Journal of Agricultural Education
Volume 54, Number 3, pp. 224 – 237
DOI: 10.5032/jae.2013.03224

Corn Clubs: Building the Foundation for Agricultural and Extension Education

Cassandra Uricchio
University of Massachusetts
Gary Moore
North Carolina State University
Michael Coley
Tennessee State University

Abstract

Corn clubs played an important role in improving agriculture at the turn of the 20th century. Corn clubs were local organizations consisting of boys who cultivated corn on one acre of land under the supervision of a local club leader. The purpose of this historical research study was to document the organization, operation, and outcomes of corn clubs. The corn-club movement was cooperatively promoted by various groups such as universities, public schools, agricultural societies, state departments of agriculture, the United States Department of Agriculture, and various philanthropic groups. Corn clubs operated in both the white and Negro schools. The corn club movement increased the demand for agricultural education in public schools and influenced the development of the National FFA Organization and 4-H Youth Development Organization. Strategies and procedures from corn clubs can be adapted and utilized in agricultural and extension education today.

Keywords: Youth, Corn Clubs, Historical, Agricultural Education

Many professionals in agricultural and extension education are aware of the existence of corn clubs and the professional literature of the field has numerous references to corn clubs. Yet, if one were pressed to provide detailed information about the purposes and organization of corn clubs, it might be a difficult task. The profession may be aware of the existence of corn clubs but may not know their purposes or how they were organized.

Corn clubs were local organizations consisting of boys who cultivated corn on one acre of land (generally on their father's farm) under the supervision of a local club leader. At the end of the season, both yield per acre and production cost per bushel were calculated and compared. This experiential learning method greatly benefited the boy and encouraged him to improve his agricultural knowledge and skills from year to year (Benson, 1912; Cosby, 1904; Davis 1911).

Leaders were often school teachers, county extension agents, and eventually, agriculture teachers. Boys received practical instruction in improved farming methods, kept records on their yields, and exhibited at local, regional, and state corn contests. Two major factors led to the development of corn clubs in the early 1900s: 1) The fact that many farmers were most easily interested in better methods of corn growing through their sons, and 2) The desire of the Department of Agriculture to educate future farmers in better agricultural practices (Clark, 1984). As corn clubs developed, the success led to development of a variety of other boys' and girls' clubs including potato clubs, poultry clubs, and tomato clubs. Corn clubs continued to hold the largest membership of any youth agricultural club through 1920 (Clark, 1984).

There are several reasons why professionals in agricultural and extension education should possess more than a cursory knowledge of corn clubs. A better understanding of corn clubs will give the profession a greater insight into the pedagogy involved in the corn-club movement which could be useful in education today. It is possible that some of the procedures and tech-

niques involved in corn clubs could be replicated today. Also, having an understanding of the past tends to give one a greater appreciation for the evolution of the profession.

Conceptual Framework

The conceptual framework for this research is embedded in the concept of agricultural literacy. In *Understanding Agriculture: New Directions for Education* (National Research Council, 1988), the Committee on Agricultural Education in Secondary Schools stated "…that an agriculturally literate person's understanding of the food and fiber system would include its history and its current economic, social and environmental significance to all Americans" (p. 8-9). The need for agricultural literacy was further emphasized in the *Reinventing Agricultural Education for the Year 2020* project (The National Council for Agricultural Education, 2000). Goal 3 stated that all students would achieve "conversational literacy" of agriculture, food, fiber, and natural resources systems in the future.

These agricultural literacy recommendations could be extended to professionals in the field of agricultural and extension education as well. Members of the profession need to have a knowledge of their professional history; which includes the corn-club movement.

This study also addressed Priority 4 – Meaningful, Engaged Learning in All Environments of the National Research Agenda (Doerfert, 2011). The key outcome of this priority states, "Learners in all agricultural education learning environments will be actively and emotionally engaged in learning, leading to high levels of achievement, life and career readiness, and professional success." (p. 21). An examination of boys' corn clubs can provide valuable insight into the design and development of meaningful learning environments.

Purpose and Objectives of the Study

The overall purpose of this study was to document the organization, operation, and outcomes of corn clubs. The specific objectives of the study were to answer the following questions:

1. Who was responsible for organizing corn clubs?
2. What were the stated purpose(s) of corn clubs?
3. How did corn clubs operate?
4. What were the outcomes (benefits) of corn clubs?

Methods

Historical research methods were used in this study. According to Fraenkel & Wallen (2006, p. 545-546), there are five reasons for conducting historical research:

1. To make people aware of what has happened in the past so they may learn from past failures and successes.
2. To learn how things were done in the past to see if they might be applicable to present day problems and concerns.
3. To assist in prediction.
4. To test hypotheses concerning relationships or trends.
5. To understand present educational practices and policies more fully.

Historical research involves the systematic search for documents, artifacts, and other sources of information related to the objectives of the study (Borg & Gall, 1983). The researchers focused mostly on primary sources such as original United States Department of Agriculture documents, General Education Board reports, state corn club documents, and related materials. Secondary sources such as articles in journals and book chapters were also used. Original documents were obtained from the U. S. Government depository of the [State] University library and through inter-library loan.

All sources were subjected to both external and internal criticism. To establish external criticism, the researchers carefully examined each document to ascertain if it were an original document and was written by the person or group who claimed to write the document. Internal criticism was determined by examining the accuracy of the information presented and the truthfulness of the writers.

According to Lincoln and Guba (1985, p. 290), historical and other qualitative research should be "worth paying attention to" which they refer to as trustworthiness. The four criteria identified by Lincoln and Guba (1985) as comprising trustworthiness are credibility, transfera-

bility, dependability, and confirmability. Triangulation was used to establish credibility; multiple sources were used to validate the information presented. Sufficient detail (often identified as thick descriptions) was used to satisfy the transferability criterion. This allows the reader to determine the extent to which the conclusions made are transferable to other times, settings, and situations. Dependability was established by conducting an external audit. An external audit involves having an outside researcher not involved in the study evaluate both the process and product of the research study. The purpose of this audit was to evaluate accuracy and determine whether or not the findings, interpretations, and conclusions were supported by the data. A former historian of the American Association for Agricultural Education conducted this audit. All data collected were retained and are on file for purposes of confirmability.

Results

Corn has been an important agricultural commodity in the United States for hundreds of years. If it were not for corn, the colonists at Jamestown and Plymouth would not have survived (Wessel, 1976). In the Annual Reports of the Department of Agriculture for the year 1850, corn's role as a principal crop was emphasized, "…no other crop, not even cotton, has equal commercial importance" (United States Department of Agriculture, 1851, p. 24). Thus, the establishment of corn clubs arose from the importance of this crop to the growth and vigor of the nation's economy.

The corn clubs were started around 1900 and reached their zenith in the 1910-1920 era. There were corn clubs all across the country and thousands of boys were involved in them. The clubs were organized and supported by a variety of organizations and groups. The impact of the corn clubs was obvious in increased corn yields and in reinvigorating an insipid curriculum in the public schools that often had no connection to the real world. After the passage of the Smith-Lever Act (1914) and the Smith-Hughes Act (1917) the need for corn clubs started to wane because of the work of the extension agent and agriculture teacher. However, the influence of the corn clubs on both 4-H and FFA is noticeable. It is no coincidence that the ear of corn is a key element in the FFA emblem.

Question 1 - Who was responsible for organizing corn clubs?

To single out one specific group as starting corn-club work would be difficult. A variety of organizations including land grant colleges, agricultural societies, public schools, state departments of agriculture, the United States Department of Agriculture, and the General Education Board were all involved in establishing corn clubs.

The first documented corn club that the researchers could locate was organized by W. B. Otwell in 1900 as an attempt to improve attendance at farmers' institutes in Macoupin County, Illinois (Reck, 1951; True, 1929). Otwell, a successful businessman and president of the county farmers' institute, distributed corn to 500 boys which they cultivated and exhibited at a corn contest during the next institute. The event was so successful that corn was distributed to 1,500 boys in the county the following year and 50,000 youth by 1904 (True, 1929). The endeavor had both educational benefits for the participants and profitable advantages for seed companies. In a biography of A. B. Graham, one of the founders of 4-H, it was reported that "…his [Otwell's] correspondence with Graham clearly identifies him as a business man interested in selling farmers better quality seed corn. Boys who won prizes for their accomplishments were excellent advertisements." (McCormick & McCormick, 1984, p. 154).

It was not long before the idea of having corn clubs as part of the school curriculum took root. In 1902 A. B. Graham, School superintendent in Springfield, Ohio and O. J. Kern, School Superintendent in Winebago, Illinois started corn clubs in the schools they administered (Reck, 1951). Both school leaders saw corn clubs as way to revitalize the school curriculum. However, it should be noted that the clubs in Ohio were called "school agricultural clubs" and not corn clubs (Reck, 1951, p. 15) In explaining his actions, Kern wrote (1903, p. 39), "Why not a course of training in the country school for the country boy which shall teach him more about the country life about him? Along with his

study of the kangaroo, the bamboo and cockatoo, why not study the animals of the farm and a proper feeding standard for them?" The clubs met with great success as they were a welcome relief from the rote memorization and decidedly classical curriculum of the day.

Similar corn clubs began sprouting up in other counties around Illinois with much success (Reck, 1951). These local clubs were united into a county corn club association cooperatively directed by the Illinois Farmers' Institute, state college of agriculture, county institute secretaries, and county superintendents of schools.

In Ohio, the "school agricultural club" movement was so successful that Graham was brought to Ohio State in 1905 to be the first superintendent of Extension. By 1906 there were 60 such clubs with an enrollment of 3,000 students. The "clubs" were gradually replaced by the formal introduction of agriculture into the rural school curriculum (Reck, `1951).

The Office of Experiment Stations in the United States Department of Agriculture added a Farmers' Institute Specialist to organize institutes for the diffusion of agricultural knowledge to local farmers in 1903. By 1906, all states and territories except Alaska conducted Farmers' Institutes and the scope of this work expanded to include boys' and girls' clubs (United States Department of Agriculture, 1907). These clubs not only stimulated interest in Farmers' Institutes, but ultimately replace the need for adult farm demonstration work (True, 1929; General Education Board, 1915). Corn was selected as the focus of many boys' clubs due to its economic importance, adaptability to different growing conditions, increasing demand for production, and physical traits which made corn easier to measure and select (United States Department of Agriculture, 1913; General Education Board, 1915).

Numerous states established corn clubs in the early part of the century and in 1907, the United States Department of Agriculture reported that boys' corn clubs were rapidly growing in favor (United States Department of Agriculture, 1908). In 1908, Seaman A. Knapp began to organize southern boys' corn clubs under the Farmers' Cooperative Demonstration Work division of the United States Department of Agriculture (True, 1929). Although corn clubs had been established in other states for some years before this change, Knapp's efforts resulted in the successful systematic organization of the corn-club movement. The first government report on boys' corn clubs appeared in the Annual Reports of the Department of Agriculture for the year 1909. The southern states boasted a membership of 10,543 boys in corn clubs across the region (United States Department of Agriculture, 1910).

F. W. Howe, a former instructor in agriculture at Michigan Agricultural College, was appointed the new director of educational work of the Office of Experiment Stations under A. C. True, Director (United States Department of Agriculture, 1910). Howe had organized boys' corn clubs in Michigan and his plans for 1909-1910 included a specific objective of promoting boys' agricultural clubs in different parts of the country. During his first year, corn club membership in the south increased more than fourfold to 46,225 members in 1910 and corn clubs were established in both the northern and western regions of the country (United States Department of Agriculture, 1910). In addition, the Office of Experiment Stations cooperated with the Bureau of Plant Industry's foreign seed and plant introductions program to send certain foreign introductions to boys for testing (United States Department of Agriculture, 1910). Goals of this project were to increase interest in both competitive crop growing and the Department of Agriculture's efforts to introduce new agricultural plants.

The boys' corn-club movement was an important part of Farmers' Cooperative Demonstration Work. Knapp (1910) stressed the value of corn clubs in "The Mission of Cooperative Demonstration Work in the South" extension circular:

> We want to reach the home through the boys and the teaching of agriculture...Thus we have devised these boys' corn clubs so that the boys may become interested in doing things [in agriculture]. The club does more than that. It teaches him to do one thing and do it well…Let the boy do, even if he makes mistakes…My ideal of education is that of practical sense, leadership. Get that sense into a boy and he will take up

> farming, and if he knows a few fundamental principles he will apply the rest (p. 5-6).

Interest in boys' corn clubs continued to increase and in 1911, Farmer's Cooperative Demonstration Work included boys' corn-club work in North Carolina, South Carolina, Georgia, Alabama, Mississippi, Louisiana, and Arkansas (United States Department of Agriculture, 1912). In 1912, membership in the south rose to 67,179 boys (United States Department of Agriculture, 1913). Twenty corn-club agents were employed and the corn-club movement continued to expand into northern and western states: "…cooperative arrangements for corn-club work have already been made with 8 states, with an approximate enrollment of 20,000 boys" (United States Department of Agriculture, 1913, p. 442). As a result, corn clubs grew to be "…by far the most widespread and numerous organization of this character…" (True, 1915, p. 6).

The supervision of boys' corn-club work was overseen by different offices of the Bureau of Plant Industry in different regions. The Office of Farmers' Cooperative Demonstration Work supervised work in the southern states, while the Office of Farm Management supervised work in the northern and western states (Knapp & Martin, 1913).

Many of the corn clubs emerged from Farmer's Institutes, but the institutes were sponsored by various entities. In 1909, Farmer's Institutes were operated by land grant colleges in 19 states and state departments of agriculture or state agricultural societies in 17 other states (True, 1929). At the same time, the General Education Board was hiring farm-demonstration agents to work in the southern states and their responsibilities included establishing corn clubs. The USDA was publishing bulletins and actively promoting corn clubs (Crosby, 1904). In addition to the General Education Board and USDA efforts, some school teachers and superintendents were also establishing corn clubs in schools (Duncan, 1911; Nolan & Greene, 1917). At times, this was in conjunction with other groups, and at times, it was independent of other groups (Davis, 1911; Graham, 1941). The Alabama Department of Education (1910) even published a manual for schools on how to organize corn clubs.

What group was credited for the corn-club work was not always clear. An example is I. O. Schaub of North Carolina, who was the state leader for corn-club work between 1909 and 1916. His salary was paid by the General Education Board and USDA ($1), he was officially a member of the Department of Extension at North Carolina Agricultural and Mechanical College, but he was listed as an employee of the state department of education and provided annual reports to the state school superintendent regarding corn-club activities (Armstrong, 1929).

Question 2 - What were the stated purpose(s) of corn clubs?

In 1913, the Bureau of Plant Industry published a circular on "Organization and Instruction in Boys' Corn-Club Work" for the 33 northern and western states. The objectives of corn clubs were outlined in detail (Benson, 1912, p. 2-3):

1. To encourage more intensive farming by using the best known methods of soil building, selection of seed, seed testing, cultivation of corn, etc.
2. To offer a medium through which vocational guidance inspiration, information, and careful direction can be given to the average boy now in rural life.
3. To adapt the boy to his agricultural environments and make him capable of self-expression within those environments.
4. To teach the value of intellectual guidance, careful observation, cultural comparison and investigation, and the need of a broader education for the farming population.
5. To teach the boy the proper adaptation of plant life to local and climatic and soil conditions.
6. To assist the teacher and the public schools to find an easy approach, educationally, to all the interests of rural and village life.

In the same year, the Bureau of Plant Industry published a circular on "Boys' Demonstra-

tion Work. The Corn Club." for the 15 southern states. The objectives of corn clubs were also presented (Knapp & Martin, 1913, p. 1-2):

1. To place before the boy, the family, and the community in general an example of crop production under modern scientific methods.
2. To prove to the boy, his father, and the community generally that there is more in the soil than the farmer has ever gotten out of it; to inspire the boy with the love of the land by showing him how he can get wealth out if it by tilling it in a better way and keeping an expense account of this undertaking.
3. To give the boys definite, worthy purposes at an important period in their lives and to simulate a friendly rivalry among them.
4. To furnish an actual field example in crop production that will be useful to rural school teachers in vitalizing the work of the school and correlating the teaching of agriculture with actual practice.

From these objectives, it was apparent that the purpose of corn clubs was not just improving corn production, but also the building of character. Yet, the boy was not the only target of these said objectives. The overall purpose of the corn-club movement was much further reaching:

> The objects of organizing the boys, under twenty-one years old, in Alabama into Corn Clubs are to increase the production of corn, to improve the seed, to aid the young farmers in better methods of cultivation and a more intelligent use of fertilizers, to increase the interest of the farm boys in agriculture, and to encourage them to get an education along agricultural lines and remain on the farm. Of course arousing interest in one crop will lead to similar lines of work with other crops and will ultimately result in a more careful study of methods with all lines of farming. This will lead to increased production on the farm and will lay the foundations for better schools, better roads, better churches, improvement of the social life in the rural districts and a more contented and happy people (Duncan, 1911, p. 2).

Boys' successes roused more interest and enthusiasm from citizens of the county than any demonstration work with adult farmers and "turned attention to the farm" (United States Department of Agriculture, 1911, p. 83). In 1909, over $10,000 in prizes were contributed by the public to encourage boys' corn clubs in the southern states; by 1910, the contributions rose to over $40,000 (United States Department of Agriculture, 1910, 1911). These contributions included both monetary donations and practical items. The corn-club movement attracted much attention, fueling public interest in better agriculture and the country's agricultural resources (United States Department of Agriculture, 1912).

The corn-club movement also focused on improving rural public education. Corn clubs were meant to assist the agriculture teacher by providing real examples that complemented classroom instruction. These hands-on experiences aimed to "vitalize" agricultural education in public schools.

Question 3- How did corn clubs operate?

In order to accomplish the stated purposes of the corn-club movement, cooperation among departments, agricultural colleges, county superintendents, county agents, and teachers was crucial. Corn-club work was conducted in cooperation with school officials and teachers in rural communities and supervised by state agents in agricultural colleges who represented both the United States Department of Agriculture and the college (True, 1915). Some states had a separate state leader for boys' and girls' club work, while in other states, the state leader for county agent work also directed the club work (True, 1915). In 1912, there were 20 boys' clubs county agents in the south (United States Department of Agriculture, 1913); by 1919, the number rose to 31 (United States Department of Agriculture, 1920). County agents organized and maintained club work in each county (True, 1915).

The work of the state leaders and county agents was heavily supplemented by that of volunteers trained as local leaders of boys' clubs. In the northern and western states, 11,478 local

volunteers served as club leaders in 1916, and this number rose steadily each year to over 50,000 volunteers in 1927 (United States Department of Agriculture, 1917, 1919, 1928). These volunteers not only served as club leaders, but they also held community meetings, visited club members' plots, and worked to recruit new members (United States Department of Agriculture, 1917). It should be noted that although corn clubs were exclusively open to boys until the 1920s, women were employed as leaders of corn clubs throughout the club history (Knapp, 1910; United States Department of Agriculture 1923). Seaman Knapp wrote in 1910, "Get the teacher to organize the club…if the teacher is a woman, show her the general principles and explain to her; any woman in the country could be trained in twenty-four hours how to conduct boys' corn clubs" (p. 5). As the corn-club movement progressed, more clubs were established in public schools and teachers were recruited as leaders: "Whenever possible, clubs are organized in connection with rural schools; and the teacher acts as local leader" (Duncan, 1970, p. 10).

The Office of Extension Work outlined the procedure used in conducting boys' club work and stressed the importance of cooperation among extension, state agricultural colleges, other agricultural organizations, school officials, and teachers (United States Department of Agriculture, 1919). The work of boys' clubs started at the local level with the enrollment and organization of members into local groups based on the agricultural project and proceeded with selecting a local leader, either volunteer or paid. The county extension agent was responsible for providing training materials, visiting club groups and plots, holding field meetings and instructional demonstrations, and coordinating club work with public school work. The club members were responsible for keeping accurate records, exhibiting their products, studying improved methods of farming, promoting conservation, attending club fairs and festivals, and submitting award applications.

The relation of the county superintendent of education to corn-club work was described in a circular published by the Alabama Agricultural Experiment Station in 1911 (Duncan, 1911). At the county level, the county superintendent of education was the leader and central figure of the corn club. If the school was very large, local corn clubs were allowed to be organized under the county club by providing the superintendent with a constitution and by-laws, list of elected officers, and teacher advisor. It was the superintendent's role to interest all teachers in the corn-club movement and reach all boys in all sections of the county, even if they did not live on a farm but were willing to rent land. Once a list of all interested boys was complied, the superintendent would hold a meeting in the fall (allowing for ample soil preparation time) to clarify the objectives and purposes of the corn club, adopt a constitution and by-laws, elect officers, and hold a discussion about better methods of corn growing led by the county agent.

A sample constitution for a county corn club, excerpted from "Program of County Organization Day for Boy's Corn Clubs" is shown below (Duncan & Kerlin, 1914, p.120 - 121):

> Article I - Name. This organization shall be known as the _____ County Boys' Corn Club.
>
> Article II - Purposes. The purposes shall be to make farm life more attractive and the profession of farming more profitable; to assist the public schools in teaching the fundamental principles of agriculture in a more practical way; to aid the State College of Agriculture and the United States Department of Agriculture, through the Farmers' Cooperative Demonstration Club Work, in carrying information directly to the farms.
>
> Article III - Members. Boys only between the ages of ten and eighteen, on January the first of any given year, shall be reported as members.
>
> Article IV - Officers and Committees. The club shall have a president, vice-president, secretary-treasurer, and a committee on prizes, of which committee the county superintendent and the county demonstration agent shall be members.

Although this sample constitution stated the maximum age for corn club members was 18, other clubs allowed members to be involved through age 21 (Duncan, 1911). In addition, the Office of Extension Work encouraged older

boys up to the age of 25 to take part in corn clubs in 1922 and reported that this change raised the standard of work (United States Department of Agriculture, 1923).

The suggested by-laws outlined specific rules governing corn-club contests, including instructions on creating a plan of work, qualifications for prizes and exhibits, and organizing meetings (Duncan & Kerlin, 1914). Specific methods of calculating yield and profit were also provided (Duncan & Kerlin, 1914, p. 120-122):

> By-law 9. In estimating profits, five dollars per acre shall be charged as rent of land. The work of each boy shall be estimated at ten cents per hour, and the work of each horse at five cents per hour. Manure shall be charged at the rate of $2.00 for each two-horse wagon load. Commercial fertilizers shall be charged at their market value. No charge shall be made for leaves or muck hauled to the boy's acre by himself for the purpose of adding humus to the soil.

Corn-club members not only needed to increase their yield per acre in order to be successful, but they also needed to minimize production costs. In addition, the boys were to exhibit their corn at farmer's institutes and keep accurate records of their projects. All this was taken into account as part of the specified judging criteria for corn competitions (Duncan & Kerlin, 1914, p. 122):

> By-law 12. In awarding prizes, the following basis shall be used:
> (a) Greatest yield per acre
> 30 points
> (b) Best exhibit of ten ears
> 20 points
> (c) Best written account of crop
> 20 points
> (d) Best showing of profit on investment
> 30 points
> ----------
> TOTAL
> 100 points

Prizes consisted of practical items, trophies, scholarships, diplomas of merit, and trips to Washington D.C. (United States Department of Agriculture, 1910, 1913, 1914). This method of awarding prizes, along with personal visits to the boys' plots, were considered the keys to success of the corn-club program (Duncan & Kerlin, 1914) and was indicative of the practical and educational value of the project (United States Department of Agriculture, 1911).

African-Americans were also an important group of corn-club members. In 1916, with the official designation of the Office of Extension Work in the south, "Negro demonstration work, including boys' and girls' clubs for negroes," was specified as one of the five distinct lines of extension work (United States Department of Agriculture, 1917). African-American corn clubs were systematized as separate projects in "Farm Maker's Clubs" and efforts greatly enlarged enrollments in 1918 (United States Department of Agriculture, 1917, 1919). The purpose of Farm Maker's Clubs was to revolutionize farming practices among African-Americans (Clark, 1984). In addition, African-American agents were hired throughout the southern states for demonstration and club work with a total of 272 African-American agents employed by 1922 (United States Department of Agriculture, 1923).

Question 4 – What were the outcomes (benefits) of corn clubs?

Boys' and girls' club work was considered the "most effective way" to cultivate the agricultural interests of young people, advance better agricultural practices, foster a sense of community, increase school attendance and performance, develop thrift and work ethic, promote team work, encourage healthy living, and increase enrollment in agricultural colleges (United States Department of Agriculture, 1917, p. 324). Boys' corn clubs developed personal leadership, community responsibility, good citizenship, and advanced farming principles more rapidly than any other method.

Corn-club members' thorough study of corn led to improved success with other crops, such as cotton and potatoes (United States Department of Agriculture, 1911). These plots also served as valuable lessons for the boys' fathers and other farmers in the community; the average yield of corn on a boy's plot was generally many

times greater than the average yield of the farm (General Education Board, 1915). When yields were compared between corn clubs and other land, the differences were convincing to producers, as illustrated in Table 1.

Table 1

Average Corn Yields (Bushels/Acre) Between Corn-Club Plots and Similar Land

State	Average Yield on Boy's Acre	Average Yield on Similar Lands
Alabama	62.3	17.2
Georgia	56.4	14.0
Louisiana	55.3	20.2
Mississippi	66.3	18.0
North Carolina	62.8	20.0
Oklahoma	48.0	22.6
Tennessee	91.5	35.5
Virginia	59.5	20.0

Note. Adapted from *The General Education Board: An Account of Its Activities, 1902-1914* by the General Education Board, 1915, p.60.

G. Harold Powell, Director of the Bureau of Plant Industry in 1910, recounted that only one year of experience in a corn club was needed to motivate a boy's father to accept improved farming methods, even if the father had previously declined to follow improved farming methods in the past (United States Department of Agriculture, 1911). Powell stated, "It is also noteworthy that in many places where the farmer cannot be reached primarily the Department has been able to reach him by enlisting his boy in the boys' corn clubs" (p. 82). For some farmers, corn clubs were the only convincing argument for change.

However, the success of the boy in growing corn sometimes backfired. One of the reviewers of this manuscript shared the following, "My wife's father was a member of a corn club in Illinois about 1921. His corn production was so much greater than his father's that his father destroyed the one-acre corn crop so as not to be embarrassed in the eyes of the neighbors. But, the next year, he did some of the things on his own corn fields that his son had done the year before."

Boys' corn clubs undoubtedly spurred the improvement of corn production by testing new seeds and experimenting with farming methods that increased yields while minimizing expenditures. Yet, the benefits of crop production seem insignificant compared to the outcomes seen by the boys, their fathers, their community, and agriculture in general. Corn clubs helped young farmers realize the advantages of farming as an occupation, convinced older farmers to understand and accept better methods of production, and benefited the public school system by vitalizing rural education (United States Department of Agriculture, 1914). Agricultural literacy was increased on all levels, through public interest in corn clubs, better attendance at farmer's institutes, and dissemination of agricultural research to farmers through their boys. An anonymous teacher from Dorchester County, South Carolina explained the effect of corn clubs on agricultural literacy and the demand for agricultural education in schools in a letter entitled "What the corn club has done for my school":

> This movement has been of great benefit to both school and community...It has helped to awaken boys to a greater interest in farming...The Corn Club was the beginning of what will be an agricultural school, which we have created a desire for, to contain about three acres of land to be used for demonstration purposes. It has also enabled us to have six good lectures on farms problems, and in this way has broadened the minds of the people in this community by introducing new thoughts and teaching something of what the world beyond their horizon is

> doing...and now they insist that a class in agriculture be taught in the school (Haddon, 1912, n.p.).

Furthermore, the knowledge, skills, and training received from participation in corn clubs often influenced boys to further their education (United States Department of Agriculture, 1914). In one state, 218 club members entered the agricultural college in 1917 (United States Department of Agriculture, 1919). Not only did corn-club participation increase a boy's desire to pursue a college education, it also provided a means to do so by awarding scholarships to state agricultural colleges to top members (Clark, 1984). The influence of corn clubs was truly seen in the personal and career success of the boys as adults. In fact, many county agents and extension specialists received their first training in agriculture through participation in corn clubs (United States Department of Agriculture, 1918).

Conclusions and Implications

Corn clubs were organized through the cooperation of various groups, including land grant colleges, public schools, state departments of agriculture, the USDA, agricultural societies, and philanthropic groups. These groups often worked together to promote corn clubs and these partnerships were crucial for the movement's success. By coordinating club work with public school work, corn clubs could operate most effectively and reach all boys, even if they did not live on a farm. Today in agricultural and extension education, partnerships must continue to be a key strategy in order to effectively deliver high quality programming to all of the nation's youth. Discussions among 4-H, FFA, and other agricultural organizations may lead to innovative ideas and new collaborations that will help improve and expand agriculture programs.

Although the original motive for establishing corn clubs may have been to sell better quality seed corn, the purpose of corn clubs quickly expanded to more than just cultivating corn. Objectives included a need to provide vocational training for boys, encourage more scientific farming methods, vitalize public education in rural areas, and stimulate public interest in agriculture. Corn clubs were designed to not only better educate students, but also to better educate farmers who were less likely to accept new ideas without first seeing the benefits themselves. Today in agricultural and extension education, this method of experiential learning can still be utilized effectively for many of the same purposes. Collaboration between public schools and extension offices could correlate the teaching of agriculture with actual practice, especially in schools that have limited access to land. Partnerships with area farms could assist the agriculture teacher and 4-H agent by providing real examples that complement classroom instruction. Such work would ultimately result in a more careful study of methods by both students and farmers, and also improve dissemination of research from agricultural experiment stations by carrying information directly to the farms.

Most corn clubs had a formal structure that included a constitution, by-laws, and officers. Record keeping was emphasized and documented the practical and educational value of corn clubs. In addition, boys entered their corn into competitions and filled out award and scholarship applications. The organization of corn clubs influenced the development of 4-H and FFA and similarities in the structure of corn clubs and other youth agricultural organizations are apparent. Examples include corn-club contests and FFA Proficiency Awards, corn-club record keeping and the 4-H record book competitive system, and the All-Star Corn Club and FFA's Star Awards.

Corn clubs undoubtedly played an important role in improving agriculture at the turn of the 20th century. Boys' clubs were the most effective way of convincing farmers of the value of new agricultural practices, while also educating the future generation of farmers. As a result crop yields increased and so did profits. However, the ancillary educational benefits may have been even more important. Corn clubs increased the demand for agricultural education in public schools and greatly influenced the development of the home project method, which has evolved into today's Supervised Agricultural Experience component of the agricultural education program model. Through supervised projects, the boys learned to think critically, gained entrepreneurship skills, and applied science and mathematics. Personal visits by local leaders to each boy's

plot provided crucial guidance and encouragement. The success of this movement illustrated the value of integrated, practical education that is still highly relevant today.

The competitive nature of corn clubs could be utilized today by agriculture teachers. There could be competition among students with square foot gardens, with flats in the greenhouse, or even on school land laboratories where they exist. In addition, conducting school agricultural fairs to exhibit student projects for the community could be used to share the agricultural knowledge with other students and adults and help fuel public interest in the country's agriculture and natural resources. Agricultural literacy could be increased on all levels through student displays and demonstration work, just as corn clubs improved the agricultural literacy of rural communities. Furthermore, this work may increase students' interest in pursuing a college education and choosing a career in an agricultural field.

The history and success of the corn-club movement emphasized the importance of a renewed commitment to the integrated approach for agricultural education that includes formal instruction, supervised experience, and student competitions and recognition. This integrated approach was the key to success of the corn-club movement and continues to be the key to successful agricultural education programming today.

References

Alabama Department of Education. (1910). *Information in regard to corn clubs for Alabama boys*. Montgomery, AL:

Armstrong, L. O. (1929). *The history of agricultural education in North Carolina*. Unpublished Master's thesis, North Carolina State University, Raleigh.

Benson, O.H. (1912). *Organization and instruction in boys' corn-club work.* Washington, D.C.: United States Department of Agriculture, Bureau of Plant Industry.

Borg, W. R. & Gall, M. D. (1983). *Educational research (4th ed.)*. New York, NY: Longman.

Clark, J. W. (1984). *Clover all over: North Carolina 4-H in action.* Raleigh, NC: North Carolina State University.

Crosby, D. J. (1904). *Boys' agricultural clubs*. Washington, DC: United States Department of Agriculture, Office of Experiment Stations.

Davis, B. M. (1911). Agricultural education: Boys' agricultural clubs. *The Elementary School Teacher*, 11(7), 371-780.

Doerfert, D. L. (Ed.) (2011). National research agenda: American Association for Agricultural Education's research priority areas for 2011-2015. Lubbock, TX: Texas Tech University, Department of Agricultural Education and Communications.

Duncan, C. H. (1970). *Fifty years of 4-H in Missouri*. University of Missouri, Columbia: MO.

Duncan, L. N. (1911). *The relation of the country superintendent of education to the boys' corn club work. How to organize a club* (Alabama Polytechnic Institute, Alabama Agricultural Experiment Station Circular No. 9), Opelika, AL: Post Publishing Company.

Duncan, L. N. & Kerlin, I. B. (1914). *Program of county organization day for boys' corn clubs* (Alabama Polytechnic Institute, Alabama Agricultural Experiment Station Circular No. 30), Opelika, AL: Post Publishing Company.

Fraenkel, J. R. & Wallen, N. E. (2006). *How to design and evaluate research in education (6th ed.)*. New York, NY: McGraw-Hill.

General Education Board. (1915). *The General Education Board: An account of its activities, 1902 - 1914*. New York, NY: General Education Board.

Graham, A.B. (1941). Boys' and girls' agricultural clubs. *Agricultural History*, 15(2), 65-68.

Haddon, C. B. (1912). *Some Results of the boys' corn club work in South Carolina* (Clemson Agricultural College, South Carolina Agricultural Experiment Station Circular No. 7). Anderson, S.C.: Oulla Printing & Binding Co.

Kern, O. J. (1903). The Winnebagoes, 1903. Winnebago, IL: The County.

Knapp, S. A. (1910). *The mission of cooperative demonstration work in the south* (United States Department of Agriculture Circular No. 33). Washington, D. C.: Government Printing Office.

Knapp, S. A., & Martin, O.B. (1913). *Boys' demonstration work.* Washington, DC: United States Department of Agriculture, Bureau of Plant Industry.

Lincoln, Y. S. & Guba, E. G. (1985). *Naturalistic inquiry*. Newbury Park, CA: Sage Publications.

McCormick, V. E. & R. W. (1984). *A. B. Graham country schoolmaster and extension pioneer*. Worthington, OH: Cottonwood Publications.

National Research Council. (1988). *Understanding agriculture: New directions for education*. Washington, DC: National Academy Press.

Nolan, A. W., & Greene, J. H. (1917). *Corn growing: A manual for corn clubs.* Chicago, IL: Row, Peterson, and Company.

Reck, F. M. (1951). *The 4-H Story*. Ames, IA: The Iowa State College Press.

The National Council for Agricultural Education. (2000). *Reinventing agricultural education for the year 2020*. Retrieved from http://www.teamaged.org/council/index.php/goals.

True, A. C. (1915). *Cooperative agricultural-extension work* (Unites States Department of Agriculture Circular No. 47). Washington, D. C.: Government Printing Office.

True, A. C. (1929). *A history of agricultural education in the United States 1785 - 1925* (United States Department of Agriculture Miscellaneous Publication No. 36). Washington, D.C.: Government Printing Office.

United States Department of Agriculture. (1851). *Report of the commissioner of patents, for the year 1850. Part II. Agriculture*. Washington, D. C. Office of Printers to House of Representatives.

United States Department of Agriculture. (1907). *Annual reports of department of agriculture for the year ending 1906*. Washington, D. C.: Government Printing Office.

United States Department of Agriculture. (1908). *Annual reports of department of agriculture for the year ending 1907*. Washington, D. C.: Government Printing Office.

United States Department of Agriculture. (1909). *Annual reports of department of agriculture for the year ending 1908*. Washington, D. C.: Government Printing Office.

United States Department of Agriculture. (1910). *Annual reports of department of agriculture for the year ending 1909*. Washington, D. C.: Government Printing Office.

United States Department of Agriculture. (1911). *Annual reports of department of agriculture for the year ending 1910*. Washington, D. C.: Government Printing Office.

United States Department of Agriculture. (1912). *Annual reports of department of agriculture for the year ending 1911*. Washington, D. C.: Government Printing Office.

United States Department of Agriculture. (1913). *Annual reports of department of agriculture for the year ending 1912*. Washington, D. C.: Government Printing Office.

United States Department of Agriculture. (1914). *Annual reports of department of agriculture for the year ending 1913*. Washington, D. C.: Government Printing Office.

United States Department of Agriculture. (1915). *Annual reports of department of agriculture for the year ending 1914*. Washington, D. C.: Government Printing Office.

United States Department of Agriculture. (1917). *Annual reports of department of agriculture for the year ending 1916*. Washington, D. C.: Government Printing Office.

United States Department of Agriculture. (1919). *Annual reports of department of agriculture for the year ending 1918*. Washington, D. C.: Government Printing Office.

United States Department of Agriculture. (1920). *Annual reports of department of agriculture for the year ending 1919*. Washington, D. C.: Government Printing Office.

United States Department of Agriculture. (1923). *Annual reports of department of agriculture for the year ending 1922*. Washington, D. C.: Government Printing Office.

United States Department of Agriculture. (1928). *Annual reports of department of agriculture for the year ending 1927*. Washington, D. C.: Government Printing Office.

Wessel, T. (1976). Agriculture, Indians, and American history. *Agricultural History*, 50(1), 9-20.

CASSANDRA URICCHIO is a Lecturer and Director of Equine Management in the Stockbridge School of Agriculture at the University of Massachusetts – Amherst. 121 Stockbridge Hall, Amherst, MA 01003-9246. curicchio@umass.edu.

GARY MOORE is a Professor and Director of Graduate Studies in the Department of Agricultural Education at North Carolina State University, Box 7607, Raleigh, NC 27695. gary_moore@ncsu.edu.

MICHAEL COLEY is a half-time Educational Technology Specialist at Tennessee State University and a half-time agriculture teacher at Siegel High School in Murfreesboro, TN. michaelcoley2040@gmail.com