

SEPTEMBER 13, 1876.

## SECOND DAY'S SESSION.

Board met as per adjournment.

Mr. Blackburn, having been delayed by missing connection of trains, was present with the Board.

Mr. Pickrell was granted leave of absence on urgent business.

The Regent nominated Prof. G. E. Morrow to the Chair of Agriculture, who, at the motion of Mr. Gardner, was appointed to fill said chair, to commence January 1, 1877, at a salary of \$2,000 per annum.

The Treasurer then read his report, which was received.

JOHN W. BUNN, TREASURER,

*In Acct. with Illinois Industrial University.*

1876.		DR.	
June 7	To balance		\$11,246 33
" 15	" interest on Morgan county bonds		2,500 00
July 1	" " Pike		3,000 00
"	" " Kankakee		3,000 00
"	" " Illinois 6 percent		930 00
"	" " Chicago		875 00
"	" amount received from State for taxes on lands in Nebraska and Minnesota		2,145 67
"	" amount received from State for University Building		1,000 00
Aug 15	" on Burnett's note		200 00
31	" on account Agricultural Department		3,360 47
"	" " Horticultural		475 36
"	" " Chemical		213 66
"	" " Architectural		609 52
"	" " Mechanical		799 58
"	" " Cabinet		100 00
"	" " fees and room rent		107 50
"	" " fuel and lights		15 46
"	" " buildings and grounds		10 85
"	" " physical laboratory		4 00
"	" " Illinois Central R.R. freights		352 72
1876.		CR.	
Aug 31	By amount paid on salaries		\$7,871 62
"	" " " for board expense		119 20
"	" " " fuel and lights		435 18
"	" " " stationery and printing		144 32
"	" " " buildings and grounds		848 51
"	" " " incidental expenses		115 15
"	" " " library and apparatus		291 73
"	" " " Mechanical Department		642 68
"	" " " Architectural		268 44
"	" " " Agricultural		1,959 71
"	" " " Horticultural		400 53
"	" " " Chemical		183 25
"	" " " Military		49 00
"	" " " fixtures and furniture		11 32
"	" " " Centennial expenses		73 99
"	" " " Civil Engineering Department		44 61
"	" " " cabinet		149 74
"	" " " microscope, &c.		178 75
"	State appropriations, amount paid for Veterinary Department		2 26
"	" " " physical laboratory		58 04
"	" " " buildings and grounds		506 12
By balance			\$14,354 24
			16,591 89
		\$50,946 13	\$30,946 13

Authority was given to the Regent and Mr. Gardener to employ an assistant teacher in English and Ancient Languages.

Prof. Ricker's request for a foreman of carpenter shop was referred to the Regent and Mr. Gardner, with power to act.

It was voted to authorize the study of Industrial Drawing and designing as an optional study in place of Mathematics, in the course of English and Modern Languages.

The fitting up of rooms for the janitor and Ladies' Gymnasium was referred to the Regent and Mr. Gardner, with power to act.

It was voted that Miss A. E. Patchen be reappointed teacher of Instrumental Music, to be paid by the fees received for same, and that she be required to report the work and receipts in her department.

The Regent was requested to make application to the War Department for specimens of missiles; also to the Smithsonian Institute for specimens in Natural History.

The following special appropriations and assignments from general appropriations were made:

Fund	To what applied.	Amount.
Incidental Expenses.....	For expense of Chicago exposition.....	\$20 00
Buildings.....	“ repairs and cleaning of Mechanical shops, to be expended under superintendence of the Regent and foreman .....	50 00
Special.....	“ a desk for Regent's office .....	100 00
Buildings.....	“ temporary shelving in library.....	10 00
Library and Apparatus.....	“ purchase of books and binding of periodicals.....	125 00
Architectural Department.....	“ tables, desk and paper racks.....	55 00
“	“ stools in Architectural Department.....	12 00
Stationary and printing.....	“ payment in full to Illini for publishing catalogue for 1876 .....	40 00
Special.....	“ completion of repairs in greenhouse.....	88 00
Special.....	“ completion of microscopes—\$60 of the amount to be collected from parties indebted to this fund.....	82 00
Special.....	“ cabinets and case in Prof. Taft's recitation room.....	200 00

The following general appropriations were made for the six months ending February 28, 1877:

Board expense.....	\$250 00
Salaries.....	18,073 33
Fuel and light.....	2,500 00
Stationary and printing.....	300 00
Buildings and grounds.....	400 00
Incidental expenses.....	300 00
Library and apparatus.....	500 00
Mechanical Department (balance , practice 120).....	120 00
Architectural “ (balance 546 62, practice 120).....	666 62
Horticultural “ (balance 70 68).....	70 78
Chemical “ balance.....	92 11
Military “ gymnasium and telegraph, (balance 24 51, appropriation 56 00.....	80 51
Agricultural “ balance.....	1,328 08
State appropriation balances—	
Veterinary Department.....	796 94
Building repairs.....	607 70
Sundries—	
Regent's desk.....	100 00
Greenhouse.....	88 00
Microscope.....	82 00
Cabinet and case for Prof. Taft.....	200 00
Engineering transit.....	550 00
	<u>\$1,020 00</u>
Total.....	\$27,000 97

The Board then adjourned to meet for the next quarterly meeting on Tuesday, December 5th, 1876, or at the call of the President.

## "C."—Abstract of Warrants.

No.	To whom.	For what.	Amount.
548	J. C. Pickard .....	Salary July and August.....	\$333 33
549	Board expense .....	June meeting, 1876.....	119 20
550	J. M. Gregory .....	Salary for June, 1876.....	333 33
551	S. W. Robinson.....	" " .....	166 66
552	T. J. Burrill.....	" " .....	166 66
553	S. W. Shattuck.....	" " .....	200 00
554	E. Snyder.....	" " .....	166 66
555	D. C. Taft.....	" " .....	166 66
556	J. B. Webb.....	" " .....	166 66
557	J. C. Pickard.....	" " .....	166 66
558	M. Miles.....	" " .....	250 00
559	N. C. Ricker.....	" " .....	125 00
560	J. D. Crawford.....	" " .....	125 00
561	H. A. Weber.....	" " .....	133 33
562	E. L. Lawrence.....	" " .....	100 06
563	C. E. Patchin.....	" " .....	50 00
564	Lou C. Allen.....	" " .....	120 00
565	F. W. Prentice.....	" " .....	100 00
566	A. C. Swartz.....	" " .....	75 00
567	I. O. Baker.....	" " .....	60 00
568	F. A. Parson.....	" " .....	70 00
569	M. A. Scovell.....	" " .....	40 00
570	A. E. Barnes.....	" " .....	40 00
571	J. Kenis.....	" " .....	60 00
572	C. I. Hays.....	" " .....	50 00
573	E. Hume.....	" " .....	75 00
574	Walter P. Ward.....	Glazing .....	15 30
575	T. J. Winkler.....	Tuning pianos, commencement.....	3 00
576	Chicago Screw Company.....	Hardware.....	1 00,
577	Dodson & Hodges.....	Hardware.....	4 10
578	J. B. Webb.....	Bristol board, Centennial.....	3 51
579	G. A. Wild.....	Mounting birds.....	9 65
580	Crane Bros. Manufacturing Co.....	Gymnastic apparatus.....	7 40
581	A. J. Wilkinson & Co.....	Hardware.....	3 61
582	Joe Ness.....	Janitor to June 10.....	6 75
583	S. W. Robinson.....	Apparatus for Physical Laboratory.....	5 50
584	I. B. & W. R. R. Co.....	Freight .....	2 33
585	D. C. Taft.....	Purchase of Zoological specimens.....	100 00
586	U. P. Brown.....	Maple trees.....	6 40
587	T. J. Burrill.....	Expressage on wood specimens.....	5 25
588	H. W. Rokker.....	Treasurer's cash book.....	8 00
589	B. P. Mann.....	Four thousand insect pins.....	5 80
590	Walker Bros.....	Chemical fertilizers.....	60 49
591	Champaign & Urbana Gas Co.....	Gas bill for May, 1876 .....	47 95
592	L. Moeller.....	Microscopes and lenses.....	160 75
593	A. B. Baker.....	Salary June, 1876.....	60 00
594	E. A. Robinson.....	" " .....	100 00
595	James Green.....	One thermometer.....	3 00
596	H. Evans.....	Herd book.....	8 00
597	U. S. Patent Office.....	Bound reports.....	15 60
598	Goodnow & Wightman.....	Hardware.....	1 50
599	American Express Company.....	Expressage on catalogues, Centennial .....	5 35
600	Wm. W. Clark.....	One wall duster.....	1 80
601	Students' labor pay-roll.....	June, 1876.....	207 21
602	Agricultural Department.....	Expense June, 1876.....	466 83
603	S. W. Shattuck.....	Petty expense June, 1876 .....	23 39
604	J. M. Gregory.....	Salary for June, 1876.....	333 33
605	S. W. Robinson.....	" " .....	166 66
606	T. J. Burrill.....	" " .....	166 66
607	S. W. Shattuck.....	" " .....	200 00
608	E. Snyder.....	" " .....	166 66
609	D. C. Taft.....	" " .....	166 66
610	J. B. Webb.....	" " .....	166 66
611	M. Miles.....	" " .....	250 00
612	H. C. Ricker.....	" " .....	125 00
613	J. D. Crawford.....	" " .....	125 00
614	H. A. Weber.....	" " .....	133 33
615	E. L. Lawrence.....	" " .....	100 00
616	C. I. Hays.....	" " .....	75 00
617	E. A. Robinson.....	" " .....	100 00
618	A. B. Baker.....	" " .....	50 00
619	Beach & Condit.....	One-half ton Blossburg coal.....	5 50
620	Crane Bros. Manufacturing Co.....	Hardware.....	28 77
621	F. W. Christem.....	Foreign periodicals.....	73 10
622	Smith, Vail & Co.....	Packing and rubbers.....	1 00
623	Jones & Laughlin.....	Iron.....	5 20

## "C."—Abstract of Warrants—Continued.

No.	To whom.	For what.	Amount.
624	Agricultural Department.....	Expense of farm, July.....	\$639 2
625	Walker Bros.....	Fruit boxes.....	2 50
626	N. B. Coffmann.....	Work on entomological cases.....	18 00
627	J. Furst.....	Team work on grounds.....	4 5
628	J. Watson.....	Gas fitting.....	1 85
629	A. Snedecker.....	Castings.....	61 19
630	Enterprise Coal Co.....	1 car coal.....	8 40
631	Students' pay-roll.....	July, 1876.....	182 72
632	E. N. McAllister.....	Postage, May and June.....	25 36
633	S. W. Shattuck.....	Pay-roll for work on grounds.....	95 97
634	John Wheldon.....	Books.....	20 99
635	Manly Miles.....	Salary, August, 1876.....	250 00
636	J. M. Gregory.....	" ".....	333 33
637	S. W. Robinson.....	" ".....	166 66
638	T. J. Burrill.....	" ".....	166 66
639	S. W. Shattuck.....	" ".....	200 00
640	E. Snyder.....	" ".....	166 66
641	D. C. Taft.....	" ".....	166 66
642	J. Burkitt Webb.....	" ".....	166 66
643	N. C. Ricker.....	" ".....	125 00
644	J. D. Crawford.....	" ".....	125 00
645	H. H. Weber.....	" ".....	133 33
646	E. L. Lawrence.....	" ".....	100 00
647	C. J. Hays.....	" ".....	75 00
648	E. A. Robinson.....	" ".....	100 00
649	A. B. Baker.....	" ".....	50 00
650	Goodnow & Wightman.....	Hardware and tools.....	23 92
651	Albert Levi.....	12 photographs.....	8 02
652	Oehrichs & Co.....	Freight and charges on apparatus from Europe.....	15 51
653	Agricultural Department.....	Farm expense, August, 1876.....	291 31
654	Fuller & Fuller.....	Paints and glass.....	40 43
655	Locke & Saxton.....	Paper.....	5 95
656	L. G. Clay.....	Labor, June, July and August.....	111 00
657	F. Doty.....	Coal for shops.....	16 50
658	I. B. & W. R. Co.....	Freight.....	90
659	M. E. Lapham.....	Lumber.....	38 65
660	R. S. Wilbur.....	Hauling coal and apparatus.....	8 00
661	Luddington, Wells & Van Schak.....	Lumber.....	121 81
662	L. V. Manspeaker.....	Soda, soap, brushes, etc.....	18 86
663	Union Atlas Co.....	Atlas of Illinois.....	15 00
664	Ill. Cent. R. R. Co.....	Freight.....	5 43
665	Jas. Robertson.....	800 brick.....	6 40
666	Prairie Farmer Co.....	Advertising.....	11 20
667	Tribune Company.....	".....	8 61
668	C. & N. Gas Co.....	Gas bill for June and July.....	31 15
669	E. L. Lawrence.....	Expense Horticultural Department.....	12 39
670	Sabin Bros.....	Bluegrass seed and coal.....	16 13
671	M. Miles.....	3 Yale locks.....	6 00
672	Ill. Cent. R. R. Co.....	Freight.....	2 53
673	J. A. Conklin.....	Labor and plastering.....	83 77
674	W. Morava.....	Labor.....	57 80
675	N. E. Journal of Education.....	Advertising.....	15 00
676	H. Swannell.....	Paint, oil, etc.....	20 25
677	A. C. Scribner.....	Work.....	6 30
678	Cameron, Amberg & Co.....	Paper.....	3 75
679	Agricultural Department.....	Work for other departments.....	468 43
680	Dodson & Hodges.....	Hardware.....	9 75
681	Jas. Ralph.....	Mason work bricking up windows.....	177 75
682	W. S. Maxwell.....	Brushes, ink, putty, etc.....	8 18
683	Trevett & Green.....	Hardware.....	18 82
684	J. A. Conklin.....	Mortar and sand.....	3 00
685	Champaign Gazette.....	Binding, printing and advertising.....	166 90
686	Walker Bros.....	Wood specimens, Centennial.....	27 25
687	G. M. Savage.....	1 month's work.....	18 00
688	H. Peddicord.....	Plaster and lime.....	46 80
689	American Journal of Education.....	Advertising.....	1 00
690	Physical Laboratory.....	Mercury.....	4 00
691	Wensel Morava.....	Work in armory.....	31 27
692	E. V. Peterson.....	Frames and cords.....	19 30
693	E. N. McAllister.....	Postage.....	13 35
694	L. Baldwin.....	Whitewashing.....	29 00
695	J. W. Bunn.....	Six months salary.....	250 00
696	Mechanical Department.....	Work for other departments.....	128 70
697	Architectural.....	".....	98 32
698	S. W. Shattuck.....	Students' pay-roll.....	72 95
699	S. W. Shattuck.....	Outside.....	106 82

"C."—Abstract of Warrants—Concluded.

No.	To whom.	For what.	Amount.
700	Illinois Central R. R. Co.....	Freight, June, July and August.....	\$352 72
701	Fuller & Fuller.....	Paint and glass.....	23 70
702	Western Farm Journal.....	Advertising.....	5 40
703	H. H. Andrews & Co.....	Blackboards and erasers.....	13 10
704	Am. Express Company.....	Express on eng. app. for Philadelphia.....	9 20
705	H. Swannel.....	Putty and oil.....	4 15
706	A. Snedeker.....	Castings from gymnasium.....	2 10
707	Western Rural.....	Advertising.....	6 00
708	Enterprise Coal Co.....	10 cars coal.....	147 00
709	J. F. Wolensak.....	Hardware.....	12 91
710	W. B. Keene Cooke & Co.....	Ink.....	1 50
711	E. B. Benjamin.....	Chemical apparatus.....	154 47
712	S. W. Shattuck.....	Petty expense July and August.....	57 11
713	E. A. Robinson.....	Tools.....	5 00
714	Mechanical Department.....	Files, rod iron, etc.....	2 10
715	J. D. Perkins.....	1 load sand.....	1 50
716	N. B. Coffman.....	Work on Entomological Cabinet.....	15 00
717	Horticultural Department.....	Labor, etc., and trees.....	182 94
718	A. B. Baker.....	Plaster and work.....	8 50
719	J. B. Webb.....	Chronometer repaired.....	14 85

### HORTICULTURAL DEPARTMENT.

*Dr. J. M. Gregory, Regent:*

SIR—I very respectfully submit the following report from the Department of Horticulture:

#### THE ORCHARD.

The apple orchard has attracted considerable attention during the summer from the number of trees in fruit. Most of the trees upon the dry ground are in fine condition, having recovered from the severe trial of the winter of 1872-3. Those planted on low, wet ground have usually died or are now diseased and worthless. The north side of the east and west road appears better than the south side, owing, it is thought, to the difference in treatment. Previous to the spring of 1873 the cultivation for both was the same, but at this date clover was sown upon the north side and corn grown again upon the south. The following spring (1874) clover was sown upon all not previously seeded, but the stand being poor the land was again plowed in 1875 and corn planted. So for 1876, objections having been made to the ridges upon which the trees were planted the earth was thrown by the plow away from them and the two summers proving wet the trees suffered. More of these have been injured by the wind than elsewhere, the roots having little hold upon the ground.

So far as examinations have been made most of those fruiting prove true to name. Some kinds not generally cultivated in the vicinity give promise of much value, but the most of those unknown to fruit growers seem to be unworthy of extensive planting. Quite a number of kinds show twig blight this season, and many of the apples are scabby from a fungus. But these troubles may not occur during dryer summers. Records of the earlier varieties have not been fully kept this year from, in part, the centennial visits and from the pilfering of visitors to the orchard. Unless something can be done to stop this petty thieving the value of the experimental orchard will be greatly diminished. On September 8th there were 340 trees in fruit, embracing about 300 different varieties. The latter number is an estimate only, the figures not having been made out yet.

Apples are the only orchard fruits we have had. A few plum trees fruited heavily, but the curculio quickly destroyed the crop. The Wild Goose variety, said, by some, to be curculio-proof, was stripped like the others. No measures were taken to prevent the ravages of this insect, the number of fruiting trees not being enough to warrant the attempt. Of the large number of kinds of pears planted during the last four years, few are now living. Some investigations were made during the summer upon the so-called "fire blight," revealing, perhaps, nothing new, but enough to stimulate further labor. The sap of the newly blighted limbs, especially in the young cells between the wood and bark swarms with minute living particles, visible only with high powers of the microscope, resembling the *spermatia* (supposed male element) of funghi and lichens. The motion of these particles is a sort of uneasy vibration, as if they were attached by a short thread and were endeavoring to escape. They are found in greatest numbers where the inner bark shows, by discoloration, the recent progress of the disease, but in some cases could be traced two or three inches below the discolored portions. Not uncommonly a thick, slimy fluid escapes from small holes in the bark and sometimes in quantities sufficient to run down the limb several inches. This is almost wholly made up of these oscillating corpuscles and when fresh presents an amazing sight under a high power of the microscope. On some limbs, but not on all, two days after evidence of the attack of the blight, the outer bark becomes roughened with myriads of tiny pustules bursting outward from within. Similar pustules, caused by well-known microscopic fungi, are common enough upon almost all dead twigs, but the very sudden appearance of this one, together with the similarity of minute moving bodies produced, seems to connect it with the disease in question. No indications are yet observed as to the origin of the first-named vibrating particles.

When this is determined, something definite, and it may be, very important, will be accomplished. Some attempts at inoculation with the diseased sap and with spores from the bark pustules seem to fail entirely. A slight slit was made in the bark of a healthy tree and the materials introduced after the manner of budding. Ten or twelve trials were made with no observed results. The wounds healed nominally, and the trees continued, to all appearances, healthy. This was unlooked for, as the statement is often made that the disease is communicated in this way. But more experiments are needed before anything can be predicated as to results. The leaves, though assuming a peculiar blackish tint and often giving the first notice of the disease, do not seem to be the seat of the difficulty, nothing abnormal being found in or on them. The Siberian crabs often blighted nearly as bad as the pear. The "twig blight" of the apple appears identical with the more destructive "fire blight" of the pear. Two years ago the flat-headed wood borer, (*Chrysobothris femorata*), was exceedingly destructive upon the apple, elm, sycamore, and hard and soft maple trees, and last year (1875) the adult insects were more numerous than ever before. One man caught over 200 of the winged beetles upon the trees near the University building in one day and nearly as many each succeeding day for a week or more. The trees were also washed with crude potash several times during the summer. Whatever may have been the effect of these measures, the insects did but little damage last year, and during this season scarcely one has been seen in any form. Doubtless the change in the summers from dry to wet had much to do in their disappearance. In general, insect pests have not been very injurious during the year now closing to our horticultural productions.

#### FOREST-TREE PLANTATION.

The accompanying table shows the average height and size of the trees in this plantation, the growth during the summers of 1875 and 1876, and the cost of cultivation, together with the total cost of each kind and the whole plantation from the commencement. With the exception of the chestnut all the kinds planted are now represented by nearly their full numbers except as removed for thinning, and all are in a healthy, vigorous condition. In 1875 a peculiar blight affected the young leaves and shoots of the sugar maple, but its cause was not ascertained. It has not appeared this year and the trees have recovered. A fungus leaf parasite has made its appearance upon the silver-leaf maple, forming black shining patches or scabs sometimes an inch across and often several of them upon a leaf. It does not appear to be very destructive, but evidently reduces the thriftiness of the tree. The disease is by no means new elsewhere, being widely disseminated east and west, preying upon the maples and sycamores, but not found, to my knowledge, in this vicinity before. No remedy is known to me except the (all but impracticable) one of gathering the fallen leaves and burning. From the nature of the parasite this must be a specific where possible to make use of it. The scientific name of the fungus is ———. The plantation has been remarkably free from insect depredations. Several leaf-eating caterpillars have worked upon the elms and walnuts, but not so as to do serious damage. The larva of a butterfly (*Grapta interrogationis*) has defoliated very injuriously the elm trees planted singly, as along streets and on the ornamental grounds, and a sphinx larva in like manner the ash, but upon trees in masses they do not appear to work much.

The ground the last two summers has been so wet that the plantation could not be cultivated at the proper times, so that more weeds have been allowed among the smaller trees than otherwise would have been. Visitors not acquainted with the peculiarity of these two seasons would get a wrong impression without these explanations.

The only addition made since the last report is a quarter of an acre of apple, planted four by four feet. The tulip trees which we intended to set last spring have been root pruned preparatory to removal next season. We hope to secure a collection of acorns this autumn, to fill up the portion designed for Oaks. I recommend also the addition of Box Elder and Honey Locust, the plants to be grown from seed, which can be obtained at little or no cost. The measurements of a few Box Elder are given in the table for 1875. They were planted by chance with the White Ash and were then of the same age and size as the latter; but at the date given the average height of the Box Elder was 15 feet 7 inches, against 11 feet 10 inches for the Ash, and the diameter of trunk one foot from the ground,  $\frac{3}{4}$  to 1 3-5 inches.

By the showing of the table, the Willow is now making the most rapid growth, having gained in average height, six feet in 1876. Next comes in order the Soft Maple (*Acer dasycarpum*), four feet six inches; the Catalpa and Osage Orange, each, four feet, and the White Ash and European Larch, each, three feet four inches. The two first do not furnish very valuable timber, while that of the four following are exceedingly useful. From the most reliable information, we know the wood of both the Osage and the Catalpa is almost proof against decay—the dead logs in their native places lie for ages upon the damp ground, hard and sound, while generations of human beings come and go—a log of Catalpa certainly known to have lain upon the earth in the wet woods of Pulaski county, Ill., during the whole century of our republic, was sawed into boards and one of them, perfectly sound and receiving a high polish, helped form the collection sent by this University to Philadelphia; a piece cut from the plantation, nearly four inches in diameter, also went with the collection. This was from seed sown in 1869. The Osage Orange wood, perhaps, is still more valuable, while that of the Ash and Larch is highly esteemed. Upon very extended inquiry during the last winter, in connection with the centennial wood collection, it was found that the price of wood as fuel had not increased during the last ten years in our State, and that in more than half of the timbered regions the growth was estimated to be fully equal to the destruction. With our immense supplies of coal, it is doubtful if wood can, for many years to come, be profitably grown for fuel; but the finer and better varieties of trees, such as are named above, may yield a handsome profit, while natural forests are burned to clear the ground.

The conifers, as indicated by the figures, are growing rapidly—the White Pine being first for the last year; the Scotch and Austrian for the year before. The growth of these trees should not be compared with that of the deciduous leafed ones, because of the natural slowness of their growth while young. In after years they will overtake their present rivals. The proportionately great expense of the Larch, Walnut and Butternut, for 1876, is due to extra work, pruning and transplanting.

## Forest Tree Plantation.

1875.					Acres.....	1876.								
Varieties.	Height.		Growth.			Diameter	Cost.	Height.		Growth.		Diameter	Cost.	Cost from begin- ning.
	Ft.	In.	Ft.	In.				Ft.	In.	Ft.	In.			
Norway Spruce.....	2	8	.....	8	.....	\$2 55	1 3/4	4	3	1	6	\$1 75	\$66 31	
White Pine.....	2	8	.....	11	.....	5 95	1 1/4	4	.....	2	.....	1 3/4	5 75	362 79
Austrian Pine.....	2	8	1	2	.....	2 55	4	4	8	1	6	2	1 80	99 76 1/4
Scotch Pine.....	3	8	1	2	.....	2 55	5	.....	1	8	2	1 80	77 39	
White Ash.....	11	10	3	2	13-5	6 50	23 1/4	15	8	3	4	1 3-5	5 40	253 46
Green Ash.....	15	.....	2	8	19-10	00 00	1 1/4	17	6	3	.....	19-10	80	46 69 1/2
Catalpa.....	12	.....	2	6	2	1 15	1 1/4	16	.....	4	.....	2 3/4	80	39 09 1/2
American Elm.....	8	.....	3	.....	2	50	1 1/8	13	6	2	.....	2	50	18 10
European Larch.....	12	.....	3	4	12-5	3 50	2 1/8	10	.....	3	4	1 3/4	21 80	246 24
Osage Orange.....	8	6	3	.....	1 1/4	1 25	1 1/4	13	6	4	.....	1 1/2	1 25	21 96 1/2
Butternut.....	8	6	3	.....	1 1/4	1 05	1 1/4	10	6	1	.....	1 1/2	5 50	43 06
Black Walnut.....	9	2	2	9	13 1/4	1 05	1 1/4	12	.....	2	6	2	10 60	18 14
White Willow.....	12	7	3	7	13-5	3 50	1 1/4	20	.....	6	.....	2	6 20	38 16 1/2
Soft Maple.....	17	8	1	9	2 1/2	55	1 1/4	21	.....	4	6	2 3/4	45	25 42 1/2
Sugar Maple.....	3	.....	.....	7	.....	4 25	1 1/4	.....	.....	.....	.....	.....	3 75	40 86
Chestnut.....	All	de	ad.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	41 59 1/2
Box Elder.....	15	7	3	6	3 3/8	But	few	tr	ees.	.....	.....	.....	.....	.....
Apple } Planting.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	25 20	.....
Apple } Cultivating..	.....	.....	.....	.....	.....	.....	1/8	7	6	1	.....	3/4	1 75	26 95
Total cost.....	.....	.....	.....	.....	.....	\$36 90	.....	.....	.....	.....	.....	.....	\$95 10	.....
Total c'st fr'm beg'ng	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	\$1,424 41

## GREEN HOUSE.

From the report on file concerning the moving of the green house, it is seen that an estimate of \$1,000 would be required to place it as it now is on the grounds near the new building. But for our purpose the structure can be very greatly improved at no great additional expense. We need a portion higher than the present roof for large size plants, some of which have been growing from our beginning, and are yearly becoming more valuable, and a portion with low roof for propagation. Attached to the green house a botanical laboratory is also very greatly needed. It is impossible to do such practical work as the times demand in teaching and in original investigations upon plants and their physiology without an appropriate place to work. I therefore beg leave to ask that steps be taken to secure from the State Legislature the required amount. Without having fully matured plans, and without estimates by skilled workmen, I venture to name \$4,000 for the buildings and equipments. This contemplates a plain structure of brick, one story high, and the use of the green house material on hand, the required tables and apparatus for cultures, dissections, analysis, etc. An ornamental building would cost more according to the plans adopted.

T. J. BURRILL,

Prof. Botany and Horticulture.

## UNIVERSITY FARM.

To DR. J. M. GREGORY, Regent Illinois Industrial University :

I herewith present a summary of operations of the farm since the last quarterly report. The account stands as follows:

By cash sales.....	\$2,842 04
By credit Horticultural Department.....	361 80
By credit other departments.....	106 63
Total sales and credits for three months.....	\$3,310 47
To cash expenses.....	\$1,722 74
To Illinois Central, freight.....	101 72
To department charges (Mechanical).....	22 12
Total expenses and charges.....	\$1,846 58
Three months balance.....	1,463 89
	\$3,310 47

I make the following estimate for the balance of the year, to be sold and collected :

Two cars cattle now ready.....	\$2,000 00
Hogs, (\$100 now received).....	150 00
Hay.....	200 00
Corn.....	200 00
Note for short-horn bull.....	150 00
Other sales and receipts.....	200 00
Total estimated receipts.....	\$2,900 00
Ordinary expenses 3 months, \$400 per month.....	\$1,200 00
For purchase of stock cattle.....	500 00
Estimated balance, 3 months.....	1,200 00
	<u>\$2,900 00</u>
There was a balance due the farm Dec. 1, of.....	\$317 76
Accumulated balance in 9 months.....	1,050 45
Estimated balance for next 3 months.....	1,200 00
	<u>\$2,568 21</u>

I think the profits of the year will be something near this amount, perhaps less. This is something less than has been made for the past two years. While crops are equally as good, the depreciation in prices since one year ago will make the difference. By the system of taking inventories at the close of the year, that has been practiced on the farms, any rise or fall in prices of farm products, will show doubly in the returns of the year. Thus, there has been a large falling off in the price of cattle, hay, wheat, etc., and having a stock on hand at the beginning of the year, we lose on that as well as the present crop.

I ask leave to invest the \$500, mentioned above in stock cattle, and also that measures be taken to procure a young short-horn bull to take the place of the one recently sold, as well as a short-horn cow or heifer, that I think was promised a year or so ago.

In my estimation, at no distant day measures should be taken to establish a dairy and make butter on the farm as a means of revenue, as well as to set off the farm to advantage. We can raise good hogs, cattle and corn, but no better than our neighbors. I believe with a good milk house and other accommodations, we could demonstrate what I believe to be a fact: that this country cannot be excelled anywhere as a dairy country, and would be willing to go still further and attempt to show that short-horn cows or short-horn grades, when reared for the purpose, make the best general-purpose dairy cows in the world. While I am not prepared to recommend such a course more unqualifiedly, I make the suggestion for your consideration.

E. L. LAWRENCE, *Head Farmer.*