

6th June.—Certain timber cut less than legal diameter on Crown lands, Maryborough, sold the same to John Pascoe, of Maryborough, for the sum of 15s. (fifteen shillings), and paid such amount to receiver and paymaster, Maryborough.

2nd December.—Seized 350 feet of bark, stripped illegally from live timber in Stanley State Forest, and destroyed the same in consequence of being unable to effect a sale.

REPORT OF THE MANAGER OF EXPERIMENTAL FARM, DOOKIE.

On the whole, operations at the farm may be summed up as successful, more so when we take into consideration the extremely dry season passed through, as without moisture, no matter how carefully operations are conducted, results will be unsatisfactory, and labour thrown away. More depends on seasons, to tillers of the soil, than any other trade or occupation.

The harvest returns for season 1883 are as follows, and are not included in last annual report, as the grain had not been threshed:—

			Acres.		Bushels.		Average per acre.
Wheat	...	...	153	...	3,060	...	20 bushels.
Barley	...	...	20	...	560	...	28 "
Oats	...	...	21	...	388	...	18 "
Totals	...	...	194	...	4,008		

The following statement will show the grain, how disposed of, and the amount realized:—

		Bushels.		Amount.		Average per bushel.
Wheat, sold	...	2,712	realized	£524 8 0	...	3s. 10½d.
" seed	...	177				
" gristed	...	113				
" on hand	...	58				
Total	...	3,060		£524 8 0		
Barley, sold	...	362	realized	£69 14 10	...	3s. 10d.
" bull feed	...	162				
" seed	...	30				
" on hand	...	6				
Total	...	560		£69 14 10		
Oats, sold	...	60	realized	£9 8 5	...	3s. 2d.
" seed	...	40				
" horse feed	...	225				
" on hand	...	63				
Total	...	388		£603 11 3	Revenue.	

The above table shows that after allowing for seed, wheat for gristing, horse and cattle feed, the grain sold realized £603 11s. 3d., which has been carried to revenue account.

HARVEST 1884.

The harvest results for this season are not complete, as we have to thrash both wheat, barley, and oats, but sufficient has been done with the stripper to give a fair idea of what may be expected this season.

We have 200 acres under crop, wheat has yielded from 30 bushels per acre down to 10 bushels; average, 16 to 18 bushels. Barley estimated at 22 bushels, and oats 20 bushels per acre.

Before giving you experiments conducted at the farm, it will be necessary to give a table showing the rainfall, as water has become one of the most important items in connexion with farming.

In the northern areas it is becoming a question of life or death to many.

Things are not so bad in this district, and, considering the light rainfall (16·11 inches), we have escaped remarkably well.

TABLE OF RAINFALL.

Month.	Rainfall.	No. of Days.	Month.	Rainfall.	No. of Days.
	Inches.			Inches.	
January ...	1·60	7	August ...	1·17	9
February ...	0·15	3	September...	1·54	10
March ...	1·00	5	October ...	1·57	4
April ...	0·81	3	November ...	1·99	3
May ...	2·59	8	December ...	0·57	5
June ...	2·34	11			
July ...	0·18	3	Total ...	16·11	71

It will be seen that the lightest rain is in the spring, when most required.

Several varieties of wheat were procured at seed time, with the object of proving their resistance of rust, also their yielding qualities against those grown locally: no rust this season. The following table will show their producing qualities:—

No.	Variety of Wheat.	Where procured.	Amount sown.	Date when sown.	Size of plot.	Rainfall while maturing.	No. of days maturing.	Date when harvested.	Weight of grain, 1st.	Weight of grain, 2nd.	Rate per acre.
				1884.					lbs.	lbs.	bush.
1	Champlain Hybrid ...	California ...	2 lbs.	16 May	80th of acre	10·63	202	3 Dec.	84	6	42
2	Defiance ...	South Australia	2 "	"	"	10·68	213	11 "	59	5	29½
3	Fill Bag ...	"	1½ "	"	40th of acre	10·87	210	8 "	45	3	30
4	Red Indian ...	"	2 "	"	30th of acre	10·68	202	3 "	43	3	21½
5	New Zealand P. Straw	"	2 "	"	"	10·87	213	11 "	75	2½	37½
6	Mold's Red Wheat ...	France ...	2 "	"	"	11·02	226	24 "	42	3	21
7	Rivett's Pedigree ...	South Australia	2 "	"	"	11·02	226	24 "	33	2	16½
8	Talavera ...	"	2 "	"	"	10·87	213	11 "	58	5	29
9	Mold's White W. ...	France "	2 "	"	"	11·02	226	24 "	32	3	16
10	S. Australian P. Straw	South Australia	2 "	"	"	10·87	213	11 "	70	4	35
11	Loddon P. Straw ...	Farm ...	2 "	"	"	10·68	202	3 "	72	4	36
12	White Lammas ...	"	2 "	"	"	10·87	213	11 "	72	3	36
13	Port McDonnell ...	"	2 "	"	"	10·68	202	3 "	88	5	44
14	Excelsior ...	California ...	2 "	"	"	10·68	202	3 "	52	4	26
15	Little Wonder ...	Katandra ...	2 "	"	"	10·87	210	8 "	84	4	42
16	Little Club ...	California ...	2 "	"	"	10·87	213	11 "	60	1½	30
17	Hallet's Pedigree ...	South Australia	8 oz.	"	120th of acre	11·02	226	24 "	15	1	30
18	Nursery Red ...	"	8 "	"	"	11·02	226	24 "	15	1½	30
19	Red Lammas ...	"	8 "	"	"	11·02	226	24 "	10	1	20
20	Golden Drop ...	"	8 "	"	"	11·02	226	24 "	15	1½	30
21	Egyptian ...	Katandra ...	2 lbs.	"	30th of acre	10·68	202	3 "	86	5	43
22	Red Straw ...	Goulburn ...	2 "	"	"	10·68	202	3 "	78	3	39
23	Defiance ...	"	2 "	"	"	10·87	210	8 "	60	4	30
24	Du Toit's ...	Victoria ...	2 "	26 May	"	10·01	192	3 "	56	5	28

It will be seen by the foregoing tables that 24 varieties of wheat have been tested.

Owing to the light rainfall, several varieties got very much blighted, and tipped in the head, notably the Mold wheat and Talavera variety.

When experiments were tried the ground was all of equal quality. Plots in strips 6 feet wide, representing the 30th part of an acre each plot, and all plots an equal quantity of seed. Those wheats that stood the dry season best, and were most prolific, were the Port McDonnell, Champlain Hybrid, and Little Wonder. All are good milling wheats. The Egyptian wheat is also a good yielder, but not a favourite with millers. It produces a great length of straw (6 feet), and would grow a large quantity of feed for stock.

The wheats that mature earliest are the Red Indian, Champlain Hybrid, and Du Toit's, all bearded varieties.

The amount of rainfall, as will be seen by table annexed, the lowest is 10·68, and the highest is 11·02 inches, received while wheat was in the ground.

Du Toit's matured in 192 days, and the creeping wheat took 226 days.

The purple-straw wheat stands next in order to those mentioned, as to yield.

New Zealand purple straw, with 37½ bushels, Victoria purple straw, 36 bushels, and S. Australia, 35 bushels, all large returns, and all round good wheats.

But, from tests made at the farm for the last four years, Port McDonnell has headed the list each year, being hardier, and stands dry weather best.

All the creeping wheats, such as the Mold's, Hallet's Pedigree, Nursery Red, Red Lammas, Golden Drop, and Rivett's, are too late for this district, not such safe wheats to cultivate, and would do much better south of the Dividing Range, where they would receive more rainfall.

You procured three (3) varieties of Indian wheat, to test against other wheat procured, and they came to hand too late to receive a fair test this season.

Their names, as given, are No. 1 Indian, No. 2 Indian, and No. 3 Indian. The No. 1 is a red wheat, with short fine straw, very short heads; 28 lbs. planted on the 8th August yielded in grain 113 lbs., or at the rate of four (4) bushels per acre. No. 2 Indian is a white wheat, also stands on short straw, about 16 inches high, short head, non-bearded both, sown on the 2nd August, and reaped on the 8th January, yielded 98 lbs. of grain, or at the rate of 3¼ bushels per acre. No. 3 is a bearded wheat, straw 2½ feet long, with short stout head, large long grain, but very hard, more of the taste of rice than wheat, and equally hard. But it will require another season to give them a fair chance with other wheats.

I received from you, for experiment, the following varieties of sugar-beet seed:—

15 lbs. imported sugar-beet seed not named,

15 lbs. Silesian sugar-beet,

15 lbs. White Imperial.

The ground was prepared by sub-soiling to the depth of eleven (11) inches, and 150 loads of barn-yard manure applied to three (3) acres.

The seed was sown in drills on the 2nd day of September, 1884.

The first-named and the White Imperial came up well, but the Silesian only came up in patches. They have all grown healthy, strong, and vigorous, many of the roots from 4 to 6 lbs. weight. This looks quite a green patch to the eye from the surrounding country.

As they will grow for the next four (4) months, it is too early to give results.

You also sent me some *Durra Durra* seed for trial. As I had some experience with it during the previous season, precautionary steps were taken to get it to germinate.

The first lot was planted in rows on the 15th of May, so as to receive the benefit of autumn rains, and has had the full benefit of all moisture in winter, but the seed rotted in the ground.

The next lot I drilled, in early spring (2nd of September) in ground in splendid order, with the same results.

I planted more on the 2nd of October, thinking it required greater heat to germinate, but not one grain sprouted. I planted one (1) inch deep, two (2) inches deep, and even three (3) inches deep, still no germination.

Several samples were distributed amongst agricultural societies. It would be desirable to get their experience. My idea is that the germinating powers of the seed were destroyed by the sea voyage. The seed should have been packed in air-tight vessels. In fact, all foreign seeds are the same; in my experience very few will germinate.

SORGHUM.

Several varieties of sorghum were tried last season. The varieties which did best were Honduras, Imphe, and Amber. I saved the seed of these, and planted in rows on the 2nd of September.

They have done much better this season, and are now up three (3) feet high, and coming out in seed. Last year at this time the plants were not more than six (6) inches high.

On the 12th of September I also received from you packets of two (2) varieties of sorghum, viz., American sorghum and Amber sugar-cane. They were planted on the 13th of the same month, but, up to the present, very little headway has been made. They are healthy, and of good colour, but stunted in growth.

ARROWROOT.

Bulbs of this plant were procured from Lake Condah Aboriginal Station, and some locally. They are all alive, and two (2) feet in height; but the season has been too dry. It would require double the amount of rainfall there is here.

The plant requires both heat and moisture; there is sufficient heat, but not moisture.

Arrowroot would do well in this district if irrigation were applied.

GRASSES.

While in America, Mr. J. L. Dow, M.P., procured three varieties of grasses, which he thought would do well in this dry district of Victoria.

He kindly forwarded three (3) parcels to the farm, of the following varieties:—

1. Johnson's Grass	...	...	...	Sorghum Halapense.
2. Red Top	...	...	...	Agrostis Vulgaris.
3. Kentucky Blue Grass	...	...	...	Poa Pratensis.

The first two germinated, and look as if they will be suitable to the dry district.

The Johnson grass is a cross between the Sorghum and grass, quite green and succulent at the present time, but rather stunted and short. It would make good feed for stock when the native grasses are dried up.

I think it would be advisable to ask Mr. Dow, while in America on his present trip, to procure a quantity for distribution.

The Red Top is also a good grass, about a month later than the native grasses, and keeps green until the middle of December.

The two mixed would make a good pasture.

The Kentucky Blue Grass never germinated. I procured more of the same sort, with the same result, though I planted three (3) different times.

The Superintendent of the Experimental Farm at Roseworthy, South Australia, forwarded 1½ lb. of sainfoin seed. It was sown on the 16th May, 1884, and germinated well. It kept in a healthy state during the winter months, and was not the least affected by frosts. Being of the same family as lucerne, it keeps quite green when all native grasses are dried up. It is good feed for sheep, but not of such quick growth as lucerne. It is well worth cultivating as summer feed for stock.

LUCERNE.

During the spring seventeen (17) acres of lucerne were laid down.

The ground was subsoiled to the depth of eleven (11) inches, and from my experience at the farm during the last four years, lucerne does the best of all forage plants. It sends its roots down to a good depth, and keeps quite green when all other grasses are burned up.

With irrigation it would feed a large quantity of stock.

About the 20th of August is the best time for sowing. The young plants do not do well if sown in autumn.

SALTBUSH.

About two dozen plants of this bush sprouted. They are doing well and growing vigorously when the weather is driest and hottest.

It is a good fattening forage plant for sheep.

The plant grows most abundantly near salt lakes, where the soil retains a great quantity of salt.

If it can be successfully propagated in the dry district, it will be really a useful plant, as stock are very fond of it.

INDIAN SEEDS.

The Indian seeds you kindly forwarded can be placed in one class, as none of them proved successful, some germinated and some did not. They are as follows:—

Indian Tobacco.—Frost took it when two inches high.

Suffa acutangula, never sprouted.

Bisca ovellana (Annatto Colouring), never sprouted.

Solanum melogena (Egg Plant), too tender a plant.

Cucumis sativus (Cucumber), killed by frost.

Baluna Cotton, never sprouted.

Indian Jute, never sprouted.

Corchorus olitorius (Round Pod Jute), never sprouted.

I tried the jute and cotton sown at different times, but they require a great deal more moisture than there is at the farm.

ANNUAL SALE OF STOCK.

One of the most important events of the past year was the annual sale of surplus stock, which was held on the 22nd of October, 1884.

The following stock was sold, and prices realized as follows:—

Cattle stock sold, realized	...	...	...	...	£407 10 0
Sheep	"	"	...	...	261 9 10
Horses	"	"	...	...	84 5 0
Pigs	"	"	...	...	14 9 0
Wine	"	"	...	...	41 14 6
					£809 8 4
Deduct commission and charge	...	...	...	...	44 7 8
Revenue					£765 0 8

On the whole the sale may be pronounced a success, and the prices obtained are satisfactory.

Three (3) yearling bulls brought £21, £19, and £18 respectively. Three colts brought £84 5s., and the wine brought from 5s. to 6s. 6d. per gallon, which is a good price for wine six (6) months old.

The present number of stock on the farm is as follows:—

22 horses	...	...	...	estimated value	£650 0 0
123 head of cattle	...	...	...	"	1,064 10 0
2,450 sheep	...	...	...	"	980 0 0
15 pigs	...	...	...	"	45 0 0
Total value of live stock					£2,739 10 0

At the end of the financial year, the value of improvements, implements, and machinery I estimated as follows:—

Implements and machinery	...	...	...	£1,004	0	0
House furniture, bed and bedding	...	...	...	246	3	11
37 miles of fencing	...	...	...	2,766	10	0
470 acres grubbed and cleared land	...	...	...	1,592	0	0
390 acres improved and timber burnt	...	...	...	292	10	0
Olive plantation	...	...	...	360	0	0
Vineyard	...	...	...	250	0	0
Orchard and ornamental trees	...	...	...	350	0	0
Tanks and dams	...	...	...	556	8	4
Stock yards, horse and cow yards, and machinery shed	...	...	...	237	0	0
Growing crop	...	...	...	850	0	0
Stock on hand	...	...	...	190	0	0
				£8,694	12	3

VINTAGE 1884.

As stated in last annual report, wine making had commenced on a small scale last year, being the fourth year since the vine cuttings were planted, and, considering the poor growth they made for the first two or three years, the result of the fourth season may be deemed satisfactory.

Two hundred and fifty (250) gallons of wine were made, including red and white, but that quantity has been considerably reduced in racking off, also by absorbing in the casks.

The wine has been exhibited on two occasions, at Shepparton and Dookie, and gained the first prize at each show.

The bulk of the wine was sold at the late sales at the farm, and realized satisfactory prices. The following return will show the return from the five acres, fourth season's vintage:—

Wine sold, realized	...	...	...	...	£43 14 6
Grapes	"	"	...	...	3 14 0
Wine on hand, estimated value	...	...	...	...	8 5 0
					£55 13 6

This amount, divided by the number of acres in the vineyard, gives a return of over £11 per acre, which will prove that the cultivation of the vine is more remunerative than wheat growing.

But this is only a beginning. In another year or two the return will, no doubt, be three times what it is at present.

If a farmer would set apart five acres in some corner of his paddock for the cultivation of the vine, it would prove a great addition to his income, especially during a dry season, such as the present.

The great objection farmers have to cultivating the vine is that they know nothing about wine making, and they consider that if they grow a few vines for home use it is quite sufficient. Comparatively few have taken the trouble to try and manipulate the grapes into wine.

OLIVE OIL.

The olive oil industry has made a start at the farm. From fifteen to sixteen gallons of oil were made this past season. As the prices are low, it still remains on hand.

To those who intend to go into olive oil manufacture, the following directions may be of use:—

Olive berries, like grapes, must be perfectly ripe before picking. They do not ripen before June or July, usually, but may ripen sooner.

The fruit should be picked fresh, and all damaged berries put aside. Oil is much more sensitive than wine, and easier injured.

The berries are put into bags and taken to the press, a much more powerful one than a wine press.

About four buckets full of berries are put into each bag. Common wheat bags are what we use, but in the olive countries much stronger bags are used.

When six or seven bags are filled, with four buckets each, they are laid one upon another under the press. The press works with ratchet levers, a man and boy work the handles.

Tubs are set to catch the oil and mucilage as it runs from the press.

Wooden or tin vessels are most suitable, as zinc or iron has an injurious effect upon the oil.

Unless the temperature is 70 degrees or over, the oil will not separate from the mucilage; but, with a temperature of 70 degrees or over, the mucilage matter will settle to the bottom after standing a few hours—say 24—when the oil rises to the top. Some run the mucilage from the press into water, but we did not find that necessary, as the oil rises equally as well from the mucilage. A bucket or two of warm water put into the mass will help the oil to separate.

As soon as possible after the oil has risen it should be skimmed off with a tin skimmer or saucer. It must be put into clean tins, or vessels, and left to stand about 24 hours to settle.

The oil, after rising to the surface, must not remain too long, or fermentation will set in and the oil be lost.

The next process is to clarify the oil. This is done by placing cotton wool, or paper prepared for the purpose, in the mouth of funnels, and letting the oil drop through very gently.

It has sometimes to be done twice or even three times. Care must be taken to change the cotton or paper at intervals, or it gets choked up with dirt. The dirty oil can be used for harness or machinery.

After the first pressing, the stones and débris are laid in a heap, boiling water thrown on them, put into bags as before, and pressed the second time; when an oil comes off, which can be used for lighting or lubricating purposes. The first oil is called virgin oil.

These instructions, followed out, are sufficient for the extraction and purifying of olive oil. Care must be taken to have it closely locked away from any offensive smell. Even with every care, some of it becomes rancid and loses its freshness.

LINSEED.

One acre of linseed was tried this season; the object was to see what seed it would produce, and to endeavour to extract the oil.

The seed was sown on the 23rd May, which, I think, proved the right time, as it received what winter rain fell, and the frost that we had did not affect it.

Seventy pounds (70 lbs.) of seed were sown, which produced 354 lbs., or as near as possible six (6) bushels.

All the rainfall it received, while in the ground, was 7·63 inches; had it received double that quantity, a payable crop would have been ensured.

We have proved that linseed can be taken off with the stripper, and, by using small mesh riddles, it can be cleaned equally well as grain.

A grist mill has been procured to grind the seed into a pulp, in order to extract the oil; the result will be given as soon as possible.

When irrigation can be used with linseed, and the facilities we have in using the stripper for taking it off, it could be made a payable crop.

IRRIGATION.

We have been trying experiments in irrigation on the farm for the last five or six years with the natural rainfall. A great many of these experiments have failed, as the rainfall is too limited to mature the plants tried. I would suggest using the water running to waste at the lower end of the farm. The farm land adjoins the river.

The land near the river I believe to be suitable for root crops, as the soil is of a sandy nature.

By clearing say 40 acres, erecting a small engine and centrifugal pump, experiments could be successfully made, even to the growing of cotton and jute.

The expenditure would be as follows:—

	£	s.	d.
40 acres, grubbed and cleared, at 50s.	100	0	0
40 „ fenced, three sides, 60 chains, at 20s.	60	0	0
Pumping engine	150	0	0
Pumps and pipe—say	100	0	0
Erecting and fixing	60	0	0
Total	£470	0	0

This does not include channels or laterals, building or hut for caretaker. But this work could be done by labour on the farm.

The boys on the farm continue to give satisfaction; some, of course, are better than others.

All the first boys that were drafted to the farm (except one not of age) have been hired out to service, and are giving great satisfaction, and are a credit to the training received at the farm.

The net revenue from the 1st January, 1884, to the end of December, 1884, amounts to £2,137 13s. 9d., made up from sales of cattle, horses, sheep, wool, and grain; but I must state there are two seasons' wool in those returns.

The expenditure for the same period amounts to £886 8s. 7d. (exclusive of salary), which leaves a credit balance of £1,251 5s. 2d.

M. HERDMAN,
Manager.