

the dwarf, recorded in each case. The results in the case of kafir showed a mean internode length of  $12.00 \pm 3.599$  centimeters in the tall group, as compared with a mean internode length of  $6.89 \pm .532$  centimeters in the dwarf group. The mean sheath length in the tall group was  $18.01 \pm 3.81$  centimeters and in the dwarf group  $18.02 \pm .322$  centimeters.

It is seen that in both milo and kafir the internode length varies widely when the plant is grown under different environmental conditions, but that little variation has occurred in the length of the sheath.

From these data it would seem that overlapping of the leaf sheath may show wide variation in other Gramineæ in the same variety and plant from year to year, depending on environment, and that a statement of the overlap of sheath in descriptive botanical literature is of doubtful value.

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## THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

### REPORT OF THE TREASURER FOR 1916

IN compliance with Article 15 of the constitution, and by direction of the council, the treasurer has the honor to submit the following report showing receipts, disbursements and disposition of funds and securities of the association for the year 1916 up to December 20, inclusive.

Receipts have come into the keeping of the treasurer from the following sources:

- (a) From interest on deposits with the United States Trust Company of New York, N. Y.
- (b) From the executor of the estate of Richard T. Colburn.
- (c) From interest on securities purchased for the association during the year.

The total of cash receipts during the year is \$54,760.24; and the appraised value of the securities received from the Colburn estate is \$25,740. The grand total of cash receipts and appraised value of securities received is \$80,500.24.

Disbursements made in accordance with directions of the council amount in the aggregate to \$77,027.87. These include \$75,733.98 paid for \$80,000 worth, par value, of securities purchased for the association and held as an investment.

The total amount of funds of the association, consisting of cash, cost value of securities purchased and appraised value of securities received from the Colburn estate, is \$109,151.21.

The details of receipts, disbursements and disposition of funds are shown in the following itemized statement:

### BALANCE SHEET

#### Assets

Investments:	
Securities (see schedule, page 146) ..	\$100,777.50
Cash in banks .....	8,373.71
	<u>\$109,151.21</u>

#### Liabilities

Life-members (284 at \$50) .....	\$14,200.00
Jane Smith Fund .....	5,000.00
Colburn Fund .....	<u>77,755.74</u>
	\$96,955.74
Accrued surplus .....	<u>\$12,195.47</u>
	<u>\$109,151.21</u>

### *The Treasurer in Account with the American Association for the Advancement of Science*

#### Dr.

1916	
Jan. 1.	Balance from last account ... \$30,641.34
Feb. 4.	Cash from Colburn estate .... 51,265.74
Feb. 4.	Bonds from the Colburn estate (appraised value) ..... 25,740.00
May 6.	Cash from Colburn estate ... 750.00
July 1.	Interest from United States Trust Company ..... 764.50
	Interest on securities for the year ..... 1,980.00
	<u>\$111,141.58</u>

### *The Treasurer in Account with the American Association for the Advancement of Science*

#### Cr.

1916	
Feb. 4.	Bonds from Colburn estate (appraised value) ..... \$25,740.00
Apr. 26.	Amount paid permanent secretary for two life memberships under Jane M. Smith Fund ..... 100.00
Apr. 27.	Grant to Concilium Bibliographicum ..... 250.00
Apr. 27.	Grant to Ralph C. Benedict. 100.00
Aug. 2.	Interest on life memberships for 1914 and 1915 ..... 793.89
Nov. 15.	Compensation paid United States Trust Company for services in purchase of bonds ..... 50.00
Aug. 17.	Securities purchased, listed as follows:
	\$10,000 Chicago and Northwestern Railway Co. 4 per cent. bonds ..... \$9,425.00
	Accrued interest ..... 102.22

\$10,000 Atchison, Topeka and Santa Fe Railway Co. 4 per cent. bonds...	9,287.50
Accrued interest .....	135.56
\$10,000 Great Northern Railway Co. 4.25 per cent. bonds .....	10,050.00
Accrued interest .....	37.78
\$10,000 Pennsylvania Railroad Co. 4.5 per cent. bonds .....	10,487.50
Accrued interest .....	2.50
\$10,000 Chicago, Burlington and Quincy Railroad Co. 4 per cent. bonds ...	9,350.00
Accrued interest .....	177.78
\$10,000 Union Pacific Railroad Co. 4 per cent. bonds .....	9,012.50
Accrued interest .....	170.67
\$10,000 Northern Pacific Railway Co. 4 per cent. bonds .....	9,187.50
Accrued interest .....	37.89
\$10,000 New York Central and Hudson River Railroad Co. 3.5 per cent. bonds .....	8,237.50
Accrued interest .....	32.08
	<u>\$75,733.98</u>
Dec. 20. Cash in banks as follows:	
Fifth Avenue Bank of New York .....	\$1,681.34
United States Trust Company of New York .....	6,692.37
	<u>\$8,373.71</u>
Total .....	<u>\$111,141.58</u>

SCHEDULE OF INVESTMENTS  
*Securities Purchased*

Par Value	Purchase Value
\$10,000 Chicago and Northwestern Railway Co. general mortgage 4 per cent. bonds, due 1987 .....	\$9,425.00
\$10,000 Atchison, Topeka and Santa Fe Railway Co. general mortgage 4 per cent. bonds, due 1995 .....	9,287.50
\$10,000 Great Northern Railway Co. first and refunding mortgage 4.25 per cent. bonds, due 1961 .....	10,050.00
\$10,000 Pennsylvania Railroad Co. consolidated mortgage 4.5 per cent. bonds, due 1960 .....	10,487.50
\$10,000 Chicago, Burlington and Quincy Railroad Co. general mortgage 4 per cent. bonds, due 1958 .....	9,350.00
\$10,000 Union Pacific Railroad Co. first lien and refunding mortgage 4 per cent. bonds, due 2008.....	9,012.50

\$10,000 Northern Pacific Railway Co. prior lien railway and land grant 4 per cent. bonds, due 1997 .....	9,187.50
\$10,000 New York Central and Hudson River Railroad Co. 3.5 per cent. bonds, due 1997 .....	8,237.50
	<u>\$75,037.50</u>
Appraised value of bonds received from Colburn estate .....	25,740.00
	<u>\$100,777.50</u>

R. S. WOODWARD,  
*Treasurer*

December 20, 1916

### THE AMERICAN ASTRONOMICAL SOCIETY

THE twentieth meeting of the American Astronomical Society was held at Columbia University, on December 26-29, 1916, in connection with the Convocation-week meeting of the American Association for the Advancement of Science. The attendance was large, forty-nine members being present, but was unevenly distributed geographically, two thirds of those present coming from the New England and Middle States, and only two from west of the Mississippi.

By an unusual coincidence, three of the most important communications from the standpoint of astronomy were not made at the sessions of the Astronomical Society. Professor Campbell's admirable address on "The Nebulæ" was delivered by him as retiring president of the American Association for the Advancement of Science at a general session; and the no less interesting addresses of Professor Brown, on the relations between mathematics and the physical sciences, and of Professor Leuschner, on the determination of orbits, were presented at a joint meeting of the American Mathematical Society, the Mathematical Association of America, the American Astronomical Society and Section A of the A. A. A. S.—which organizations also joined in a very enjoyable dinner on Thursday evening. As these three addresses will doubtless be published *in extenso*, it is of no use to summarize them here.

At the regular scientific sessions 35 papers were presented, which are here grouped according to their subject matter, rather than the order of presentation. Beginning with the mathematical and instrumental aids to investigation, Hedrick exhibited specimens of new tables for rapid interpolation of logarithmic and other tables, while Schlesinger, discussing the error arising from "neglected decimals," showed that this is usually