

TEXAS SUPERINTENDENTS AND THE AGRISCIENCE PROGRAM: A COMPARISON OF SELECTED DEMOGRAPHICS, PERCEPTIONS AND PERCEIVED KNOWLEDGE LEVELS

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Abstract

An agricultural science program's success depends on the superintendent, a school district's highest academic officer, recognizing the program as a vital part of the school. Recent studies by Pavelock (2001), Jackson & Herring (1998), and Hinkson (1999) have shown administrators support agriscience, but revealed troubling insights. The primary purpose of this study was to determine the differences in perceptions and perceived knowledge levels of the agriscience program by Texas public school superintendents with various agriscience experience levels. The population for the study was Texas public school district superintendents in whose district an agricultural science program was offered during the 1999-2000 school year. The study was descriptive and 100 superintendents were randomly selected using a proportional stratified random sampling method. A 71% response rate was attained. A majority (58.6%) of Texas public school superintendents have at least some experience in agriscience by having either taught, been enrolled in, or had children enrolled in, agriscience. Two-thirds (66.7%) indicated academics as their primary teaching area, and a vast majority had no career and technology education (82.9%) or agriscience (88.6%) teaching experience. Most (58.6%) had not been enrolled in agriscience themselves and almost two-thirds (65.7%) had not had a child enrolled, yet 67.1% had work experience in agriculture. As a group, superintendents were found to have a positive perception of the agriscience program and its teachers. Generally, they perceived the program to be a wise investment of fiscal resources and that agriscience is beneficial to students of various academic abilities. They considered teachers to have a positive professional image and successful in meeting various students' needs. Superintendents perceived themselves to be very knowledgeable about most aspects of the program, with knowledge levels higher for areas related to funding and lower in areas related to the curriculum. Experience in agriscience was not found to have a significant effect on most perceptions and perceived knowledge levels. Differences found existed primarily in the need for more emphasis in various instructional areas, and whether all students should receive instruction in agriscience throughout their formal schooling years. Differences also existed in perceptions of agriscience being less of a vocational program and more of an academic program compared to other career and technology programs, and the inability of school districts to obtain waivers for certain agriscience courses to count for credit in related foundation courses.

Introduction and Theoretical Framework

The United States' demographics have changed from a rural to an urban society, and this change has created challenges for agricultural education. Expanded standardized testing and additional graduation requirements of the Texas Education Agency (2000) mandate that students complete a more advanced program of study, thereby limiting elective course options while requiring additional credits in fine arts and other languages. Schools are giving more attention to the portions of the Academic Excellence Indicator System (AEIS) that reward them for having a high percentage of students on advanced graduation plans. Students considered to have higher academic skills are often discouraged from enrollment in career-oriented programs for courses perceived to be more challenging. As a result, students and parents have developed negative stereotyped attitudes regarding programs such as agricultural education (Dyer & Osborne, 1997).

Agricultural science and other vocational programs, almost since their inception, have been a part of the comprehensive high school system throughout the nation (Martin and Peterson, 1991). The National Council for Agricultural Education (1999) envisions agricultural education as a world where all people value and understand the vital role of agriculture in advancing global and personal well-being. Reports by the National Research Council (1988) and The National Council for Agricultural Education (1999) have examined the challenges facing agricultural education and the new directions that need to be taken. In 1988, the National Research Council stated, "Agriculture is too important a topic to be taught only to the relatively small percentage of students considering careers in agriculture and pursuing vocational agriculture studies." (p. 8).

Superintendents must help identify the portions of an ideal agricultural science program necessary to help students meet the needs and demands of a global economy and workforce because the superintendent is first and foremost the chief academic officer in a public school system (Spillane & Regnier, 1998). He/she is responsible for empowering principals, who then empower her/his own staff to provide the instructional program, in addition to ensuring that established goals for the campus are met (Konnert & Augunstein, 1995).

There have been some studies that indicated administrative support for agricultural programs. A Texas study regarding communication between agriscience teachers and school administrators found administrators have a high regard for the program (Hinkson, 1999). A major Texas study was conducted to ascertain the perceptions and perceived knowledge levels of Texas school superintendents regarding agricultural science and technology programs (Pavelock, 2001). As with any high school program, its success is dependent upon the commitment of that school's educational leaders. Thus, it is vital that superintendents recognize the role of the agriscience program in the public schools of Texas. In these regards, the primary purpose of this study was to determine differences in perceptions and perceived knowledge levels of the agriscience program by Texas public school superintendents with various agriscience experience levels.

Purpose/Objectives

The study focused on the demographics of Texas public school superintendents and their perceptions and perceived knowledge level regarding the agricultural science and technology program. The objectives of this study were to determine Texas public school superintendents':

1. Demographic characteristics;
2. Perceptions of the agricultural science program, its purpose, and its role in the total school program and the school's goals;
3. Perceptions of agricultural science teachers;
4. Perceived knowledge levels regarding the agriscience program; and
5. Differences in perceptions among those with and without experience in agriscience.

Methods/Procedures

The targeted population sample (superintendents of public school districts in Texas) was derived from districts whose high school(s) include agricultural science as an instructional area. The number of superintendents surveyed was determined according to the formula developed by Cochran (1977). The superintendent of those districts was determined by using the 1999-2000 Texas Public School Directory (Texas Education Agency, 1999) and personal communication. To ensure the external validity of the instrument, schools were selected within the ten geographically-arranged "areas" of the Texas FFA Association by stratified random selection.

The researcher-developed questionnaire was derived from a variety of previous studies including studies conducted in Georgia (Woodard & Herren, 1995), Illinois (Dyer & Osborne, 1997), Mississippi (Johnson & Newman, 1993), Nebraska (Foster, Bell, & Erskine, 1995; Viterna, 1971), North Carolina (Jewell, 1995; Price, 1990), Oregon (Bender, 1996; Thompson, 1998), and Texas (Jackson & Herring, 1998). The instrument was a four-part mailed questionnaire. Part One gathered demographic information. Part Two contained questions pertaining to the superintendents' perceptions of the agriscience program. Part Three contained questions related to perceptions of the ideal characteristics of an agriscience teacher; perceptions of the agriscience teacher's role, and expectations regarding professionalism and professional development. Part Four contained statements pertaining to superintendents' perceived knowledge level of the agriscience program. All parts used an eight-point Likert-type scale.

The instrument was evaluated by faculty and graduate students in the Agricultural Education and Communications Department at Texas Tech University, agricultural science teachers, and public school administrators to ascertain validity. A field test was conducted by pilot testing the survey at approximately 30 schools not selected for the study.

The instrument was mailed via first-class mail. Guidelines of Dillman's (1978) Total Design Method (TDM) were followed to increase response rates. The desired rate of response was 100%, with a 70% response rate considered the minimum acceptable level. Follow-up procedures were continued until this minimum acceptable response rate was achieved. Data were coded, tabulated and analyzed using the Statistical Package for Social Sciences (SPSS) for the Macintosh computer and the SPSS 10.1 for Windows. Descriptive statistics and alpha levels were reported using demographic characteristics and responses of participants.

Results/Findings

Demographics

Two-thirds (66.7%) indicated academics (language arts, social studies, science, or math) as their primary teaching area. Over eighty percent had no career and technology education teaching experience but almost twelve percent had some agricultural science teaching experience. Most (58.6%) superintendents had not been enrolled in agriscience while in high school or college, and almost two-thirds (65.7%) said their children had not been enrolled in high school agriscience. Slightly more than two-thirds (67.1%) of the participants indicated they had some work experience in agriculture, as the largest percentage (47.1%) were found to have been raised in a rural hometown with a population of 2,500 or less. Most (55.7%) participants' districts were located in a rural town with a population of 2,500 or fewer, with the largest percentage (45.7%) indicating their school districts has less than 1,000 students.

As a total, 29 respondents (41.4%) indicated no direct or indirect involvement in agricultural science, meaning they had neither taught nor been enrolled in the program and their children had not been enrolled in the program. Over one-half (58.6% or 41) indicated either a direct or indirect involvement in the program by having taught or been enrolled in agricultural science, or having had a child enrolled in agriscience.

Perceptions Toward the Agriscience Program

Respondents were asked to indicate their level of agreement with certain statements pertaining to their perception of the agricultural science and technology program as a whole and not as they relate to the program within their individual school district (Table 1). Superintendents who had experience in agriscience were considered to be those that had either taught agriscience, had been enrolled in vocational agriculture/agricultural science, or who had children that were enrolled in vocational agriculture/agricultural science. Those with no involvement in any of the three areas were considered to have no experience in agriscience.

The highest levels of agreement by superintendents with agriscience experience were indicated in regard to the need for more emphasis on technology/computer applications (7.1), leadership development (7.0), and integration of science, mathematics, etc. (6.8). They agreed at a moderately high level that agriscience should provide students with specific skills for gainful employment and pursuing a higher education (6.5) and that agriscience needs more emphasis placed on biotechnology (6.5). The amount of funds spent on agriscience is a wise investment of local, state and federal resources (6.4) and more emphasis needs to be placed on environmental and natural resources (6.4). Furthermore, the agriscience program is useful and successful among at-risk students (6.3), while more emphasis needs to be placed on agribusiness (6.2) and horticulture/landscaping (6.0). Respondents did not believe that too much attention is focused on environmental and natural resources (2.9) or leadership development (2.6) as curriculum areas.

Superintendents with agriscience experience (had taught, been enrolled in, or had a child enrolled in, vocational agriculture/agricultural science) indicated the highest levels of agreement with the need for more emphasis on technology/computer applications (6.9), the integration of science, mathematics, etc. (6.8), and leadership development (6.6). Their agreement level was also found to be highest in regard to agriscience being a wise investment of local, state and

federal resources (6.6). This group of respondents indicated the lowest levels of agreement for statements about the program focusing too much attention on horticulture (2.9), agribusiness management (2.4), environmental and natural resources (2.2) and leadership development (1.8).

Table 1

Superintendents' agreement with statements regarding the agriscience program

Statement	Mean ^a	Mean ^b	Alpha
Instruction in agriscience needs to have more emphasis placed on technology / computer applications.	7.1	6.9	.499
Instruction in agriscience needs to have more emphasis placed on leadership development.	7.0	6.6	.294
Instruction in agriscience needs to have more emphasis placed on the integration of science, mathematics, etc.	6.8	6.8	.935
The agriscience program should provide students with specific skills needed to become gainfully employed <u>and</u> pursue a higher education.	6.5	6.4	.890
Instruction in agriscience needs to have more emphasis placed on biotechnology.	6.5	6.1	.243
The amount of funds currently spent on the agriscience program is a wise investment of local, state, and federal resources.	6.4	6.6	.624
Instruction in agriscience needs to have more emphasis placed on environmental and natural resources.	6.4	6.1	.452
The agriscience program helps at-risk students remain interested in their education, lessening the likelihood they will drop out of school.	6.3	6.2	.799
Instruction in agriscience needs to have more emphasis placed on agribusiness.	6.2	6.2	.891
Instruction in agriscience needs to have more emphasis placed on horticulture.	6.0	5.2	.018*
Agriscience programs focus too much attention on livestock showing.	5.9	5.3	.250
Certain courses in agriscience should count for credit in courses such as science, speech, and economics, if the teacher completes additional training or coursework in the corresponding area.	5.8	5.6	.663
Supervised Agricultural Experience Programs are a vital component of agriscience that should be continued as a program requirement.	5.8	5.3	.268
Instruction in agriscience needs to have more emphasis placed on plant production.	5.8	5.1	.045*
Agriscience is very useful in helping students to make a personal connection to, and find relevance in, non-curricula areas.	5.7	5.8	.735
Instruction in agriscience needs to have more emphasis placed on animal care.	5.7	5.3	.337
Instruction in agriscience needs to have more emphasis placed on food science.	5.7	5.3	.268
Agriscience is beneficial for all students, regardless of their academic ability or intentions to pursue a higher education.	5.6	5.7	.836
Instruction in agriscience needs to have more emphasis placed on wildlife management.	5.6	5.3	.493

Table 1 (continued)

Statement	Mean ^a	Mean ^b	Alpha
Instruction in agriscience needs to have more emphasis placed on agricultural mechanization	5.4	5.5	.716
Instruction in agriscience needs to have more emphasis placed on animal production.	5.0	4.9	.819
The agriscience program focuses too much attention on judging contests.	4.7	3.6	.029*
The agriscience program focuses too much on production agriculture.	4.3	3.4	.016*
Most careers in agriculture are production-based, and the limited opportunities for students to obtain employment in this area lessens the need for agriscience programs in today's high schools.	4.1	3.6	.271
The agriscience program focuses too much attention on FFA activities.	4.0	3.1	.051
Agriscience is less of a vocational program and more of an academic program than other career and technology education programs.	3.7	4.7	.016*
Agriscience is primarily vocational, whose main function is to prepare students for entry into the work force after high school graduation.	3.6	3.1	.271
All students should receive instruction about agriculture throughout their formal schooling years, kindergarten through high school.	3.3	4.7	.003**
The agriscience program focuses too much attention on environmental and natural resources.	2.9	2.2	.042*
The agriscience program focuses too much attention on leadership development.	2.6	1.8	.025*

N=29 for respondents with no experience in agricultural science

N=41 for respondents with experience in agricultural science

^aMean = 1 (Lowest Level of Agreement or No Agreement) and 8 (Highest Level of Agreement or Complete Agreement) for respondents with no experience in agricultural science

^bMean = 1 (Lowest Level of Agreement or No Agreement) and 8 (Highest Level of Agreement or Complete Agreement) for respondents with experience in agricultural science

* Significant at .05 level

** Significant at .01 level

There were significant differences in the means of levels of agreement between those superintendents that indicated some experience in agriscience and those that indicated no experience. These significant differences were in regard to statements about more emphasis being needed on plant production ($\hat{\alpha}=.045$) and horticulture/landscaping ($\hat{\alpha}=.018$), and that the program focuses too much attention on environmental and natural resources ($\hat{\alpha}=.042$), judging contests ($\hat{\alpha}=.029$), leadership development ($\hat{\alpha}=.025$), production agriculture ($\hat{\alpha}=.016$). In addition, a significant difference in the mean was found for agreement level with the statement that agriscience is less of a vocational program and more of an academic program than other career and technology education programs ($\hat{\alpha}=.016$). Finally, the statement that all students should receive instruction about agriculture throughout their formal schooling years ($\hat{\alpha}=.003$) had the most significant difference in the mean of the level of agreement.

Perceptions Toward Agriscience Teachers

Respondents were asked to indicate their level of agreement with certain statements pertaining to their perception of agricultural science and technology teachers as a whole and not the teacher(s) within their individual school district (Table 2). An 8-point Likert-type scale was provided for participants as per the following: 1 = lowest level of agreement or no agreement, and 8 = highest level of agreement or complete agreement. Superintendents who had experience in agriscience were considered to be those that had either taught agriscience, had been enrolled in agricultural science, or who had children that were enrolled in agricultural science. Those with no involvement in any of these areas were considered to have no experience in agriscience.

The highest agreement level by superintendents with no experience in agriscience was found in regard to whether teachers should possess a significant level of knowledge about all phases of the agricultural industry as compared to specialization in selected aspects (6.0). Superintendents agreed at the same level that agriscience teachers portray a positive image to, and have a positive relationship with, students (5.8), parents (5.7), and administrators (5.6). No statement received a low level of agreement from superintendents without experience in agriscience.

Table 2

Superintendents' agreement with statements regarding agriscience teachers

<u>Statement</u>	<u>Mean^a</u>	<u>Mean^b</u>	<u>Alpha</u>
Agriscience teachers should possess a significant level of knowledge about all phases of agriculture, as compared to a specialization in one or two aspects of the industry.	6.0	5.9	.816
Agriscience teachers portray a positive professional image to, and have a positive professional relationship with, students.	5.8	6.0	.504
Agriscience teachers portray a positive professional image to, and have a positive professional relationship with, parents.	5.7	6.0	.508
Agriscience teachers portray a positive professional image to, and have a positive professional relationship with, administrators.	5.6	5.9	.555
In terms of life skills and respective content areas, agriscience teachers do as good a job as "academic" teachers in educating their students.	5.5	5.6	.601
To receive certification, agriscience teachers should be required to pass an Examination for the Certification of Educators in Texas (ExCET) in Production Agriculture.	5.5	5.0	.437
Agriscience teachers portray a positive professional image to, and have A positive professional relationship with, the community.	5.4	6.0	.128
Agriscience teachers tend to do a better job of educating, encouraging, and motivating lower achieving students compared to other teachers.	5.2	5.6	.341
Agriscience teachers portray a positive professional image to, and have a positive professional relationship with, other teachers.	5.1	5.2	.815
Agriscience teachers are well-prepared to offer instruction at a level that is challenging for students intending to pursue higher education.	5.1	5.1	.888
Agriscience teachers provide instructional opportunities to students that adequately prepare for a postsecondary education.	5.0	5.2	.445

Table 2 (continued)

Statement	Mean ^a	Mean ^b	Alpha
Agriscience teachers provide instruction opportunities to students that adequately prepares them for immediate and successful entry to the work force after graduation.	4.9	5.5	.089
Agriscience teachers are well prepared by university teacher education programs to conduct successful agriscience programs and prepare students for higher education or entry into the work force.	4.9	5.0	.894
Agriscience teachers provide instructional opportunities in agriscience at a level that would warrant students being able to obtain credit for science, speech, and/or economics through agriscience courses.	4.5	5.0	.183
Agriscience teachers integrate curriculum areas such as science, economics, and speech into their own curriculum at an acceptable and challenging level for students of all academic abilities.	4.5	4.9	.340
Agriscience teachers should be employed on 12-month contracts due to Supervised Agricultural Experience Programs (SAEPs) and student participation in leadership activities, in addition to teacher participation in professional development activities.	4.1	4.8	.184

N=29 for respondents with no experience in agricultural science

N=41 for respondents with experience in agricultural science

^aMean = 1 (Lowest Level of Agreement or No Agreement) and 8 (Highest Level of Agreement or Complete Agreement) for respondents with no experience in agricultural science

^bMean = 1 (Lowest Level of Agreement or No Agreement) and 8 (Highest Level of Agreement or Complete Agreement) for respondents with experience in agricultural science

* Significant at .05 level

** Significant at .01 level

Similar to their counterparts with no agriscience experience, superintendents with experience in agriscience indicated highest agreement levels with statements that teachers portray a positive image to, and have a positive relationship with, students (6.0), parents (6.0), and the community (6.0). High agreement was indicated for the statement that agriscience teachers should possess a significant level of knowledge about all phases of the agricultural industry versus specialization in selected aspects (5.9), and that teachers portray a positive image to, and have a positive relationship with, administrators (5.9). They further indicated highest agreement for agriscience teachers tending to do a better job of educating, encouraging, and motivating lower achieving students compared to other teacher in the school (5.6), as well doing as good a job as “academic” teachers in educating students in terms of life skills and their respective content areas (5.6). No statement had a low agreement level among superintendents with agriscience experience.

There were no significant differences in the means of agreement levels with statements about agriscience teachers from the different groups.

Perceived Knowledge Levels of the Agriscience Program

Respondents were asked to indicate their level of perceived knowledge with certain statements pertaining to the agriscience program as a whole, not their school district’s program (Table 3). An 8-point Likert-type scale was provided for participants: 1 = lowest level of knowledge or no

knowledge, and 8 = highest level of knowledge or complete knowledge. Superintendents who had experience in agriscience were considered to be those that had taught agriscience, had been enrolled in agricultural science, or who had children that were enrolled in agriscience. Those without involvement in any of these areas were considered to have no experience in agriscience.

Table 3

Superintendents' perceived knowledge with various aspects of the agriscience program

<u>Statement</u>	<u>Mean^a</u>	<u>Mean^b</u>	<u>Alpha</u>
Students enrolled in agriscience receive weighted funding from the state as compared to traditional academic programs.	6.7	7.3	.074
Weighted state funding received for students enrolled in agriscience courses can only be spent on students in career and technology programs, except for the percent allowed for administrative costs.	6.4	6.7	.550
Federal funding for agriscience programs is available through The Carl Perkins Federal Vocational Act, and such funding can be used for teacher travel in certain instances.	6.1	6.3	.753
The agriscience program is currently comprised of 49 different courses in seven systems areas, unlike the previous Ag I-IV arrangement, in which students complete one level before progressing to the next.	5.9	5.8	.723
School districts are required to complete an annual evaluation of the agriscience program, as stated in the Texas Administrative Code.	5.7	5.9	.745
Students enrolled in career and technology education courses have passing rates on TAAS that is equal to the percentage of all students passing all tests of the TAAS.	5.6	5.9	.473
A school district's board of trustees may permit students enrolled in work-based agriscience (and similar career and technology) courses to obtain the one and one-half credits required in physical education.	4.8	5.7	.120
School districts are not able to obtain a waiver that allows students in certain agriscience courses to receive credit for foundation courses (such as science credit for Animal Science and Plant & Soil Science).	4.3	5.5	.023*

N=29 for respondents with no experience in agricultural science

N=41 for respondents with experience in agricultural science

^aMean = 1 (Lowest Level of Knowledge or No Knowledge) and 8 (Highest Level of Knowledge or Complete Knowledge) for respondents with no experience in agricultural science

^bMean = 1 (Lowest Level of Knowledge or No Knowledge) and 8 (Highest Level of Knowledge or Complete Knowledge) for respondents with experience in agricultural science

* Significant at .05 level

Regarding program funding, superintendents who had indicated no experience in agriscience are highly knowledgeable about the receipt of weighted state funding for students enrolled in agriscience courses (6.7). They are also quite knowledgeable in regard to the permitted use of these funds only on career and technology programs, except for allowable administrative costs (6.4), and are aware of the availability of federal funds from the Carl Perkins Federal Vocational Act and the use of these funds for teacher travel in certain instances (6.1).

Superintendents with experience in agriscience are very highly knowledgeable about the receipt of weighted state funding for students enrolled in agriscience courses (7.3). This group also indicated a high level of perceived knowledge regarding allowable uses of weighted state funds (6.7), and consider themselves highly knowledgeable that federal funds from the Carl Perkins Federal Vocational Act are available and can be used for teacher travel in certain instances (6.3).

One significant difference in the means of perceived knowledge levels was found between superintendents with and without agriscience experience. This was in regard to school districts not being able to obtain a waiver that allows students in certain agriscience courses to receive credit for related foundation courses ($\alpha=.023$).

Conclusions/Recommendations

A direct interest of the study, a majority (58.6%) of Texas public school superintendents have at least some experience in agriscience by having either taught, been enrolled in, or had children enrolled in, agriscience. Contrastingly, when looking at these experiences individually, barely one-tenth (11.4%) of the respondents have experience teaching vocational education/agricultural science, most (58.6%) were never enrolled in an agriscience/vocational agriculture program, and almost two-thirds (65.7%) have not had a child enrolled in the program. Most (66.7%) superintendents in Texas have a teaching background in an academic field, such as language arts or mathematics, as their primary teaching area. Few (14.5%) indicated career and technology education as their primary teaching area, and only slightly more (17.1 %) have any experience teaching in career and technology education. Surprisingly, most have agricultural work experience, perhaps due to another surprising fact – most were raised in a rural environment (small town with a population of 2,500 or less).

Texas superintendents, as a group and regardless of their experience in agriscience, have a positive perception of the agriscience program and of those who teach it. They believe the funds spent on agriscience are a wise investment of resources, that the program provides students with specific skills needed for both gainful employment and higher education, and that the program is useful and successful in helping at-risk students remain interested in their education.

Although neither group had an exceptionally high belief, superintendents with agriscience experience did perceive the program to be less vocational and more academic than other career and technology programs, as compared to the beliefs of superintendents with no experience in agriscience as a teacher, student or parent. Experience in agriscience or a lack thereof was found to have a significant effect on superintendents' perceptions about some agriscience instructional areas that needed more emphasis. This experience factor also contributed to differences in perceptions for areas of the program that had too much attention focused upon it, and whether agriculture should be taught to all students throughout their formal schooling years.

Recommendations

Teachers should collaborate with superintendents, other administrators, teachers, students, parents and members of the business community to develop course offerings that will fit the needs of students. These needs may be based on students' intent to pursue a higher education and/or enter the work force immediately after high school graduation. Teachers should also

develop a sound working relationship with “academic” teachers to integrate the agriscience curriculum with science, mathematics and other areas.

Superintendents should continue to provide the financial resources necessary to conduct a quality agriscience program that is current with new technology and work place practices. They should ensure that federal and state funding intended for career and technology programs are spent in accordance with the guidelines that accompany the receipt of funds from such sources. Teachers need to increase their knowledge level of weighted funding and its guidelines.

Teachers should work with superintendents who have no experience in agriscience to recognize the value of teaching agriculture to all students, as well as fostering an understanding of the role of agriculture in the local, state, national and global economy. Teachers should also help the same superintendents to understand the academic aspects of the program and its movement toward a more diverse program that is not entirely vocationally-oriented.

Teachers that do not have support from their superintendent for a 12-month contract and smaller teaching load should seek to understand why such support is not provided. All superintendents, regardless of their experience in agriscience, should be made aware of the requirements and demands of supervising SAEs and extracurricular activities.

All superintendents, especially those without agricultural science experience, should be informed of the unavailability of waivers for agriscience courses to count as credit in related foundation subject areas. Such waivers could alleviate problems that school districts face in dealing with teacher shortages and overcrowded classrooms. Further study is recommended of administrators, foundation course teachers, Texas Education Agency personnel, and State Board of Education members to determine and address barriers that exist to implementing waivers.

Teachers should continue to ensure that the agriscience program prepares students of all academic abilities for both gainful employment and higher education. Agriscience teachers should give greater attention to academics and current practices, as well as changing the program’s image, to solidify its future in the Texas public school system. This might require less emphasis on extracurricular activities such as showing livestock and judging contests.

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