flats, where the water had stood for a time, the ground was covered with clover, in places over 3 ft. long, and very thick. Grass, however, of almost any kind was conspicuous by its absence; there is, however, fair bush except just around the wells and dams, where it has been tramped and gnawed out by stock.

Having hobbled out my horses and had dinner at Parakylya, I went on via Gowan's Dam, on the Curdlawindy Claypan, to the well of the same name and camped for the night. The clay tank (and here, for the benefit of those who have never seen one, I will describe it) is composed of two rings of timber, one just rough, round pine or mulga let into the ground about a foot and lashed round near the top with a wire rope, and about 3 ft. in from this is a second ring of split and adzed or sawn timber just resting on the surface of the ground. The bottom and the side walls between the two rings of timber being composed of clay (well rammed in), has been carried partly away by the flood, which has been all round the hut and engine house. There is a large portable engine on this well, and a pump. It is also fitted up so that in case of the pump getting out of order it can be used as a hauling engine with buckets.

From this well on there is more grass, but it is mostly short fine stuff that would not stand much stocking.

Leaving next morning in a N.W. direction, about ten miles on one comes to the Woolnamulla waterhole, a long hole in a gum creek about two miles long, and at the head of it are the horse paddock and well, with another clay tank and iron troughs, and a Hornsby-Akroyd oil engine for pumping the water. This well is just clear of the last of the sandhills, and from there to Crown Well is open country, with only small patches of timber. The low-lying parts have been flooded, and were covered with splendid grass and herbage.

About four miles on you rise gradually to high level limestone country covered with blue bush and short spear grass, but the latter needed a good rain to bring it to perfection, the plants only having one or two spires of seed about nine inches high. This country continues to within about a mile of the Crown Well, where you go down into another hollow, and are on the Coward to Tarcoola road. Here there is a large iron woolshed and men's kitchen and sheep yards; there is also a clay tank at the well, the water from which is drawn with a double whip.

(To be Continued.)

SHORTHORNS.

BY DONOHUE.

[The writer of this article has suggested that other Old Collegians should write about different breeds of cattle with which they are specially familiar, and we would heartily endorse the idea.—EDS.]

The present-day Shorthorn can be traced back in most cases to a bull called "Hubback," which was brought into prominence by the Collins Bros., being bred by Mr. E. Turner. This bull is generally recognised to be practically the foundation of the true stock, as, although Shorthorns were bred many years before this bull was born, it was not until he was obtained by Mr. Collins that many pedigrees were kept, or much interest evinced in the breed.

They are now, however, to be found in all parts of the British Empire, and possess more admirers than any other breed in the beef class. The Shorthorns are essentially beef producers, though very good milkers will be found amongst them; still, it cannot be expected than an animal bred so long for beef should turn out the best of milkers. The writer lately saw an imported Shorthorn that would produce as much milk as almost any dairy cow, and there are whole herds of dairy Shorthorns bred in England, and a few in Australia as well, but they are a class of cattle that require to be kept on especially good land. It is extremely inadvisable to try to raise good Shorthorns on anything but good country, but given this, it is doubtful if any breed can be found that will produce more beef. The Herefords and Devons are better doers on poor country, and also have the reputation of being better travellers.

In making a selection try to obtain animals from noted stock as far as possible, so that if at any time the idea of

showing is considered the chances of success will be very materially enhanced. For color, a rich roan or a red, with as little white as possible, is the most admired. White is not much in favor, although some good beasts of this breed have been of this color. Keep cows that are as nearly as possible alike so that calves of an even color can be depended on, for if breeding on anything like a large scale be attempted, a much better price will invariably be obtained for a draft of young bulls which present an even appearance.

In preparing animals for show, select the calves very early, and if the mother be not a good milker it will be found advisable to put the calf with a foster-mother, or else to hand-feed it with fresh warm milk. Give it as much food as it can eat of chaff, with plenty of bran, boiled barley, linseed, sugar or treacle, greenstuffs, and hay. When feeding, the exact amount each calf will eat will soon be determined; if any is left over this should be taken out and fed to something else. It will be found better to wet the chaff and put the bran on than to mix the bran and chaff and wet it afterwards. If it is noticed that they begin to rub themselves, wash with a little tobacco-water or insecticide.

This should be done if possible on a warm day, so that they will dry quickly. A small common tin tea-pot will be found very useful for this operation, as it can be conveniently held in the left hand, while the dandy-brush is used by the right, brushing being performed upwards, so that the liquid gets into the skin. Avoid the use of a curry-comb altogether if possible, as this pulls out the hair, a good silky coat being most desirable.

Provide good shelter-sheds in connection with stud enclosures, so that the animals are well protected from cold, cutting winds and bad weather, as this will soon reduce their condition, and a good deal more feed will be required to keep them up to the same standard.

All calves should be early accustomed to being led and tied up; when the bulls are about two years old a ring can be put in the nose, but this must never be used for tying the animal up by, except in connection with a good head-stall or neck-rope. It should be borne in mind that the ring through the nose is for leading purposes, and if put in before the animal is two years of age, a small size should be used.

Always keep two sets of head-stalls and neck straps, one for every-day use, and a superior pair for parades at shows. See that all ropes in the latter are nicely spliced in, and no knots are tied with frayed ends.

A light rug will be found convenient for use to keep out dust, &c., when the animal is travelling.

Although high feeding is not by any means good for the constitution, it is necessary for successful competition at shows and exhibitions. Provide rock salt for all the animals; a little chalk (lump) will prevent the calves from scouring, and bonemeal in small quantities will be acceptable to the larger cattle.

Dry cattle should be kept in good condition, so that later they will not put on flesh at the expense of the milk.

At present there is every appearance of a revival of interest in Shorthorn breeding, the average prices in England having improved within the last two or three years. Several good animals have been imported to Australia, while competition is becoming quite keen in the production of this breed of cattle, and several large stock owners are making special efforts in the direction of keeping up a high Shorthorn standard.

COLLEGE NOTES.

The past year at the College has been in most respects a successful, as well as an eventful, one. Changes have taken place in the staff, as we have lost Professor Lowrie's valuable services, but now our new principal is in our midst. During the time elapsing between our late Professor's departure and Professor Towar's arrival Professor Perkins was acting principal, and the farm work progressed very satisfactorily.

We have suffered a little misfortune during the past twelve months, however, in respect to the live stock, having lost two bulls, one of which had to be slaughtered on account of tuberculosis. About thirty of the ewes, some of them in lamb, died a short time ago; it is surmised that this misfortune was caused by eating stinkwort, which is much thicker this year than it has been before. However, the percentage of lambs for the whole season will work out pretty well. The pigs look very well indeed, the pigstyes having been renovated throughout, giving them a very attractive appearance. The dairy herd is in splendid condition, thriving well on ensilage, the supply of which is now, however, almost exhausted. It has been exceptionally good all through, and gives great credit to those students who, under the able direction of Professor Perkins and Mr. Jarman, took part in its manufacture.

Although it is the end of the seeding the horses look in good condition, and reflect honor on those who have been

on "stables," and, therefore, responsible for their care. We are now working some of the colts, descendants of Pascarel; one of them is a very spirited horse, but is now being got into good working order.

At the beginning of the year a meeting was held in the College to elect committees for the Athletic Club, Dance, Students' Council, and also a "Student" Staff, the last-named to look after this magazine on behalf of the present students. Athletic Club—Vice-Presidents, Mr. Russack and Mr. Laffer; Hon. Secretary, F. Phillips; Assistant Secretary, A. J. Inglis; Treasurer, D. M. McLeod; Committee, W. J. Spafford, L. R. Seppelt, S. Howe. Dance Committee—Third year, F. F. Berry; second year, T. M. Hodge and N. Brookman; first year, J. Naish; R. A. Seppelt, Secretary. Students' Council—Third year, W. J. Dawkins; second year, P. Knappstein; first year, S. Howe. "Student" Staff—W. J. Dawkins, Editor; R. S. Booth, Secretary, third year; S. M. Hodge, A. S. Martin, second year; A. C. Jacobi, first year.

The following is the balance-sheet for the past year of the Athletic Club:

BALANCE-SHEET, 1901-02.

RECEIPTS.

	£	s.	d.
To on hand	1	0	9
Subscriptions (annual)	40	7	8
Subscriptions (associate)	0	6	0
	<hr/>		
	£41	14	5

EXPENDITURE.

	£	s.	d.
By Sports Material	35	9	2
Postage, Stationery	1	3	6
Association Fees	1	10	6
Umpires' and Delegates' Expenses	1	4	7
Horsefeed, Expenses, Repairs	1	8	0
Bank Charges	0	15	0
On hand (balance)	0	3	8
	<hr/>		
	£41	14	5

(Signed) D. M. McLEOD,
Treasurer.

Audited and found correct.

FRED. W. RUSSACK.

24/5/02.

OBITUARY.

At the end of last year we were presented by Mr. McEwin, of Glen Ewin, with Monarch, the Alderney bull, which had been recently stationed at Gumeracha. He was apparently in good health when he arrived here, but during the long vacation he fell off in condition, and dwindled away almost to a skeleton. We had him shifted from No. 8 paddock to one of the loose boxes, and although he was in such a low state of health he showed a rare good turn of speed when the stockmen tried to yard him. He was kept in the loose box for a time, but his condition did not improve, so it was decided to ask Mr. Desmond to hold an examination on him. We took him behind the blacksmith's shop and "threw" him there, and Mr. Desmond made a short examination of his head, which was found to be affected by a large abscess reaching to the brain. It was decided to kill him and end the poor brute's sufferings, so we led him across to No. 7 scrub and killed him there. Mr. Desmond held a post-mortem examination, and at the same time gave us a good practical lesson on the organs of the animal. After the examination it was found that the bull was affected with tuberculosis in both lungs, the right parotid lymph gland, and the articulation of the lower jawbone on the right side of the head.

DIPLOMA AND PRIZE-LIST.

The diploma and prize-list for the year ending was unfortunately too late for our last issue, and is as follows:

DIPLOMA LIST.

R. H. Martin, Adelaide; A. E. Richardson, Adelaide; A. B. Caw, Adelaide; H. W. England, Adelaide; H. Main, Adelaide; N. H. Pearse, Burra; E. R. Emery, Campbelltown; E. G. Hubble, Port Wakefield; W. R. Richardson, Reynella; T. C. Angove, Teatree Gully.

PRIZE-LIST.

Third Year.—Gold medallist (presented by J. H. Angas, Esq.), R. H. Martin; second prize, A. E. V. Richardson; old students' cup, R. H. Martin; viticulture (presented by H. Buring, Esq.), R. H. Martin; viticulture, eonology, and fruit culture (Professor Perkins' prize), R. H. Martin; farm prize,

E. G. Hubble; woolclassing (presented by G. Jeffrey, Esq.),
E. G. Hubble.

Second Year.—Silver medal, D. M. McLeod; second prize,
W. J. Spafford; chemistry (presented by W. R. Jamieson,
Esq., B.Sc.), D. McLeod; work prize, F. Phillips and D. S.
Smith (divided); wool-classing (presented by G. Jeffery, Esq.);
W. J. Dawkins.

First Year.—Silver medal (presented by A. L. Brunkhörst,
Esq.), A. S. Martin; second prize, E. S. Alcock; bookkeeping
(presented by F. W. Russack, Esq.), P. M. Willcox; farm
prize, F. S. Faulkner.

NOTES.

C. C. Castine, who served for a time in South Africa, is now
engaged in the Military Staff Office.

A. McBain has been managing a vineyard at Armidale,
W.A.

N. S. Stuckey is still in Western Australia, at Peak Hill,
and sends kindest regards to all old friends.

Kent Harvey is still in South Africa, where he will pro-
bably remain for some considerable time.

H. G. McDougall, of Morchard, has had some rough expe-
riences travelling through the North-West abandoned runs.

F. Sanders accepted some appointment while in South
Africa, but at present is home on leave.

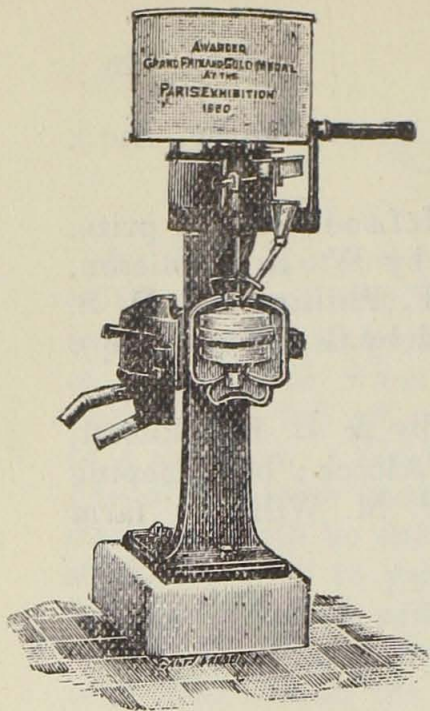
L. H. Boucaut was among those who lately returned from
South Africa.

*All Contributions of Articles to the "STUDENT"
should be written in ink on quarto or foolscap paper,
using one side only, and allowing a margin of an
inch.*

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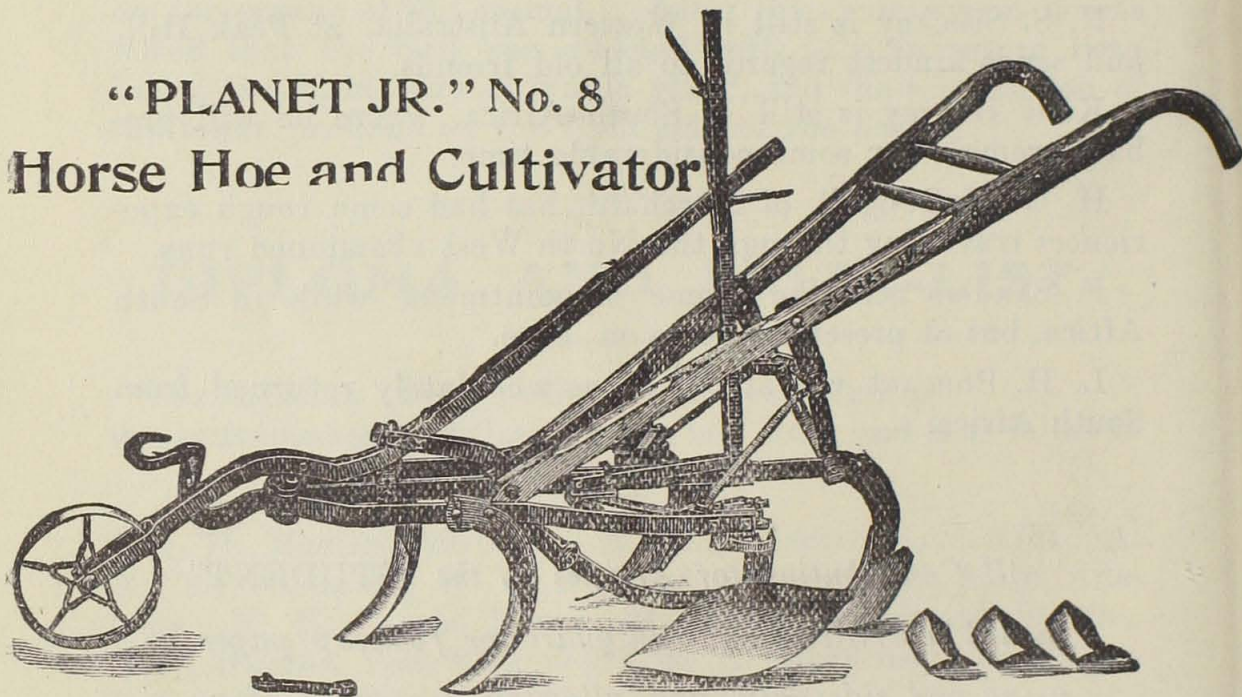
(Signed) W. McRITCHIE,
Bendleby, S.A.

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