THE VISITOR

Devoted to the Interests of Agriculture, Manual Training, and Home Economics in Minnesota High Schools

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BETTER METHODS IN THE CLASSROOM

Paper by W. H. Bender Before Division of Agricultural Instruction, M. E. A.

One of the first things to be recognized in teaching is that mere manipulations of materials and handling things is not effective instruction. It is quite possible that the subject of agriculture has suffered in many cases from misapplied energy in this direction. Sometimes in our enthusiasm for equipment we have thought more of the senses than of sense.

In attempting a few suggestions on the topic of better classroom methods it becomes necessary for one to analyze briefly the question of method in the teaching processes. The three dominating factors in the method of the class room are subject matter, pupil, and devices. The first and second of these largely control the selection of the materials for the third. As choice and organization of subject matter is determined in great degree by the nature and interests of the pupil we may regard him a fixed factor and proceed at once to such phases of organization of subject matter as seem necessary to bring better results. The teacher then becomes the adjuster and by bringing [illegible] secures results with [illegible] friction. *Professor Palmer in that excellent little monograph on "The Ideal Teacher" has given us just such characteristics as we would like to have for the teacher of agriculture also.* His ideal teacher would have an already acquired wealth, he would be master of the subject matter and have a large margin beyond what he could use in the classroom. He would have an aptitude for vicariousness. To him the matter would be very clear from the pupil's standpoint. A third quality suggested is that he should have ability to stimulate life through knowledge. By the way he uses his fund of knowledge in the classroom he gives more abundant life to his pupils. Lastly, this teacher is willing to work and to be forgotten. He is not watching the dial of personal popularity and seeking commendation so persistently as to lose sight of his subject and class in the glare of his own glory. These are high standards but the teaching of agriculture deserves to be in the hands of just such people.

Subject Matter Plus Teacher

Geographically considered, the subject matter should be regarded as both local and national. It is local in its adaptation to instructional and vocational interests of the pupil; it is national in its social relationships and aspects. This gives the teaching at once an intensive and an extensive viewpoint.

A long time ago the poet gave the following couplet,

"Be not the first by whom the new is tried,
Nor yet the last to lay the old aside."

We recognize that this couplet can be adapted to almost any line of argument but it is to be hoped that the teaching of agriculture is coming into the hands of sanely conservative and wisely progressive friends of the type suggested in the rhyme.

In the elder day physicians wrote prescriptions in Latin because that was the only known way for doing it, now it is only those who wish to bewilder the uninitiated who keep up the practice. Sometimes there have been similar practices promulgated in relation to agriculture and its teaching. Indeed, there was a time when he was a bold layman, even though country bred and well trained in rural arts, who dared to harbor within the quiet precincts of his own soul the thought that he knew anything of agriculture and how it might be taught to others. It is probably not wise to remove all restrictions yet, but possibly it is safe to admit him as a sort of probationer while we still astound him occasionally with learned scientific phrases that might have been put into common English. This leads, then, to the statement that one of the ways to improve the teaching of agriculture is to remove the subject from its pedestal of aloofness. It should be given its place either as the beneficiary of the various sciences, the applied forms of those sciences, or the correlating social center of the sisterhood of sciences.

Immediate Classroom Improvements

In the acquisition of knowledge three routes are open to the learner. He may secure it on the authority of another, gain it by personal observation and experience, or obtain it by predetermined experimentation. This suggests lecture, text-book, library, laboratory—indoor and out—and class and individual projects.

One of the first and most needed improvements is to get the right balance among these various means of instruction. Each has an educational value particularly its own and no one of them is most effective without the aid of the others. Often it is difficult to find any relationship between classroom and laboratory. The laboratory should reinforce the instruction of the classroom and the latter should give definiteness to the laboratory processes. Proper interplay between these two agencies is a matter needing careful study and investigation both in public school and college.

The introduction of a well-prepared textbook may frequently save time and bring better results than the rather scattered so-called lecture with the more or less indefinite reference readings. A good textbook, properly illuminated by demonstration in the classroom, enlarged by laboratory exercises and field excursions, supplemented by brief notes by the teacher, and verified by reference readings is a time-saver and a means of reaching definite results that possibly is not used quite so much as it should be used.

Frequently it is said of a book that the treatment is too brief when the judgment is based entirely upon the direct number of pages under the topic considered. This may be true or it may be far from the truth. The table of contents, the index and a more general reading of the book itself may prove conclusively that the treatment [illegible] if all volumes are properly understood and associated with the general topic under discussion.

Correlation Desirable

This leads to the thought of the loss in forcefulness and definiteness of instruction due to failure to correlate properly parts of the same general subject. A discussion of the treatment of soil in the preparation of a seed bed for corn and its continued cultivation throughout the season should be utilized later in the more intense study of soils. Various courses must necessarily overlap, but when intelligently treated in each case they supplement and clarify rather than duplicate each other. In our fear of duplication we may seriously narrow the vision of the student. In treating recurring topics found in new relations in somewhat diversified subjects we may unnecessarily waste time and confuse the pupil. A class of high school seniors when questioned confessed that they had met the word "osmosis" five times in as many different subjects in the high school and that each time the teacher presented the idea as though it had never been met before. This may be an extreme case but public school and college are much more in need of a study of courses for pointing out where and how sensible correlations may be made and helpfully utilized than for the removal of all mention of certain things in various courses because they seem to appear in some other course and thus suggest duplication.

Correlations between subjects of the grades, other high school subjects, and agriculture in the high school are too numerous to enumerate here. The agricultural teacher instead of standing apart from the other work of the school should be the greatest coöperator within the schoolhouse walls. When his class is studying the cream separator and the Babcock butter-fat testing apparatus he might invite the physics teacher to take charge of some phases of the work. The physics class could come to him for some practical illustrations in capillarity in relation to soil manipulations. Then there are the subjects of botany, physical geography, commercial geography, zoology, and others, ready to give help and receive help from the work in agriculture.

Poetry and Vision Needed

Finally, the agricultural classroom should not be utterly devoid of poetical sense and philosophical vision. One of the best attainments of life is a spirit of reverential wonder. The homely dairy cow that produces three times as much in food products for the human race yearly as the sleek, fat, beef steer in the finishing year of his life, and that lives on in her modest, rather unattractive way to repeat her services long after the sleek outer covering of the fat steer has been worn to shreds on the soles of humanity's feet is an object that the agricultural class should be taught to respect. Boys and girls should be so taught that they have a higher regard for the wonders of the starch factory in a common corn field when they realize that any ordinarily well-behaved cornstalk elevates and utilizes through root, stem, and leaf, nearly seven gallons of water during the processes of growth and development.

The head of a dairy department of one of the largest agricultural colleges in the land came before a freshman class with a lecture on organizing coöperative dairy associations. He said kindly, but firmly, "Young men, unless you have men in your community who are willing to lay aside selfish, personal interests for the community good, do not try to establish a coöperative creamery there." A sermonette on applied Christianity. He also went further and urged that a good, substantial, beautiful building should be erected. One that should be the pride of the community and a model of neatness. He asked them to insist on a clean and attractive lawn about the building, with no weeds and discarded machinery, that this community center might be suggestive to every farmer in the vicinity as to his own premises. Here was a little lecture on art and landscape gardening. An angular, overgrown, but bright young freshman responded to the remark—"Isn't it interesting to have a man with a little poetry in his soul to give such a lecture as that." "Yes, and didn't you notice the spirit of the class." These, too, are some of the desired improvements.

SPECIAL COURSE IN SEED-TESTING

In the Seed Laboratory, University Farm, will be given special courses in seed-testing, during the Farmers' and Home-Makers' short course, beginning January 5. The work will be under the direction of W. L. Oswald, head of the Section of Agricultural Botany and of the Seed Laboratory. Every afternoon except Saturday will be devoted to seed testing, to lectures, and to special sessions having to do with:

Seed legislation in Minnesota.
Educational work in seed-testing.
Report of the Washington meeting of seed analysts.
Uniform methods of purity testing.
Uniform methods of germination testing.

The course is open to all interested in the subject or practice of seed-testing. It should be of special value to agricultural high school instructors, and particularly to those who have not had experience in seed-testing. Every agricultural high school in the State should offer a course in seed-testing, and this short course would enable instructors to lay the foundations for such work and outline courses.

The Minnesota seed law will be discussed, so that all interested may become acquainted with its provisions.

NORMAL TRAINING CLASS

Teachers of Rural Schools Given Opportunity for Preparation

Graduates of the School of Agriculture, University Farm, being from the country, often wish to teach in the rural schools. Since they are already well equipped in agriculture and home economics, they desire an opportunity of preparing themselves in the common branches and professional work, and in further preparing in home economics and agriculture for the special purposes [illegible] schools.

To meet this condition, a course is given in the School of Agriculture. That the preparation of these candidates for country schools may be given the same special attention which others receive in the high schools of the State, Miss Georgina Lommen has been added to the staff of the Division of Agricultural Education, as Instructor in Normal Training.

Miss Lommen has had successful experience as a rural teacher, town teacher, principal of schools, county superintendent, and instructor in a state normal school. She has been a member of the Summer Training School faculty at University Farm for two years and is much in demand over the State for work in teachers' institutes and associations

Ten young women now constitute the class, and as plans become definite, larger classes are looked for.

One of the greatest needs in Minnesota today is a large number of well-prepared rural teachers, familiar at first hand with rural needs and properly trained to meet them. Every agency which the State can utilize should be called upon to assist in this important work.

BOISE WORK INTERESTS

Industrial Department of High School Commands Attention

The industrial work of the Boise, Idaho, high school is attracting attention throughout the country. A practical turn is given the manual training work by using the boys in place of carpenters in doing the repair and cabinet work about the school buildings. For this work they are paid wages and allowed credit in manual training courses. During the summer a group of the boys did much of the finishing work on the new high school building, working under the manual training instructor as foreman and receiving both wages and school credit for the work. Cement sidewalks, concrete posts for school fences, and other cement work is done by the boys on the same plan.

A school farm of 40 acres with necessary teams and improvements is provided. In addition to this, the instructor in agriculture, who is also the county agent, has taken the contract of rejuvenating a neglected orchard and has leased a profitable bearing orchard. The land is operated by the boys who are paid for their labor. Through his relations as county agent, the instructor in agriculture is able to place all boys in the agricultural course who desire summer work on farms. There he can supervise them and allow school credits.

GOVERNMENT LENDS LANTERN SLIDE SETS

The Agricultural Education Service of the United States Department of Agriculture has undertaken the preparation of lantern slides on agricultural subjects for educational purposes. These slides will be loaned for one week, exclusive of time required for transportation, on condition that the borrower agrees to pay express charges from Washington and return and to be responsible for loss or damage [illegible] under any circumstances, use slides for other than educational purposes.

The lecture sets should be ordered by the number or by the title of the set wanted. Each order should be limited to 50 slides. In ordering slides be sure to give the address of the express office to which the shipment is to be made. Applications should be made to the Chief Specialist in Agricultural Education, Office of Experiment Stations, United States Department of Agriculture, Washington, D. C., and should reach him at least ten days before the slide are wanted.

Each of the sets is accompanied by a syllabus for a lecture. The sets which are available and may be of interest to Minnesota teachers and extension workers, are:

Set I—The Preparation and Use of Illustrative Material for Elementary Agriculture—50 slides.
Set II—Improvement of Rural Schools—50 slides.
Set III—Rural Consolidated Schools—46 slides.
Set V—Community Work in the Rural High School—37 slides.
Set VI—Some Types of Children's Gardens in the United States—50 slides.
Set VII—Some features of High School Instruction in Agriculture—50 slides.

In addition to these sets there are available about 225 slides showing conformation of dairy and beef cattle, horses, sheep and swine, famous animals of different breeds, breeds of poultry, methods of handling poultry and buildings and appliances for use in poultry work. A list of these slides with call numbers for ordering will be sent upon application.

CORRESPONDENCE

The **Visitor** desires to secure information concerning the use of bulletins in high school agriculture. If you can help by replying to the following questions it will be a great favor. It is not wished to burden already overburdened agricultural instructors but this request is made hoping that a summary of the answers received may be of sufficient value to pay for the trouble.

1. How many bulletins in your school library? How many from each state?

2. What system of filing do you use—leave on shelves, in drawers, in pamphlet cases, large envelopes, temporary binders, or bound in permanent binding?

3. Do you arrange bulletins by subjects, by years, or by work of class in half-year units?

4. Would you advise binding in permanent form for the library after several on a given subject or related subjects have been tried in class work?

5. In what ways do you find the bulletins especially helpful?

NEWS

The Shakopee high school held a corn and bread show in the high school building on the afternoon of November 7. Corn was entered in ten-ear lots. The boys from the rural districts competed in one division and the boys of the high school in another. First, second, and third prizes were given in cash in the different classes. The girls fourteen years old or under entered loaves of bread of their own making in the contest and were awarded prizes for the best loaves.

At noon the school board members of the adjacent rural districts were entertained at dinner by the home economics department of the high school. After the dinner about an hour was devoted to an explanation of the nature and purpose of the agricultural work in the high school and of the extension work accompanying it.

The prizes, including a banner to the rural district making the best showing in the contest, were presented at the opera house in the evening. This was followed by a performance of "Back to the Farm," by a company from the College of Agriculture.

The Plainview high school announces its third annual short course, by means of a postcard folder. The work will all be given in the afternoon and will consist of a course in farm crops. A tuition fee of one dollar will be charged to cover the cost of laboratory supplies, printing and incidentals. High school credit in farm crops will be given to all who satisfactorily complete the work.

The Animal Husbandry class of the Henderson high school spent Friday and Saturday inspecting points of interest in St. Paul and Minneapolis. The class was under the direction of the agriculture instructor, A. C. Brookley. It visited the stock yards and packing plant at South St. Paul, the University Farm and College of Agriculture, the flour mills, a stock food factory, and linseed oil mills. All expenses of the trip were defrayed by the boys.

[illegible] recently held a competitive examination for a specialist in Agricultural Education. The position carries a salary of $3,500 a year. The work will include the study of agricultural education, the collection and compilation of information relating thereto, and the giving of advice to education officers throughout the United States.

The agricultural instructor at Cokato requires the pupils in the Normal Training course to construct sample weed-seed cases and cases of economic seeds for distribution among the associated rural schools. Glass covers for these cases are discarded negatives donated by the local photographer and cleaned by the girls with hot water and washing soda. Practically the only expense is for the binding around the edges.

In the Animal Husbandry class the students are required to keep individual cow records for a period of months, bringing the record sheets to class each week to compute and report results. The milk-testing is done in the school laboratory. The school horse is being used by the class for a horse-feeding experiment.

St. Louis Park High School held an industrial contest and exposition in the high-school auditorium October 29-30. The exhibits consisted of grade and high-school work in manual training, sewing, cooking, normal work, and agricultural products. Exhibits from outside sources were accepted and given awards of honor. Cash prizes were awarded winning classes entered by school pupils. Athletic contests were held on each afternoon of the exhibit. An admission fee of 25 cents was charged with a special charge of 10 cents to pupils. The money thus realized was distributed in the form of cash prizes. Some cash prizes and a feed mill were donated by public-spirited citizens.

INDUSTRIAL LITERATURE

Farmers' Bulletin, Number 617, United States Department of Agriculture, outlines twelve lessons on corn, giving subject matter, exercises and references for each lesson. It also contains material relative to a "Corn Day" in the school and suggestions relative to selecting the exhibit of corn. It is of particular interest in rural school work.

Farmers' Bulletin, Number 614, United States Department of Agriculture, gives some suggestions on "hogging-off" crops which may be suggestive of improvement in some sections of Minnesota.

Circular Number 177 of the Agricultural Experiment Station, University of Illinois, discusses the relation between yield and prices in an enlightening way.