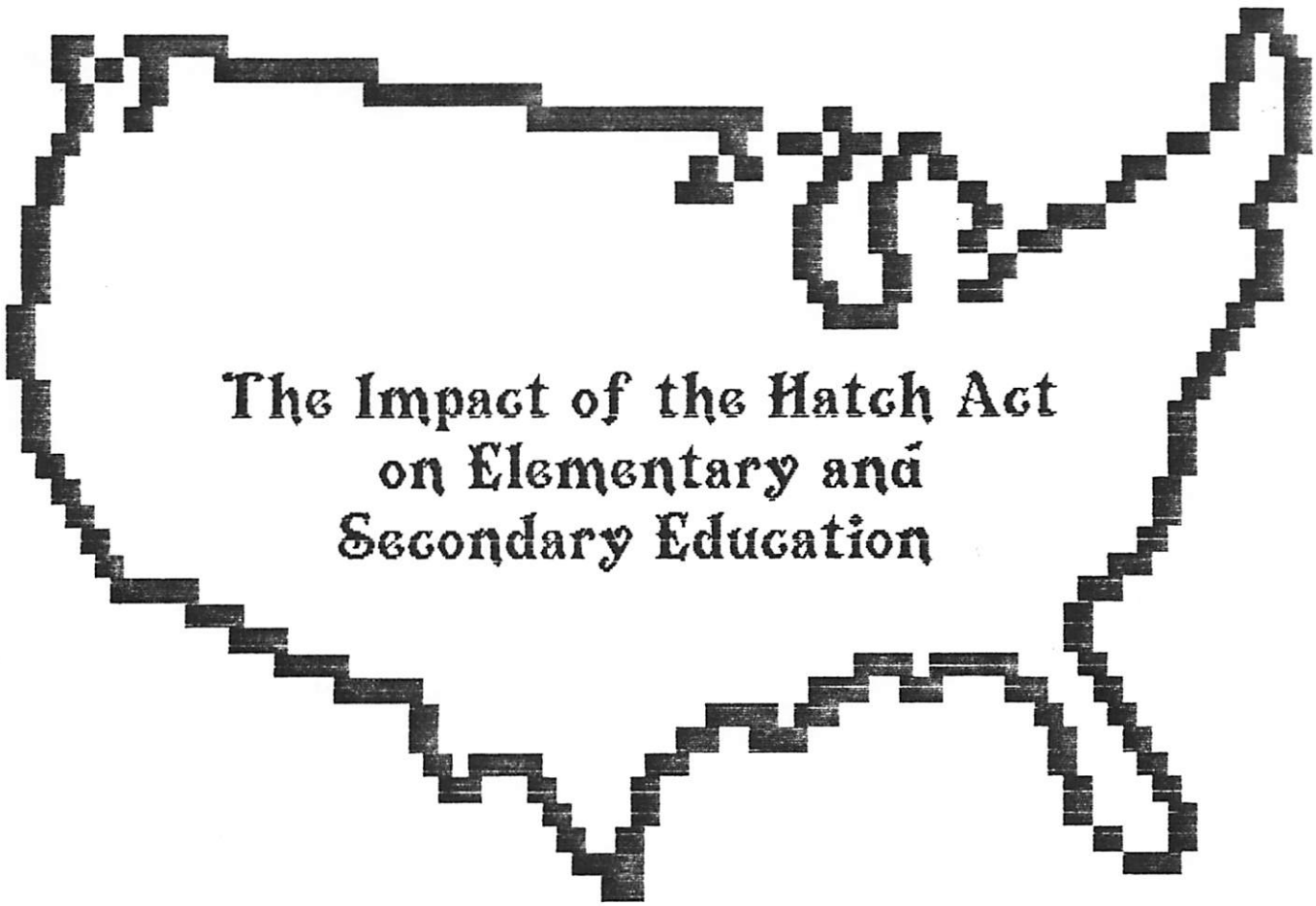

The Impact of the Hatch Act on Elementary and Secondary Education

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ON ELEMENTARY AND SECONDARY EDUCATION

When historians of the future write about the 1980's, they may classify it as the decade of educational reform. The publication of Adler's The Paideia Proposal: An Educational Manifesto in November of 1982 started a parade of educational reform reports.[5] The appearance of Horace's Compromise: The Dilemma of the American High School in March of 1984 was the 29th reform report of the decade.[6] By the time What Do Our 17-Year-Olds Know is published in the fall of 1987 over 50 educational reform reports will have been published. Each of the reports described the ills affecting U. S. schools and made recommendations for change. A Nation at Risk, the report of the National Commission on Excellence in Education, received much publicity and convinced the public of the need for drastic educational reform. Most of the reports stressed a return to "the basics" by placing more emphasis on academic and traditional studies. As a result of the educational reform reports, increases in high school graduation requirements and other educational reforms have been enacted in 45 states.[7]

There was another period of time in the history of our nation when schools were being as widely criticized; the 1880's and 1890's. The complaints then were varied. Some critics, such as Richard Grant White, charged in 1880 that the students were "unable to read intelligently, to spell correctly, to write legibly, to describe understandingly the geography of their own country, or to do anything that reasonably well educated children should do with ease."[8] A series of nine articles written by Joseph Mayer Rice and published in The Forum between October of 1892 and June of 1893 served as the capstone effort in describing the problems of American education during that time period. After

visiting schools in 36 American cities and talking with over 1200 teachers Rice wrote scathing articles about the schools and called for educational reform that would result in "progressive schools."

People in the rural areas also had concerns about their schools. They believed the schools were out of touch with the common person and had too much emphasis on the classics and academic studies. Rural leaders wanted a more relevant and practical approach to education. Henry Wallace of Wallace's Farmer and William Dempster Hoard of Hoard's Dairyman, both advocated educational reform in the rural schools. Hoard's critical statement that rural education is "as it was 60 years ago" and Wallace's assertion that we needed to abandon the idea that "a man was 'educated' only when he knew Greek and Latin" were typical of the concerns voiced by the rural leaders.[5] They wanted educational reform where practical things such agriculture would be taught in the schools.

The passage of the Hatch Act in 1887 is widely regarded as an agricultural research act but is was also an educational reform act. Many people think only of the Hatch Act as the legislation that established agricultural experiment stations for the purpose of conducting agricultural research. This is correct; but only partially correct. The Hatch Act also called for the diffusion of agricultural information to the public. This aspect of the legislation resulted in educational reform in the rural areas. The impact of the Hatch Act as an educational reform act has not generally been recognized. In this article the impact of the Hatch Act on educational reform at the turn of the century will be described, especially the development of agricultural education in public schools, and some thoughts about the future directions of educational reform will be explored.

In The Beginning

The first sentence of the Hatch Act reads, "Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That in order to aid in acquiring and diffusing among the people of the United States useful and practical information on subjects connected with agriculture, (underline mine) AND (large type mine) to promote scientific investigation and experiment respecting the principles and application of agricultural science, there shall be established under direction of the college or colleges or agricultural departments of colleges in each State and Territory . . . an agricultural experiment station."[6] The wording of this legislation indicated that experiment stations had two functions--disseminate practical agricultural information and conduct scientific investigations in agriculture.

Six months after the passage of the Hatch Act the land-grant university presidents and agricultural professors that had been meeting in a loosely structured fashion before the passage of the Act, met in Washington to formalize the establishment of an association to improve communications and coordinate activities in regards to agricultural instruction and experimentation. This group became known as the Association of American Agricultural Colleges and Experiment Stations (AAACES). Even though this group had been an informal group prior to 1887 they had been "a powerful lobby" and their evangelical fervor for "educational reform never flagged".[7] As a formal organization they parlayed the Hatch Act into an instrument of educational reform.

The AAACES, with encouragement from Commissioner of Agriculture Colman, lobbied for the establishment of a central office in the U.S.D.A. to coordinate the work of the various stations and to serve as a medium of communication

between the various experiment stations. As a result of their effort, the Office of Experiment Stations (OES) was established in October of 1888 as a special branch of the Department of Agriculture with an appointed Director as its head.[8]

In describing the mission of the newly created Office of Experiment Stations, Colman wrote in his 1888 report "The organization and functions of this office will naturally shape themselves to the needs of the enterprise as they arise."[9] The first two directors of the OES, Atwater and Harris, performed their duties in a perfunctory, business-like manner.[10] However, when Alfred C. True became director of the Office in 1893, the OES started efforts that Fuller described as "other good works. One of these was the promotion of the study of nature and agriculture in the country schools."[11] During True's tenure as Director of the Office of the Experiment stations the "diffusion of practical information regarding agriculture" wording of the Hatch Act was, for all practical purposes, interpreted to mean school reform in rural areas. In True's 1893 report as Director of the OES he cited what France, Belgium and other countries were doing in regards to agricultural education. He concluded that in America "the farm boy or girl in the rural high school should be taught. . . the theory and practices of agriculture." This would result in "more contented and prosperous rural communities."[12] At the time True wrote this, some work had been started in America in regards to teaching agriculture at the secondary level. The work that had been started was closely tied to the Hatch Act.

In 1889, after widespread dissatisfaction with the college level teaching of agriculture at the University of Minnesota, a school of less than college grade was established on the grounds of the agricultural experiment station.

Agriculture was to be taught on a practical and scientific basis. The school faculty of nine included five from the experiment station. Students were involved in the work of the experiment station. The school was successful. True noted "This school and the experiment station were so successful that the legislature from time to time appropriated generously for buildings, equipment, and current expenses. For a considerable period the schools of agriculture and dairy overshadowed the collegiate work."[13] This secondary agriculture school was inexorably connected with the experiment station.

Alabama had a plan for secondary agricultural education that differed from the Minnesota model. Secondary agricultural schools and branch agricultural experiment stations were established in Alabama in 1889. Kerr reported the reason the schools and branch experiment stations were combined was "in an apparent attempt to finance them [the high schools] out of federal Hatch appropriations."[14] Instruction in practical and scientific agriculture was offered at nine schools; one in each congressional district. The experiment station work carried on at each school was under the auspices of the Alabama Polytechnic Institute. Governor Comer spoke highly of the agricultural schools and accompanying experiment stations and urged the legislature to increase appropriations for each school. The legislature responded by appropriating $4,500 to each school with the provision that $750 be spent on experiments. The experimental work carried on in these schools was simple and consisted primarily of variety and fertilizer tests, crop rotation, and cultivation methods.[15] In The Historical Development of the Congressional District Secondary Agricultural Schools in Alabama, Thompson indicated one of the contributing factors to the development of these schools was the United State Department of Agriculture.[16]

Director True was aware of the secondary agricultural education efforts in Minnesota and Alabama. In the Report of the Secretary of Agriculture for 1895 True, referring specifically to the secondary agricultural school in Minnesota, indicated it was a great success and stated "When the people realize more clearly the desirability of separating elementary and higher courses in agriculture, as in other subjects, they will undoubtedly provide means for the establishment of lower schools in which agriculture shall be taught."[17]

In his 1897 report, True justified his actions in promoting agricultural education. After describing the current activities in various states in regards to secondary agricultural education and discussing a bulletin he had published about agricultural education in Belgium, True stated "It is believed that it is clearly within the province of this Department, under the organic act, by which it was established, to exert itself actively in the promotion of those enterprises which tend to promote the general welfare of the farmer . . ."[18]

Most of True's writings about agricultural education prior to 1897 were for government and college officials. They were not reaching the farmer. Starting in 1897 True started reaching out to the farmer. In an article in the Yearbook of Agriculture for 1897 True described the agricultural schools in Minnesota and Alabama and then advocated the establishment of courses in agriculture in schools near the farmers' home. True urged the farmers to take an active role in the schools and let the school leaders know what the "real" needs of the farmers were.[19] Nearly every issue of the Yearbook of Agriculture from 1897 until the passage of the Smith-Hughes Act contained an article about the need for, development of, or progress in agricultural education in the public schools.

The Office of Experiment Stations Picks up the Pace

The Office of Experiment Stations started an active campaign in different parts of the country to promote the introduction of agriculture into the secondary and elementary schools around the turn of the century. Prior to this time their main efforts were verbal. In 1901 True wrote "The time seems favorable . . . for the Department to take a more active part in encouraging the introduction of nature study and elementary agriculture into the curricula of rural schools."[20] The ammunition for the campaign consisted of publications, addresses at educational and farmers' meetings, and correspondence and conferences with educators and others interested in this matter.

In 1901, Dick Crosby, was added to the staff of the Office of Experiment Stations as a special assistant to the Director in work related to agricultural education. Crosby and True vigorously promoted the teaching of agriculture in the public schools.[21]

Both Crosby and True were involved with the activities of the Association of American Agricultural Colleges and Experiment Stations. At the AAACES meeting in 1895 a standing committee on methods of teaching agriculture had been established. The committee prepared annual reports on various topics of concern. The first six reports were concerned with collegiate level education in agriculture. The seventh report, published in 1902, showed how secondary courses in agriculture could be incorporated into existing high school courses. In the report it is stated, "Agriculture has thus far been almost entirely neglected in the high school programmes (sic), and it is high time that the friends of agricultural education should make a systematic effort to have the claims of this fundamental industry acknowledged and satisfied in the curricula

of the public schools."[22] True was a member of the committee that made the seventh report. There were two major reasons for the recommendation. One was because of the need for educational reform. The second reason was more selfish. Many colleges were teaching what amount to "remedial agriculture." If the high schools could teach agriculture, then the colleges could teach agriculture at a more advanced level. The ninth report in 1904 was devoted to the teaching of agriculture in the rural common schools.[23]

With the addition of Crosby to the staff and the awakening demands for a more relevant education from progressives, agricultural education in the public schools started to become a reality. In Commissioner True's 1905 report, four pages were devoted to elementary and secondary agriculture. True started this section of his report by writing, "This past year has been one of great progress in agricultural education." After describing many of the developments in agricultural education, True observed that "the Office is now generally and favorably recognized as the agency of this Department for the promotion of agricultural education." True then detailed how overburdened and under funded his office was in regards to the advancement of secondary agricultural education, detailed what could be done with additional resources, and made a plea for additional funds.[24]

The AAACES supported True by passing a resolution at their annual meeting in 1905. The resolution stated "Resolved, that this association recognizes the great value of the work of the Office of Experiment Stations in promoting the cause of agricultural education in the United States, and heartily endorses the action of the Secretary of Agriculture in encouraging and aiding the efforts of the Office in this direction."[25]

In September of 1905 a department of agricultural education was established in the Experiment Station Record. The Experiment Station Record was a compilation of summaries of the work done at all the experiment stations in the various states and territories. The Record was a major communication channel for workers at the experiment stations. Reports on agricultural education were published here so that workers in the various stations could stay informed of developments in the field.[26]

A standing committee on instruction in agriculture and mechanical arts of secondary grade was established by the AAACES in the fall of 1905. Director True was the chairman of the committee and Dick Crosby was the secretary. One of the first goals of this committee was to get the National Education Association (NEA) to recognize the need for agricultural education in the secondary schools.[27] At the November 1905 AAACES meeting Kenyon Butterfield introduced a resolution that "our executive committee be hereby instructed to take such steps as they may consider necessary in an endeavor to secure the consent of the National Educational Association to add to its list of special departments a department or departments on rural and agricultural education." In discussing the resolution Butterfield acknowledged that the NEA had been discussing the problems of rural schools but that the NEA "has not yet recognized agricultural education in a sufficient degree."[28] The NEA was dominated by educators who did not view vocational education very favorably. There was considerable debate nationally over educational reform, especially the need for vocational education, including agricultural education, in the public schools. Many of the traditional educators were either opposed to this new type of education or were opposed to the proposed delivery system.[29]

Dick Crosby attended the NEA convention in Los Angeles in July of 1907. In addition to making a speech titled "The Work of the National Government in Extending Agricultural Education Through the Public Schools" to a special agricultural education conference held in conjunction with the NEA convention, Crosby presented a petition to the NEA Board of Trustees signed by 28 prominent educators and active NEA members asking for the establishment of a Department of Rural and Agricultural Education in the NEA. Permission was granted to start the new department.[30] This provided a platform within the NEA for Crosby, True and others to advance the cause of educational reform. In following years, True, Crosby and Willet Hays, Assistant Secretary of Agriculture and a strong advocate of school consolidation and agricultural education, made presentations at the NEA convention. The presentations centered on the need for agriculture in the public schools.[31]

A division of agricultural education was established in the Office of Experiment Stations in 1906. Dick Crosby was put in charge of the work. The division had several employees and was very active in promoting and supporting agricultural education through consultations, research, curriculum guides, and instructional materials. Crosby's assistant, C. H. Hansen, prepared a complete lantern-slide series dealing with the teaching of agriculture in public schools.[32]

Public School Agricultural Education Grows

The efforts of True and Crosby, along with the efforts of other government officials, agricultural leaders, farm groups, and others interested in educational reform, started bearing fruit early in the 1900's. The pioneering efforts to provide secondary agricultural education in Minnesota and Alabama

provided a springboard for the growth of secondary agricultural education in other states.

The Alabama District Schools served as the model for a number of other southern states in the establishment of secondary agricultural schools. Georgia in 1907 and Virginia in 1908 established agricultural schools in each congressional district. The Oklahoma agricultural schools established in 1908 were located in state supreme court judicial districts. Mississippi in 1908 and Arkansas in 1909 established agricultural schools using a district scheme.[33] The southern states tended to go with district agricultural schools modeled after Alabama. Many of the other states such as Nebraska, California, Colorado, Connecticut, Idaho, Kansas, Montana, North and South Dakota, and Washington followed the Minnesota model of having a secondary level school of agriculture attached to the state land-grant college.[34] Conover indicated that this arrangement gave the schools a "direct relationship with the Office of Experiment Stations."[35]

The states that were establishing public school instruction in agriculture in the 1906-1917 era were searching for instructional materials and curriculum guides. True reported that the Office of Experiment Stations served as "a clearing house of information and advice regarding the courses, personnel, equipment, illustrative material, and literature for secondary instruction in agriculture."[36] In Two Hundred Years of Agricultural Education in Georgia, Wheeler reported that Dick Crosby of the Office of Experiment Stations was "largely responsible for the curriculum development" in the eleven congressional district agricultural schools established in 1907 in Georgia.[37]

At the 1907 AAACES meeting True discussed the two curricula that had been prepared by the OES in agronomy. There had been some criticism that one of the

curricula was too advanced for many of the rural schools. True indicated that this had been done on purpose because "There is a feeling among schoolmen that agriculture is not a proper subject for high school instruction, because it can not be put in form which will make it a stiff enough course for high school work as compared with courses in the natural sciences and other subjects. An attempt is made in this bulletin to show that a good, solid, and substantial course in agriculture, suited to high schools, can be prepared."[38]

A resolution was offered at the 1907 meeting of the AAACES by E. R. Nichols of Kansas "That the Association of American Agricultural Colleges and Experiment Stations urges upon the Congress liberal appropriations to enlarge the work of the Office of Experiment Stations along the lines of investigations and publications in relation to methods of instruction in agriculture relating to the farm, to the farm home, and to rural interests generally."[39]

The Office of Experiment Stations had started investigations in this area in 1903 when the appropriations act for the Department of Agriculture had $5,000 specifically dedicated to investigate how farmers' institutes could be "more effective for the dissemination of results of . . . the agricultural experiment stations."[40] This item was amended in 1906 by adding the words "agricultural schools" after farmers' institutes.[41] By the 1912-1913 fiscal year the appropriations had grown to $15,760 for research on "farmer's institutes and agricultural schools"[42]

Director True was serious about the role of his office in developing agricultural education. In one single year, people in True's office traveled 38,000 miles and visited schools and attended educational gatherings in 28 different state in their quest to develop agricultural education. Lantern slides were "pedagogically arranged and sent out" to help teachers with "visual

instruction." Other illustrative materials supplied to the schools included charts and photographs. Sometimes experimental courses were conducted by the Office and their results given to other schools. The OES even maintained a card index of practically all agricultural educators in the United States.

The OES cooperated with teacher training institutions in various states, and supplied them with classified lists of all departmental publications, lists of materials that might be utilized by teachers, and offered suggestions as to how teachers might use particular Farmers' Bulletins in their work. Similar work was performed in connection with inservice education of teachers; publications conforming to their special needs were sent to them.[43]

The Office of Experiment Stations issued numerous publications related to the teaching of agriculture. Many of the publications pertained to the teaching of technical subject matter and were based on the work of the experiment stations.[44] The findings of experiment station research quickly found its way to the public through the bulletins and circulars designed for the teachers of public school agriculture. A listing of the circulars printed by the OES between 1909 and 1913 provide a good example of the concern of the OES for agricultural education. The circulars included Normal School Instruction in Agriculture (1909), Free Publications of the Department of Agriculture Classified for The Use of Teachers (1910), How to Test Seed Corn in School (1910), Institutions in the United States Giving Instruction in Agriculture (1912, This was complete listing of each secondary school in the United States where agriculture was taught), A Secondary Course in Animal Production (1911), A Working Erosion Model for Schools (1912), and The Work of the Agricultural Colleges in Training Teachers of Agriculture for Secondary Schools (1913). It should be obvious from looking at the titles of the

bulletins, the OES was concerned with all phases of secondary agricultural education.

In 1913 the agricultural education division of the Office of Experiment Stations initiated the plan of calling annual conferences of states supervisors and teacher educators in agricultural education in the North Atlantic, Southern, and Central Regions.[45] Conover reported that "At these and numerous other personal conferences the federal staff members would give the conferees the advantage of their knowledge of educational practices in various schools, and would suggest plans for making their studies productive of immediate results. . . home-project work was especially encouraged. These conferences were followed up through correspondence, personal advice, and materials for use in teaching."[46]

Even though secondary agricultural education was growing rapidly in the second decade of the twentieth century, True and Crosby did not slacken in their fervor or eloquence for the cause. An example of this is found in Crosby's article "Agriculture in Public High Schools" published in the 1912 Yearbook of Agriculture. The opening sentence was bold and to the point, "More than 2,000 public high schools in the United States are now teaching agriculture; 16 years ago there was not one." After describing the types and numbers of schools in which agriculture was taught, the status of state support, the curriculum, and the facilities, Crosby told why agricultural education was important.

> "Whenever the teaching of agriculture in high schools has been taken seriously, whenever suitable equipment and capable teachers have been provided, the schools and everyone connected with them have been benefited; the attendance has

increased; the schoolwork has assumed a more businesslike air; as if it dealt with the realities of life, with real problems instead of imaginary ones; and the relationships between teachers, pupils, and parents have become closer and more sympathetic.

"High schools in which agriculture is something more than a new textbook subject, in which it reaches out to the surrounding homes and farms for its problems and illustrative materials, soon acquire a hold and exert an influence upon the community such as other schools have never been able to get. The people come to know their school better and are loyal to it. They see it as educating their sons--not for some allurement in the distant future, but for life in the world to-day, in the home neighborhood, in another State, or wherever they go. Moreover, they feel that school is a school for everybody--of educational, social, and pecuniary benefit to all. . . Instead of trying to education a select few for high professional positions, it is endeavoring to make a better people and a better land."[47]

By 1914 it was clear that agricultural education was firmly established in the public schools. The question on whether or not agricultural education should be taught was a moot point, the question was on how to organize it. In the 1914 Annual Report, True stated "The period of propaganda for the establishment of institutions and courses devoted to agricultural instruction has about come to an end. The main problems now relate to the effective organization of this work and the supplying of up-to-date subject matter and

illustrative material in proper form for use in the schools."[48] This statement, by the Director of the Office of Experiment Stations, reflected the culmination of 25 years of commitment to the "dissemination of information" provision of the Hatch act. Agricultural education, for all practical purposes, had been established.

In 1915 the Office of Experiment Stations was reorganized into the States Relations Service (SRS) of the USDA.[49] Dr. True became the director of the SRS. One of the newly created divisions in the SRS was the Division of Agricultural Instruction. The support for agricultural education continued.

Between January of 1915 and December 1916 "Agricultural Education Monthly" was published every month except for the summer months by the State Relations Service. This publication provided suggestions on both the pedagogical and subject matter aspects of teaching agriculture.[50]

Agricultural Education Matures

By 1916 agricultural education in public schools in the United States was past the experimental stage. Agriculture was being taught in over 4,000 high schools to 90,000 students.[51] The passage of the Smith-Hughes Act in 1917 culminated the work of the Office of the Office of Experiment Stations in established agricultural education in public schools. The Smith-Hughes Act provided federal funds to states to support the teaching of vocational agriculture, home economics, and trade and industrial education. The effort involved in establishing secondary agricultural education had not been easy. Not only had many educators been resistant to the movement, so had many farmers.[52] However, the persistent efforts of True and others won out. The early secondary agricultural schools in Minnesota and Alabama that were

imbedded in the experiment stations provided the initial foundation for the development of secondary agricultural education. Additionally the Office of Experiment Stations, particularly the efforts of Director True, was a significant factor in the widespread teaching of agriculture in public schools prior to 1917. Conover reported that "the Office of Experiment Stations . . . made the teaching of agriculture in the elementary and high schools an established feature in American education within a short period."[53] The Hatch Act had been a cornerstone in the progressive educational reform movement.

A New Era

After the passage of the Smith-Hughes Act a Federal Board for Vocational Education was created. This board employed seven people to provide leadership and supervision for agricultural education.[54] A number of employees and some functions of the States Relations Service were transferred to the newly created board. However, the SRS continued to maintain its division of agricultural instruction and provided support to agricultural education. Numerous bulletins, primarily on technical agriculture subjects, were prepared by the SRS specifically for vocational agriculture instructors. The SRS also continued to provide illustrative materials, including lantern slides, film strips, and motion pictures to vocational agriculture teachers. Shinn reported, "The division of agricultural instruction of the United States Department of Agriculture was discontinued in 1929 after have made substantial contributions to the teaching of agriculture in both secondary and elementary schools of the country."[55] It had been determined that the Federal Board had matured enough that it could handle the responsibilities of secondary agricultural education.

The Smith-Hughes vocational agricultural education in the secondary schools was different from the Hatch Act agricultural education. The Hatch Act agricultural education had been more science oriented. Agriculture was considered a science and the scientific aspects of agriculture had been emphasized in many of the schools. The early texts in agriculture illustrate this. Hunicutt concluded the second chapter, "Agriculture as a Science", in his 1903 Agriculture for the Common Schools with the statement "To know the laws which govern the life, health, and growth of plants and animals is to know the science of agriculture."[56] In Agricultural Instruction in the Public High Schools of the United States Robinson stated, "Agriculture is probably taught as well as other sciences in the same school" and "We need clearer ideas regarding the pedagogical principles involved in this and other science teaching."[57] Many pre-1917 issues of School Science and Mathematics (a popular magazine for school science and math teachers) carried articles discussing the teaching of agriculture. From time to time short notices were even carried describing recent bulletins published by various experiment stations that might be of interest to the teachers.[58]

The Smith-Hughes agricultural education was more vocational. The emphasis was on becoming established in farming. Scientific aspects of agriculture were still being taught but not as much as they had been previously. The emphasis was on mastering agricultural skills such as planting corn or dehorning cattle. Each student was required to have a livestock or crop project so he (or occasionally she) could learn firsthand how to perform agricultural tasks. Careful records were kept by the students on their projects. Classes were conducted for both the students who attended high school all-day long and for students who had left school but were willing to

come back in the afternoon or evening for classes just in agriculture. Students were taught using a problem solving procedure instead of the standard recitation or book exercises used by many teachers. The Future Farmers of America came into existence in 1928 to round out the students' education by providing the opportunity to develop leadership skills. Vocational agriculture was viewed favorably by nearly everyone connected with it. It was a desirable part of the educational reform movement.

Vocational agriculture grew steadily during the 1930's, 40's, and 50's. The agricultural education staff of the Federal Board established strict guidelines for the operation of the federally funded programs. Four additional agents were added to the Federal staff in 1929. Because of the depression in the 1930's the Federal Board was changed to an advisory capacity but the federal staff members and their power were transferred to the Bureau of Education in the Department of the Interior. The program remained basically the same during the 1940's and 1950's because of the strong Federal involvement. The enrollment grew from 123,685 in 1930 to 466,450 in 1959. The vocational agriculture program of 1959 was basically the same as the program of 1930. Research revealed that the program was doing a good job of what is was designed to do—preparing students to be farmers. But it was also found that vocational agriculture was beneficial to students who went to college.

The dawn of the 1960's found America undergoing change. Vocational agriculture was caught up in this change. A national panel appointed by President Kennedy concluded that vocational education, including agricultural education, needed to change. The Vocational Education Act of 1963 was the blueprint for change. The objective of vocational agriculture

was expanded to prepare students for a variety of careers in agriculture, not just farming. Soon specialized courses and programs were being established in horticulture, agricultural mechanics, forestry, and agribusiness. Also, centrally located vocational schools were built so that students at the 11th and 12th grade level could spend three to four periods a day developing highly specialized skills in selected agricultural occupations.

Another change in vocational and agricultural education was the realization that students who were disadvantaged or handicapped found some success in vocational education. The applied and practical aspects of the program was more helpful to many "at risk" students than the theory and abstractions taught in the more academic subjects. As a result the federal government started earmarking certain portions of vocational education funds for special populations during the 1960's and 1970's . The most recent federal vocational education legislation, the Carl Perkins Act of 1984, had 57 percent of the funds set aside for special populations. Additionally, this legislation prohibited the use of federal funds to maintain existing programs of vocational education.

The special populations emphasis in recent vocational education legislation caused many people to believe programs such as vocational agriculture was for the slow learners and disadvantaged students. The educational reform movement, with its emphasis on increasing graduation requirements, has also affected vocational agriculture. Students are being encouraged to take more English, mathematics, sciences, foreign languages, and computer classes so they can go to college. Students have fewer elective hours. Enrollment in secondary agriculture is dropping.

The Future

Secondary agricultural education is at a crossroads. Because of the economic conditions of many farmers and agricultural businesses and the emphasis on "back to the basics" in education, some believe agricultural education is a thing of the past. However, leaders in the profession believe agricultural education needs an overhaul, not abandonment.[59] It has some desirable components but needs to shed the "dumping ground" image that it has acquired during the last couple of decades and needs to broaden its objectives to include more than job training. There has been a renewed emphasis on teaching the scientific aspects of agriculture.[60] It is has been suggested that agricultural education programs of the future should have four broad objectives:

1. To develop and understanding of and an appreciation for agriculture. The majority of the population today know little about agriculture. In the future it will be critical that the population have an appreciation for agriculture.
2. To inform students of careers in agriculture. There are many opportunities in agriculture that students do not know about.
3. To prepare students for college. Agricultural colleges are experiencing drops in enrollments. The students in college often don't have prior agricultural experience. Secondary agriculture programs could help with both problems.
4. To prepare for jobs in agriculture. No everyone has the ability or inclination to go to college. Students who desire to work in agricultural careers that do not require college degrees should be assisted in reaching that goal.

The National Academy of Sciences is completing a study of agricultural education. While the report had not been published at the time this article was written, early indications are that one recommendation will be that secondary agriculture put more emphasis on science and less on production agriculture.[61] It appears agricultural education is coming full circle. It is returning to the more scientific emphasis it had in the early days of the Hatch Act.

The Hatch Act was passed during a period of turmoil in American education. It was a factor in bringing about educational reform. The program it spawned, agricultural education, has helped people and agriculture develop in the past and still holds promise for the future. Admittedly, agricultural education needs a tune up, but it is still a viable program. As a matter of fact, agricultural education has been identified as a model for educational reform. Rosenfield in Education Week wrote, "Vocational agriculture characteristically includes many of the activities and approaches currently recommended for the improvement of secondary education in general: training for leadership and entrepreneurship, longer periods of time devoted daily to education, a problem-solving approach to learning, higher-quality teachers, and greater cooperation with the private sector. There is little doubt that it has been effective for agriculture in the past and has contributed to the phenomenal growth in American agricultural productivity since the turn of the century when these programs began. . . . can this model be adapted. . . . will it help meet today's goals or secondary education? Based on what I have seen and learned, I think it will."[62] The Hatch Act was responsible for much more than scientific research in agriculture.

The current crop of educational reformers would be wise to look back to the condition of education and the concerns of the public at the time the Hatch Act was passed. It is true that much of the education then was substandard, just as much of education today needs improvement. However, it is possible to get educational reform out of balance. The emphasis in secondary education in the 1880's was on classical studies and had little bearing on the realities of everyday life. What many current educational reformers are advocating is a return to the academic emphasis of the 1880's. The people rebelled then, and they may rebel now. In a 1986 Gallup Poll the public was asked "People have different reasons why they want their children to get an education. What are the chief reasons that come to your mind?" The answer given most often was "job opportunities/better job". This response was given by 34 percent of the people. This response was followed by "Preparation for life/better life" (23%), "Education is a necessity of life" (12%), "More knowledge" (10%), "Financial security/economic stability" (9%) and "To get a better-paying job" (8%).[63]

The August 10, 1987 National Edition of The New York Times had a cover story titled "School Reform: 4 Years of Tumult, Mixed Results." In the first three paragraphs it is stated ". . .there is not yet proof that students are learning better." and ". . . some of the new programs were ill-conceived in the first place, focusing as they did on changes that appealed to politicians and businessman but may have lacked relevance to the classroom." Further on in the article it is noted that school dropout rates have started to increase.

The current drop out rate for secondary education is 30 percent. This rate is projected to reach 40 percent by the year 2000. Of 100 students in 5th grade, 99 will enter the 9th grade. However only 70 will graduate from high

school. Will increasing high school graduation requirements solve the dropout problem? Requiring students who cannot read and compute at the 8th grade level to take calculus or a foreign language before they can graduate from high school is not a realistic approach to addressing the ills of education.

Of the 70 students who do graduate, 38 percent will enter the job market while the remaining group (42 students) will enter college. Of the group that enters college, only 23 will graduate.[64] The recommendations of the NEA Committee of Ten in 1893 that high schools were not primarily to prepare people for college but for life but the best preparation for life was the same as preparation for college did not hold water then and will not hold water now.

There needs to be a balance in the educational system between relevant, practical applied courses such as agriculture and the "basics". Blind adherence to some of the solutions now being touted may lead back to the curricula of the 1880's. That would not be wise. Neither would the absolute vocationalism and free choice education provided to the students in the 1960's and 1970's. If there is not a balance in the educational reform movement, then educational reform will probably come full circle and we will be back to where were in 1887. But this time we will not have Alfred True and the Hatch Act to help rectify the situation.

Notes

1. Mortimer J. Adler, The Paideia Proposal: An Educational Manifesto (New York: The Macmillan Company, 1982).

2. Theodore R. Sizer, Horace's Compromise: The Dilemma of the American High School (Boston: Houghton Mifflin Company, 1984).

3. Deborah C. Strickland and Donald E. Elson, "Graduation Requirements and Vocational Enrollments", Vocational Education Journal, 62 (May 1987), 41.

4. R. G. White, "The Public School Failure," North American Review, (December, 1880), 537-550.

5. Hoard's Dairyman, July 19, 1895, p. 419 and Wallace's Farmer, January 19, 1913, p. 68.

6. United States Statutes at Large, 1885-1887, 24:440.

7. Lawrence A. Cremin, The Transformation of the American School (New York: Alfred A. Knopf, 1961), 42.

8. For a discussion of the events leading to the passage of the Hatch Act and the reasons for the development of the AAACES and the organization's subsequent actions see Milton Conover, The Office of Experiment Stations Its history, activities and organization (Baltimore: The Johns Hopkins Press, 1924).; H. C. Knoblauch, E. M. Law, and W. P. Meyer, State Agricultural Experiment Stations a History of Research Policy and Procedure, U. S. Department of Agriculture, Miscellaneous Publication No. 904, (Washington: GPO, 1962), 29-65; Alan I. Marcus, Agricultural Science and the Quest for Legitimacy, (Ames: Iowa State University Press, 1985); Alfred C.True, A History of Agricultural Experimentation and Research in the United States, U. S. Department of Agriculture, Miscellaneous Publication No. 251, (Washington: GPO, 1937); Alfred C. True, Agricultural Experiment Stations

in the United States, U.S. Department of Agriculture, Office of Experiment Stations, Circular No. 44, (Washington: GPO, 1900); and Norwood Kerr, The Legacy, (Columbia: Missouri Agricultural Experiment Station, 1987).

9. Report of the Commissioner of Agriculture. 1888. (Washington: GPO, 1889), 10.

10. Wilbur O. Atwater served as Director from 1888 to 1891. Abram W. Harris was director from 1891 to 1893. A review of their reports in the Annual Reports of the Commissioner of Agriculture indicate they were busy establishing the general framework of the office and taking care of the immediate concerns such as visiting stations, establishing a publication system, and establishing a library. For a discussion of some of the early activities of the Directors see Conover, The Office of Experiment Stations, 52-58.

11. Wayne Fuller, "Making Better Farmers: The Study of Agriculture in Midwestern Schools, 1900-1923," Agricultural History 60 (1986): 160.

12. Alfred C. True, in Report of the Secretary of Agriculture for 1893, (Washington: GPO, 1893), 451-452.

13. Alfred C. True, A History of Agricultural Education in the United States, 1785-1925. U.S. Department of Agriculture, Miscellaneous Publication No. 36, (Washington: GPO, 1929), 327.

14. Norwood A. Kerr, A History of the Alabama Agricultural Experiment Station 1883-1983. (Auburn: Alabama Agricultural Experiment Station, 1985), 21. The trustees of Auburn did not want to share the Hatch funds with the secondary schools. In 1896 Director True ruled that the Hatch Act provided for the establishment of one single experiment station in each state. However, if the state wanted to fund substations and have the substations governed by the same group that governed the main experiment station, this was permissible (see the

Report of the Director of the Office of Experiment Stations, 1896, p. 141). The state of Alabama continued supporting the district schools and accompanying branch experiment stations.

15. C. J. Owens, Secondary Agricultural Education in Alabama. U. S. Department of Agriculture, Office of Experiment Stations, Bulletin 220, (Washington: GPO, 1909), 11.

16. J. L. Thompson, "The Historical Development of The Congressional District Secondary Agricultural Schools in Alabama," Ph.D. Diss., University of Alabama, 1965.

17. Alfred C. True, in Report of the Secretary of Agriculture for 1895, (Washington: GPO, 1895), 138.

18. Alfred C. True, Report of the Director of the Office of Experiment Stations for 1897, (Washington: GPO, 1897), 133.

19. Alfred C. True, "Popular Education for the Farmer in the United States," Yearbook of Agriculture, 1897, (Washington: GPO, 1898), 279-290.

20. Alfred C. True, Report of the Director of the Office of Experiment Stations for 1901, (Washington: GPO, 1901), 192.

21. Alfred C. True, A History of Agricultural Education in the United States, 329.

22. Office of Experiment Stations, Secondary courses in agriculture. Circular No. 49, United States Department of Agriculture, (Washington: GPO, 1902), 4.

23. Office of Experiment Stations, The Teaching of Agriculture in the Rural Common Schools, Circular No. 60, United States Department of Agriculture, (Washington: GPO, 1904).

24. Alfred C. True, Report of the Director of the Office of Experiment Stations, (Washington: GPO, 1905), 443-447.

25. Reported in Alfred C. True, Report of the Director of the Office of Experiment Stations, (Washington: GPO, 1906), 11.

26. C. H. Lane, "Our Leadership in Agricultural Education, Dr. A. C. True of the U.S.D.A.," Agricultural Education, (October, 1929). In True's annual reports for 1905, 1906, and 1907 he reiterated that fact that a Department of Agricultural Education had been established in the Experiment Station Record but was concerned that the Record was already too crowded and that some other type of publication would be more appropriate.

27. C. H. Lane, "Contributions of the United States Department of Agriculture to Agricultural Education of Less Than College Grade, 1904-1917" in Rufus W. Stimson and Frank H. Lathrop, History of Agricultural Education of Less Than College Grade in the United States, Federal Security Agency, Vocational Division Bulletin No. 217, (Washington, GPO, 1942), 571.

28. Office of Experiment Stations, Proceedings of the Nineteenth Annual Convention of the Association of American Agricultural Colleges and Experiment Stations, Bulletin No. 164, United States Department of Agriculture, (Washington: GPO, 1906), 47.

29. For examples see Wayne Fuller, The Old Country School: The Story of Rural Education in the Midwest (Chicago: The University of Chicago Press, 1982), 221-229; Lawrence A. Cremin, The Transformation of the American School 41-50; Edward A. Krug, The Shaping of the American High School (New York: Harper and Row, 1964), 217-248; and Arthur G. Wirth, "John Dewey's Philosophical Opposition to Smith-Hughes Type Vocational Education," Educational Theory, 22 (Winter, 1972), 69-77.

30. Journal of Proceedings and Addresses of the Forty-Fifth Annual Meeting, (Winona, Minnesota: National Education Association, 1907), 44-45, 1063-1069.

31. Willet M. Hayes, "Agriculture, Industries, and Home Economics in Our Public Schools," National Education Association, Journal of Proceedings and Addresses, 1908, 177-190; Alfred C. True, "What is Agriculture, Elementary, Secondary, and Collegiate?" National Education Association, Journal of Proceedings and Addresses, 1908, 1202-1207; Dick J. Crosby, "Special Agricultural High Schools," National Education Association, Journal of Proceedings and Addresses, 1909, 974-976; Dick J. Crosby, "The Place of the Agricultural High School in the System of Public Education,", National Education Association, Journal of Proceedings and Addresses, 1910, 1103-1107.

32. For a description of the activities of the division see C. H. Lane, "Contributions of the United States Department of Agriculture to Agricultural Education of Less Than College Grade, 1904-1917." 570-573 and Alfred C. True, Organization, Work, and Publications of the Agricultural Education Service, U.S. Department of Agriculture, Office of Experiment Stations, Circular No. 93, (Washington: GPO, 1910), 2.

33. For a state by state history of the development of secondary agricultural education see Rufus W. Stimson and Frank H. Lathrop, History of Agricultural Education of Less Than College Grade in the United States, Federal Security Agency, Vocational Division Bulletin No. 217, (Washington: GPO, 1942).

34. Alfred C. True, A History of Agricultural Education in the United States, 336.

35. Conover, The Office of Experiment Stations, 66.

36. Alfred C. True, A History of Agricultural Education in the United States, 330.

37. John T. Wheeler, Two Hundred Years of Agricultural Education in Georgia, (Danville, Illinois: Interstate Printers and Publishers, 1948), 53.

38. Office of Experiment Stations, Proceedings of the Twenty-first Annual Convention of the Association of American Agricultural Colleges and Experiment Stations, Bulletin No. 196, United States Department of Agriculture, (Washington: GPO, 1907), 38.

39. ibid., 37.

40. Alfred C. True, A History of Agricultural Education in the United States, 330.

41. United States Statutes at Large, 34: 669, 693

42. Alfred C. True, Federal Legislation, Regulations, and Rulings Affecting Agricultural Colleges and Experiment Stations. U.S. Department of Agriculture, Office of Experiment Stations, Circular 111, (Washington: GPO, 1912), 4.

43. Conover, The Office of Experiment Stations, 69-70.

44. George F. Ekstrom, "Historical Development of Agricultural Education in the United States Prior to 1917," Final Report prepared for the Office of Education, U. S. Dept. of Health, Education, and Welfare, April 1969, 44.

45. Lane, "Contributions of the United States Department of Agriculture to Agricultural Education of Less Than College Grade," 573.

46. Conover, The Office of Experiment Stations, 69.

47. Dick J. Crosby, "Agriculture in Public High Schools," in Yearbook of the Department of Agriculture 1912. (Washington: GPO, 1913), 471-481.

48. Alfred C. True in Annual Reports of the Department of Agriculture 1914, (Washington: GPO, 1914), 256.

49. U.S.Department of Agriculture, Century of Service the First 100 years of the United States Department of Agriculture, (Washington: GPO, 1963), 80-83.

50. Lane, "Contributions of the United States Department of Agriculture to Agricultural Education of Less Than College Grade," 572.

51. U. S. Bureau of Education. Report of the Commissioner of Education 1916, Volume II. Washington: GPO, 1917, 453.

52. See David B. Danbom, The Resisted Revolution, (Ames: The Iowa State University Press, 1979), 75-83 for a sample of the views of some of the rural population toward agriculture in the public schools. One can glean from the writings of True that he believed the farmers were either resistant to change or apathetic in regards to their schools and needed "agitation." For example see Alfred C. True, "Agriculture in Public Schools," Pennsylvania School Journal, (April, 1907), 448-449.

53. Conover, The Office of Experiment Stations, 67.

54. Layton S. Hawkins, Charles A. Prosser, and John C. Wright, Development of Vocational Education (Chicago: American Technical Society, 1951), 145.

55. Edwin H. Shinn, "Contributions of the United States Department of Agriculture to Agricultural Education of Less Than College Grade, 1917-1929" in Rufus W. Stimson and Frank H. Lathrop, History of Agricultural Education of Less Than College Grade in the United States, Federal Security Agency, Vocational Division Bulletin No. 217, (Washington, GPO, 1942), 574.

56. James B. Hunnicut, Agriculture for the Common Schools, (Atlanta: The Cultivator Publishing Company, 1903), 7.

57. Clarence H. Robinson, Agricultural Instruction in Public High Schools of the United States, (New York: Teachers College, 1911). 173-183.

58. Examples include W. L. Eikenberry, "Some Agriculture Experiment Station Bulletins", School Science and Mathematics, January 1912, 44; and Josiah Main, "Sequence of Science and Agriculture in the High School", School Science and Mathematics, November 1913, 695. Between February of 1909 and February of 1917 a total of 32 articles appeared concerning the teaching of agriculture. It was common to find the U.S. Department of Agriculture listed as an author.

59. For example, see L. H. Newcomb, "The Future of Vocational Agriculture", Paper presented to the National Workshop for State Leaders, Washington, July 22, 1986.

60. The August 1987 issue of The Agricultural Education Magazine had four articles describing what various states were doing to reorganize their secondary agriculture programs to be more science oriented.

61. J. Robert Warmbrod, "Report of the National Study on Agricultural Education in Public Schools", paper presented to the Southern Agricultural Education Conference, Williamsburg, Va., March 23, 1987.

62. Stuart A. Rosenfield, "Vocational Agriculture: A Model for Educational Reform," Education Week, 26 September 1984, p. 24.

63. Alec M. Gallup, "The 18th Annual Gallup Poll of the Public's Attitudes Toward the Public Schools", Phi Delta Kappan, 68 (September 1986), 49.

64. Digest of Educational Statistics, U. S. Office of Education, 1982.