

# THE VISITOR

Devoted to the Interests of Agricultural Education in Minnesota Schools

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## INDEX FOR THE 1934 UNITED STATES DEPARTMENT OF AGRICULTURE YEARBOOK

By V. E. NYLIN

The following index for the 1934 United States Department of Agriculture Yearbook continues the same plan of organization that was followed for the indexes of the yearbooks from 1901 to 1933. The index for the 1934 yearbook furnishes a supplement to those previously published and forms a complete and convenient guide to a fuller use of the U.S.D.A. yearbooks covering a period of thirty-four years.

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### ADDITIONS TO BOOK LIST PUBLISHED IN APRIL ISSUE

#### ECONOMICS

- Overton, M. H., and Robertson, L. S. "Profitable Farm Management and Marketing." 1929. \$2.00. (2)\*

#### AGRICULTURAL ENGINEERING

- Cook, Scranton, and McColly. "Farm Mechanics Text and Handbook." 1935. \$2.50. (1)

#### AGRONOMY

- Weir, W. W. "Productive Soils." 1931. \$2.00. (2)
- Montgomery, E. G. "Productive Farm Corps." 1928. \$3.00. (2)

#### ANIMAL HUSBANDRY

- Anderson, A. L. "Swine Enterprises." 1931. \$2.00. (2)
- Davis, K. C. "Livestock Enterprises." 1928. \$2.00. (2)

#### HORTICULTURE

- Lloyd, J. W. "Productive Vegetable Growing." 1935. \$3.00. (2)

#### POULTRY

- Dickinson and Lewis. "Poultry Enterprises." 1931. \$2.00. (2)
- Kircher, W. H. "Chickens." 1935. \$.50. (4)

#### SHOP

- Boone, G. N. "Woodwork for Rural High Schools." 1929. \$.32. (3)
- Klenke, W. W. "Joints and How They Are Made." 1925. \$.65. (3)
- Roberts, W. E. "Woodwork in the Junior High School." 1930. \$1.75. (3)
- Roberts, W. E. "Beginning Woodwork Units." 1934. \$.48. (3)
- Selvidge, R. W. and Allton, J. M. "Blacksmithing." 1925. \$1.20. (3)

#### LEADERSHIP AND RECREATION

- Case, J. F. "Moon Valley." 1932. \$1.50. (2)
- Case, J. F. "Tom of Peace Valley." 1925. \$1.50. (2)
- Case, J. F. "Under the 4-H Flag." 1927. \$2.00. (2)
- Chapman, P. W. "The Green Hand." 1932. \$1.50. (2)
- Scranton, L. L. "Fun and Work for Future Farmers." 1934. \$2.00. (1)

\* (1) Interstate Printing Company, Danville, Illinois.

(2) J. B. Lippincott Company, 220 North Michigan Ave., Chicago, Illinois. (Note new address.)

(3) Manual Arts Press, 237 North Monroe Street, Peoria, Illinois.

(4) Webb Publishing Company, 55 E. Tenth Street, St. Paul, Minn. (Complete, up-to-date list of reference books free.)

## VISUAL AIDS FOR THE CLASS ROOM

Although classes can be conducted without visual aid, the teacher must recognize the merits of visual instruction. Every instructor should give careful thought to problems such as the following. How can visual aid be worked into the teaching program? Should stereopticon or motion pictures be used once a week or should they be used to strengthen each lesson? How much time can be devoted to pictures? Can the room be partially or wholly darkened? What is the voltage? What type of projection lantern is most suitable and practical? Is there a convenient source of films, slides or opaque objects?

If the school is not equipped with a regular moving picture projector, there are three other types of projectors to be considered. They are the lantern slide projector, opaque object projectors, and the film strip projectors.

The glass slide lanterns are undoubtedly the nearest approach to perfection in visual aid to education. Slides are easily made, inexpensive to rent, and are large enough to give pictures the desired detail. Glass slides are not easily damaged by extreme heat and are more durable than stereopticon film strips.

Opaque projectors are excellent aids in presenting a wide range of subjects. With this type of machine almost any material, from pages of books intact to geology specimens, can be projected on the screen. This type of machine often meets with difficulty because most rooms cannot be darkened sufficiently to give detail to pictures. An opaque projector without other attachments is not to be highly recommended, but a slide lantern equipped to show opaque objects supplementing the regular slides makes a good combination. There are machines on the market equipped to make the change without loss of time.

The stereopticon films have proved to be a good supplement to the regular glass slide lantern. Their cost is much less than glass slides, but again lack the detail that can be had in the regular  $3\frac{1}{4} \times 4$  inch glass slides. These film strips are printed on regular 35 mm motion picture film. They can be purchased in rolls containing from 50 to 100 prepared pictures on "frames" at a cost of from less than one and up to two dollars per roll. Most films are accompanied by manuals giving a brief description of the subject material covered. Films can be made from photographs taken with a kodak.

They are printed on the standard motion picture film at a cost of 35 cents per picture. Special units for projecting films only can be purchased, or they may be had in combination with the slide lantern projectors. In addition to the film attachment it is possible to get a micro-attachment designed for microscope slides  $3 \times 1$  inches. They prove valuable in elementary science, but are not suitable where high magnification is desired.

There are several outstanding lines of projection apparatus on the market. Available information and experiments to show the merits of a given type of machine manufactured by different firms is limited. Mr. Kissack, director of the Visual Education Department at the University of Minnesota, reports that visual aids manufactured by the Spencer Lens Company of Buffalo, New York, and the Bausch and Lomb Optical Company at Rochester, New York, are well suited to the needs of secondary school teachers.

The prices of the following projectors were received from the Auditorium Supply Company, 1029 Nicollet avenue, Minneapolis, Minnesota. Free descriptive material and additional information may be secured from them.

Regular Slide Lantern—500 watt, 115 volt Mazda lamp—	
Spencer .....	\$62.00
Bausch and Lomb.....	57.00
Film attachment for use with lantern—	
Spencer .....	38.50
Bausch and Lomb.....	38.50
Film slide projectors only—	
Spencer (200 watt, 115 volt Mazda lamp) .....	48.00
Bausch and Lomb (200 watt, 110 volt Mazda lamp).....	57.50
For opaque objects only—	
Spencer (500 watt, 115 volt Mazda lamp) .....	80.00
Bausch and Lomb (500 watt, 115 volt Mazda lamp).....	62.50
Combined opaque and glass slide projectors—	
Spencer (500 watt, 115 volt Mazda lamp) .....	120.00
Bausch and Lomb (500 watt, 115 volt Mazda lamp).....	120.00
Micro-Projectors (for projecting $3 \times 1$ inch glass microscopical slide)—	
Spencer .....	20.00
Bausch and Lomb.....	20.00
Spencer four-purpose projector (lantern, opaque, film strip, and micro-slide) ..	158.50
Film strips 30 to 80 pictures (approximately .03 each).....	2.00
Slides, each.....	.45 cents to 1.00
Cost of making films from photographs, per picture .....	.35 cents

When further information regarding stereopticons becomes available, it will be reported in future issues of The Visitor. Teachers are invited to send reports of experiences that might be of interest and value to others.

G. WILKENS