

VII.C.

Connecticut State Board of Education Hartford

To Be Proposed:
February 14, 2024

Resolved, That the State Board of Education, pursuant to Section 10-65a (b) of the Connecticut General Statutes, receives the Report on Agricultural Science and Technology Education Graduates Five Years after Graduation.

Approved by a vote of _____, this fourteenth day of February, Two Thousand Twenty-Four.

Signed: _____
Charlene M. Russell-Tucker, Secretary
State Board of Education

Connecticut State Board of Education

Hartford

To: State Board of Education

From: Charlene M. Russell-Tucker, Commissioner of Education

Date: February 14, 2024

Subject: Report on Agricultural Science and Technology Education Graduates Five Years after Graduation

Executive Summary

Introduction

Pursuant to Section 10-65a (b) of the Connecticut General Statutes (C.G.S.), each local and regional board of education which operates an Agricultural Science and Technology Education (ASTE) Center (including aquaculture and marine-related employment programs), shall conduct an annual study to ascertain the educational and vocational activities in which graduates of such center are engaged in five years after graduation and shall submit the study to the State Board of Education (SBE).

The Board's focus on equity, high academic achievement, and college and career readiness is reflected in the regional ASTE programs and is evidenced by:

1. All students regardless of gender, race, ethnicity, family wealth, zip code, or disability status participate in a challenging interdisciplinary agricultural curriculum supported by state-of-the-art facilities and equipment.
2. All students are provided with a curriculum that is rigorous and performance-based and guided by the SBE approved Agriculture, Food and Natural Resources (AFNR) frameworks. The AFNR frameworks are aligned to the Connecticut Core Standards in English language arts and mathematics, the Next Generation of Science Standards (NGSS), Green/Sustainability Knowledge and Skill Statements (KSS), and the National Standards for Financial Literacy (NSFL) which prepares the individual to be successful in postsecondary endeavors.
3. All students receive leadership training, learn personal and social responsibility, and acquire 21st century skills through participation in the Local, State and National FFA Organization (formerly known as the Future Farmers of America).
4. All students are required to engage in career activities through a Supervised Agriculture Experience (SAE) project. Students apply the knowledge and skills gained through class curriculum by exploring agricultural careers, creating agricultural business, and/or developing new knowledge and skills through agricultural career placements.

History/Background

Agricultural high schools have a long history in Connecticut. The first attempt to create an agriculture high school was in 1832. Unfortunately, Litchfield Agriculture High School never emerged from the planning phase. The Cream Hill Agricultural School was established in West Cornwall, Connecticut in 1845. The school had matriculated 272 students when the doors closed in 1869.

In 1881, the Storrs Agriculture School was founded. The school had 13 students learning the science and art of farming. Students split their day between the classroom and work on the school farm. The school remained open until 1893 when it became the Storrs Agriculture College, the predecessor to the University of Connecticut.

A report of the Connecticut State Board of Education in 1907 dedicated seven pages to the teaching of agriculture courses in State “normal schools.” By 1910, 20 towns had agriculture being taught in their high schools. In 1917, the United States Congress passed the Smith-Hughes Act, which provided financial and professional assistance to develop and fund agriculture and home economics programs nationwide. Connecticut established vocational agricultural departments at New Milford, Winsted, and Middletown in 1917. By 1920, state-aided vocational courses were also established in the towns of Simsbury, Woodbury, Washington, Killingly and Thompson.

Between 1920 and 1939 state-aided vocational agriculture courses were added to the high schools in Guilford, Southington, Willimantic, Newtown, Thompsonville, Glastonbury, North Stonington, Suffield, Woodstock, Housatonic Valley, (now Regional School District 1) and Norwich Free Academy in Norwich.

In 1955, the Connecticut General Assembly established a regional pilot program for an agriculture high school in Middletown. In 1958, Rockville High School in Vernon was awarded a regional agriculture center in 1960. Two regional agriculture programs were started in Wallingford and Woodbury. Over the next sixty-three years the state changed the name of regional vocational agriculture centers to agricultural science and technology education (ASTE) centers and has established ASTE centers in 20 towns, the last of which was at Regional School District 12 in 2018.

The ASTE centers, as indicated by the Summary Report on the Five-Year Follow-up Study of Agricultural Science and Technology Education Graduates, have prepared students for employment, entrepreneurship, and higher education in the areas of: Animal Systems; Aquaculture Systems; Marine and Technology Systems; Food Products and Processing Systems; Natural Resources and Environmental Systems; Plant Systems; Power, Structural and Technical Systems; and Biotechnology Science. This systems approach encompasses agricultural production and services, business management, career and leadership skills, scientific inquiry, use and conservation of land and water resources, career and environmental safety and security, global economics, and the sociological and political aspects of the agricultural industry.

The report on Agricultural Science and Technology Education Graduates Five Years After Graduation was last presented to the SBE on January 11, 2023.

Findings

The following summarizes several significant findings and conclusions of the Summary Report on the Five-Year Follow-up Study of Agricultural Science and Technology Education Graduates:

- Over ninety-two percent of students who enrolled in an ASTE center, as Grade 9 students, graduated from that center.
- Ninety-two percent of ASTE students who started a degree program, earned the degree.
- Fifty-three percent have a degree from a four-year college or university.
- Ninety-six percent of respondents who started a four-year college degree program earned a degree.
- Twenty-six percent are still in college or another advanced study or training program.
- Nine percent own a business.
- Ninety-three percent are employed; and
- Twenty percent are employed full-time in an agriculture-related field.

Conclusions

- The ASTE Centers provide students with the skills and knowledge for postsecondary college and career success.
- Graduates are attending and completing college or university, along with other types of postsecondary training and other education opportunities.
- The program prepared students for the rigors of postsecondary education.
- The program prepared qualified employees for career success in the Agriculture, Food, and Natural Resources Cluster area; and
- Graduates are successful in gaining postsecondary education and/or employment opportunities.

Recommendation

The Connecticut State Department of Education (CSDE) presents the Summary Report on the Five-Year Follow-up Study of Agricultural Science and Technology Education Graduates, Class of 2017, for review and recommends that the Board continues their support of the ASTE centers.

Prepared by: Harold Mackin
Education Consultant, Academic Office

Approved by: Irene E. Parisi
Chief Academic Officer

Connecticut State Department of Education

Summary Report on the Five-Year Follow-up Study of Agricultural Science and Technology Education Graduates

Class of 2017

Submitted Pursuant to Section 10-65a (b) of the Connecticut General Statutes

Overview

For the past 69 years, Connecticut has been progressive in providing students with the highest quality of agriculture education through unique Regional Agricultural Science and Technology Education (ASTE) Centers. By regionalizing the ASTE centers, all of Connecticut's students have access to rigorous and relevant agriculture education that prepares them for college and careers in agriculture and agricultural fields.

Connecticut's unique approach to providing access to agricultural program study to all students (no other state has a system that allows students from urban, suburban, and rural communities to study agriculture in the same program) enables learners to explore and build knowledge and skills in one or more agricultural pathways. The Agriculture, Foods, and Natural Resources Career Cluster allows students to pursue pathways in Animal Systems; Aquaculture Systems; Marine and Technology Systems; Food Products and Processing Systems; Natural Resources and Environmental Systems; Plant Systems; Power, Structural and Technical Systems; and Biotechnology Science. This systems approach encompasses agricultural production and services, business management, career and leadership skills, scientific inquiry, use and conservation of land and water resources, career and environmental safety and security, global economics, and the sociological and political aspects of the agricultural industry.

The ASTE centers use a three-prong approach in preparing students. The curricula are rich in industry-recognized skill and knowledge, leadership, and career focused instruction. Leadership skills instilled through the activities of the National FFA Organization (FFA) and career skills are acquired through a student's Supervised Agriculture Experience (SAE).

Section 10-65a (b) of the C.G.S, enacted in 1992 and revised in 2008, determines the effectiveness of the ASTE program by asking graduates about the program's relevance to job attainment and further education. The Section states:

“Each local and regional board of education which operates an agricultural science and technology education center shall conduct an annual study to ascertain the educational and vocational activities in which graduates of such center are engaged five years after graduation and shall submit the study to the State Board of Education.”

The Summary Report on the Five-Year Follow-up Study of Agricultural Science and Technology Education Graduates surveyed 758 ASTE program graduates. Over 73 percent of those graduates completed the survey. The class of 2017 graduate survey gathered information from ASTE program graduates in the following areas:

- high school preparation in ASTE;
- postsecondary education and work experience; and
- current employment situation.

The class of 2017 graduate survey provides data which will assist regional and local boards of education, as well as the Connecticut State Department of Education (CSDE), in identifying successes and areas for improvement in the ASTE program.

Findings

The following summarizes several significant findings and conclusions of the class of 2017 survey:

- Over ninety-two percent of students who enrolled in an ASTE center, as Grade 9 students, graduated from that center;
- Ninety-two percent of ASTE students who started a degree program, earned the degree;
- Forty percent have a degree from a four-year college or university;
- Ninety-six percent of respondents who started a four-year college degree program earned a degree;
- Twenty-six percent are still in college or another advanced study or training program;
- Nine percent own a business;
- Ninety-three percent are employed; and
- Twenty percent are employed full-time in an agriculture-related field.

Conclusions

- The ASTE Centers provide students with the skills and knowledge for postsecondary college and career success;
- Graduates are attending and completing college or university, along with other types of postsecondary training and other education opportunities;
- The program prepared students for the rigors of postsecondary education;
- The program prepared qualified employees for career success in the Agriculture, Food, and Natural Resources Cluster area; and
- Graduates are successful in gaining postsecondary education and/or employment opportunities.

Study Report

Purpose and Objectives

Section 10-65a (b) of the C.G.S. states, “Each local and regional board of education which operates an agricultural science and technology education center shall conduct an annual study to ascertain the educational and vocational activities in which graduates of such center are engaged five years after graduation and shall submit the study to the State Board of Education.” The information from the class of 2017 graduate survey validates the importance of and the need for agricultural programs and to ensure that students are prepared for the current and emerging job market in agricultural and related industries. The Summary Report on the Five-Year Follow-up Study of Agricultural Science and Technology Education Graduates is a summary of the class of 2017 graduate survey responses reported to each of the respective regional ASTE centers.

The survey gathers information from ASTE program graduates in the following areas:

- The adequacy of preparation in all phases of the ASTE program;
- The correlation between skills obtained in ASTE programs and those needed to be college and career ready; and
- The identification of education and work experiences since graduation.

Procedure

From December 2022, through January 2023, 19 of the 20 Regional ASTE schools, disseminated the annual Summary Report on the Five-Year Follow-up Study of Agricultural Science and Technology Education Graduates survey to their 2017 graduates, (Regional School District 12 started in the 2019-2020 school year, they will not be included until the class of 2020 is surveyed.) The CSDE received the survey results from each ASTE center and created this report. A copy of the Agricultural Science and Technology Education Five-Year Graduate Follow-Up Summary Report is available in Appendix 1.

Results

Reported Graduates

The 19 regional ASTE centers reported 761 students graduated in 2017, (758 graduates were surveyed). Seventy-four percent of the 2017 graduates (555 total) completed the class of 2017 graduate survey. To increase the response rate, centers made additional contacts through mailings, Facebook, e-mails, and telephone calls. Table 1: Reported Graduates lists the response rate from the 19 ASTE Centers.

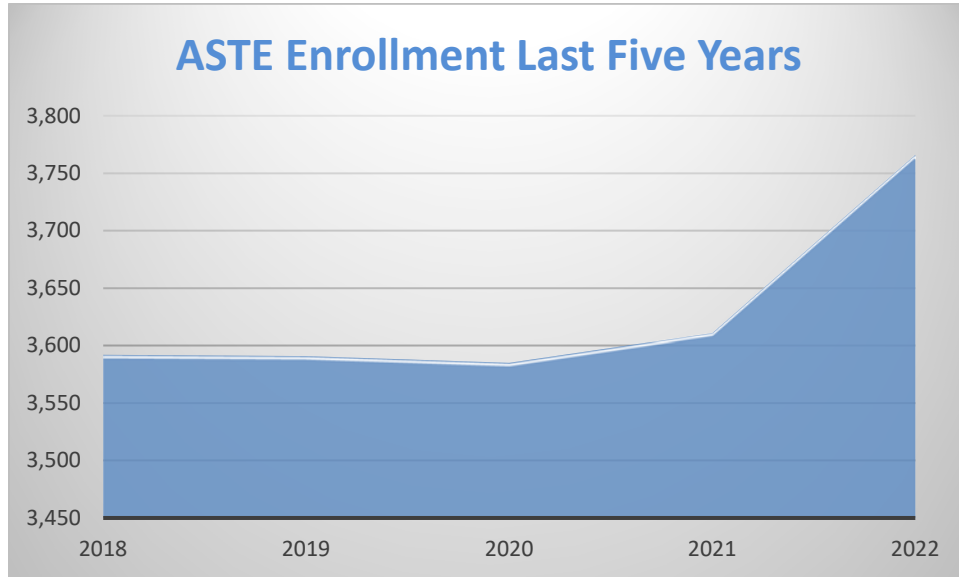
Table 1: Reported Graduates

School Town	Response Rate 2016			School Town	Response Rate 2016		
	Number of Graduates	Number of Responses	% Return Rate		Number of Graduates	Number of Responses	% Return Rate
Bloomfield High School Bloomfield	33	13	39	Suffield High School Suffield	19	19	100
Bridgeport Aquaculture School Bridgeport	89	50	56	Trumbull High School Trumbull	45	38	84
Glastonbury High School Glastonbury	21	13	62	Rockville High School Vernon	11	4	36
Killingly High School Dayville	39	34	87	Lyman Hall High School Wallingford	60	49	82
Lyman Memorial High School Lebanon	18	16	85	Housatonic Valley High School Falls Village	34	23	68
Ledyard High School Ledyard	52	45	86	Wamogo High School Litchfield	56	48	86
Middletown High School Middletown	22	18	82	Northwestern High School Winsted	24	20	83
Sound School New Haven	76	40	53	Nonnewaug High School Woodbury	64	55	86
Southington High School Southington	30	19	63	E. O. Smith High School Storrs	32	25	78
Westhill High School Stamford	33	26	79	Total	758	555	74%

ASTE Enrollment

Chart 1 shows the number of enrolled students in ASTE Centers over the past five years. In 2022, it was the highest enrollment in the history of ASTE Centers. The chart illustrates the dramatic increase between 2021 and 2022 of an additional 156 students as compared to an increase of only 19 students from 2018 to 2021.

Chart 1: ASTE Enrollment Last Five Years



College and Career Experience of Agricultural Science and Technology Education Program Graduates

Table 2: Postsecondary Education, Training, Work Experience and Employment History provides the college and career experience of the ASTE program graduates. These totals may represent duplicate counts as graduates may have selected more than one of the available selections. The class of 2017 reported:

- Over 92 percent of students who enrolled in an ASTE center, as Grade 9 students, graduated from that center;
- Ninety-two percent of ASTE students who started a degree program, earned the degree;
- Forty percent have a degree from a four-year college or university;
- Ninety-six percent of respondents who started a four-year college degree program earned a degree;
- Twenty-six percent are still in college or another advanced study or training program;
- Nine percent own a business;
- Ninety-three percent are employed; and
- Twenty percent are employed full-time in an agriculture-related field.

Table 2: Postsecondary Education, Training, Work Experience and Employment History

Postsecondary Education, Training, Work Experience and Employment History, Class of 2017	Percentage
Agriculture or agricultural related education information. Percentage of graduates who:	
attended postsecondary agricultural related training, (any formal training that is not part of a baccalaureate or higher degree program)	7%
completed postsecondary agricultural related training, (any formal training that is not part of a baccalaureate or higher degree program)	7%
are currently enrolled in postsecondary agricultural related training, (any formal training that is not part of a baccalaureate or higher degree program)	2%
attended college and majored in an agriculture program or an agricultural related field that leads to a baccalaureate or higher degree	17.5%
completed an agriculture college degree program or a program in an agricultural related field that leads to a baccalaureate or higher degree	18.75%
are currently enrolled in college and are majoring in an agriculture program or in an agricultural related field that leads to a baccalaureate or higher degree	9%
Nonagriculture education information. Percentage of graduates who:	
attended postsecondary nonagricultural related training, (any formal training that is not part of a baccalaureate or higher degree program)	17.5%
completed postsecondary nonagricultural related training, (any formal training that is not part of a baccalaureate or higher degree program)	15%
attended college and majored in a nonagricultural program or a nonagricultural-related field that leads to a baccalaureate or higher degree	37.5%
completed a nonagricultural college degree program or a program in a nonagricultural related field that leads to a baccalaureate or higher degree	34.2%
are currently enrolled in college and are majoring in a nonagricultural program or in a nonagricultural related field that leads to a baccalaureate or higher degree	17%
Agriculture or agricultural related career information. Percentage of graduates who:	
own an agriculture or agriculturally related business	4.5%
own an agriculture or agriculturally related business and have employees	2%
number of employees in the business not counting the owner	11
are considered employed full-time in an agricultural related field	205
are currently seeking employment in agriculture or in an agricultural-related field	4%
are currently unemployed and seeking gainful employment	2.3%
Non-agriculture career information. Percentage of graduates who:	
own a nonagricultural business	4.5%
own a nonagricultural business and have employees	1.8%
number of employees in the business not counting the owner	10
are considered employed full-time in a nonagricultural related field	54%
entered the armed services	6.3%
are currently unemployed and seeking gainful employment	4.7%

Current Employment of Graduates

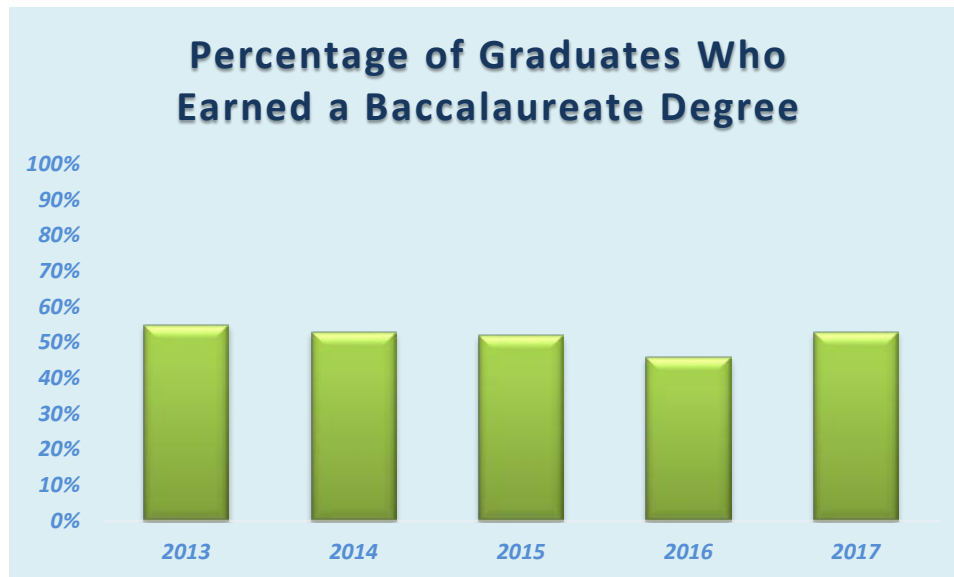
Graduates provided their current employer and specific job title at the time they completed the survey. Table 3 provides a sampling of the job titles provided.

Table 3: Representative Job Titles of Respondents

Company	Job Title	Agricultural Related Yes/No
NECOG Animal Control	Animal Control Officer	Yes
Waverly Animal Hospital	Receptionist	Yes
United Ag and Turf	Parts Manager	Yes
Three Rivers Community College	Educational Assistant to Student Activities	No
AIS, Inc.	Marine Fish Observer	Yes
Brooklyn Middle School	Teacher	No
Valleyside Farm	Equipment Operator	Yes
Advent Health	Medical Assistant	No
US department of Defense	Senior Consultant	No
PetSmart	Groomer	Yes
RNL Enterprises	Landscape Technician	Yes
Yale New Haven Health System	Registered Nurse	No
Hartford Hospital	ER Nurse	No
Johnson Angus Ranch	Herdsman	Yes
US Air Force	Non-commissioned Officer	No
University of Rhode Island	Graduate Research	Yes
Skungamug Clubs, Inc.	Greenskeeper	Yes
Salve Regina University	Public Safety Inspector	No
The Animal Clinic	Lead Vet Tech	Yes
Glastonbury High School	Agriculture Teacher	Yes
Farmington High School	Teacher	No
University of Connecticut	Necropsy Animal Care Technician	Yes
US Air Force	Civil Engineer	No
Farm Credit East	Assistant Appraiser	Yes
Lyman Hall High School	Agriculture Teacher	Yes
Disney	Cast Member	No
Jersey Mike's Subs	Marketing and Business Operations	No
Kimberly Farms	Dairy Manager	Yes
Willow	CAN Cook	No
Bartlett Tree Experts	Crew Leader	Yes
Pawloski Lumber	Sawyer, Mechanic	Yes
French Rose Pet Care	Owner	Yes
White Flower Farm	Greenhouse Assistant	Yes
University of Nebraska	Graduate Research Assistant	Yes

College Graduates

Table 4: Percentage Of Graduates Who Earned a Baccalaureate Degree Five Years After Secondary Graduation.



Conclusions

The purpose of this study was to ascertain the educational and vocational activities in which graduates of ASTE centers are engaged in five years after graduation. In analyzing the results, the following conclusions have been drawn:

- The ASTE Centers provide students with the skills and knowledge for postsecondary college and career success;
- Graduates are attending and completing college or university, along with other types of postsecondary training and other education opportunities;
- The program prepared students for the rigors of postsecondary education;
- The program prepared qualified employees for career success in the Agriculture, Food, and Natural Resources Cluster area; and
- Graduates are successful in gaining postsecondary education and/or employment opportunities.

These conclusions validate the state's investment of resources to this program. The CSDE will ensure that all ASTE centers continue to implement rigorous standards-based curricula to prepare students to meet the changing needs of college, workplace, technology, and a global economy.

SECTION 1

**CONNECTICUT STATE DEPARTMENT OF EDUCATION
 Agricultural Science and Technology Education
 Five-year Graduate Follow-Up Summary Report**

Local Education Agency: <i>Name</i>	Address:	Telephone:
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Name of Person Completing Form:	Title:	Date:
	E-mail:	
Agricultural Science and Technology Education Center Address:		Telephone:

Directions:
 Each Agricultural Science and Technology Education (ASTE) operating center is to:

- Survey the graduates from the class of **2017**.
- Record the tabulated data from the Agricultural Science and Technology Five-Year Follow-Up Survey in the spaces provided below and return by **April 1, 2023**.

Mail or e-mail to: Harold Mackin, Education Consultant, Agricultural Science and Technology Education, Connecticut State Department of Education, Academic Office, P.O. Box 2219, Hartford, CT 06145-2219. E-mail: Harold.Mackin@ct.gov

Graduating year for which survey was conducted:	2017
Number of graduates in 2017 :	
Number of graduates surveyed:	
Total number of graduates responding:	

Program Information		
Number of years of agricultural science and technology education completed by graduates:		Number of Graduates
	1 year	
	2 years	
	3 years	
	4 years	
Number of graduates from each area of study:		Number of Graduates
	Agribusiness Systems	
	Animal Systems	
	Aquaculture Systems	
	Biotechnology Systems	
	Environmental Service Systems	
	Food Products & Processing Systems	
	Marine Trades	
	Natural Resources Systems	
	Plant Systems	
	Power, Structural & Technical Systems	

Agricultural Science and Technology Five-Year Graduate Follow-up Summary Report

Postsecondary Education, Training, Work Experience and Employment History	Totals
Agriculture or agricultural related education information. Number of graduates who:	
attended postsecondary agricultural related training, (any formal training that is not part of a Baccalaureate or higher degree program)*;	
completed postsecondary agricultural related training, (any formal training that is not part of a Baccalaureate or higher degree program)*;	
are currently enrolled in postsecondary agricultural related training, (any formal training that is not part of a Baccalaureate or higher degree program)*;	
attended college and majored in an agriculture program or an agricultural related field that leads to a Baccalaureate or higher degree;	
completed an agriculture college degree program or a program in an agricultural related field that leads to a Baccalaureate or higher degree;	
are currently enrolled in college and are majoring in an agriculture program or in an agricultural related field that leads to a Baccalaureate or higher degree;	
Non agriculture education information. Number of graduates who:	
attended postsecondary nonagricultural related training, (any formal training that is not part of a Baccalaureate or higher degree program)*;	
completed postsecondary nonagricultural related training, (any formal training that is not part of a Baccalaureate or higher degree program)*;	
attended college and majored in a nonagricultural program or a nonagricultural related field that leads to a Baccalaureate or higher degree;	
completed a nonagricultural college degree program or a program in a nonagricultural related field that leads to a Baccalaureate or higher degree;	
are currently enrolled in college and are majoring in a nonagricultural program or in a nonagricultural related field that leads to a Baccalaureate or higher degree;	
Agriculture or agricultural related career information. Number of graduates who:	
own an agriculture or agriculturally related business;	
own an agriculture or agriculturally related business and have employees besides themselves;	
number of employees in the business not counting the owner;	
are considered employed full-time in an agricultural related field*;	
are currently seeking employment in agriculture or in an agricultural related field;	
are currently unemployed and seeking gainful employment*;	
Non agriculture career information. Number of graduates who:	
own a nonagricultural business;	
own a nonagricultural business and have employees besides themselves;	
number of employees in the business not counting the owner;	
are considered employed full-time in a nonagricultural related field*;	
entered the armed services; and	
are currently unemployed and seeking gainful employment*.	

*Count a graduate only once for this line.

SECTION 2

Agricultural Science and Technology Five-Year Graduate Follow-up Summary Report Other Statutory and Regulatory Certification for the Program. For specific legislative and Regulations of Connecticut State Agencies, please refer to the Connecticut General Statutes Sections 10-64 through 10-65b and Regulation Sections 10-65-1 to 10-65-8, inclusive.

The Superintendent of Schools for the operating district is to verify compliance with the following legislative requirements by checking the “YES” box for each item. *A narrative MUST be attached for each “NO” item explaining specific measures the district will use to bring them into compliance with current legislation and regulations.*

YES	NO	Legislative and Regulatory Requirements for the 2016-17 school term.
		The facility and equipment funded by the State of Connecticut for the Regional Agricultural Science and Technology Center is used exclusively by the agriculture program.
		A certified staff member is designated as administrator for the program.
		All students in the program have a planned, supervised agricultural experience program which relates to the student’s goals and abilities and is in addition to regularly scheduled classes.
		The student leadership organization, FFA, is an integral part of the program.
		An inventory of equipment purchased with state funds is maintained and is available upon request.
		Support staff such as school nurse, clerical, custodial and teacher substitutes are provided to ensure purposes of the program and standards of health and safety are maintained.
		A racial and ethnic diversity plan, pursuant to Section 10-65a is accurate, on file and available upon request.
		A local advisory committee has met at least twice over the past year.
		A copy of the program of studies, classroom schedules and other supportive materials which will indicate no less than 320 minutes per week being provided for classroom instruction for Grades 10-12, time blocked to allow for laboratory, shop and fieldwork, and student/teacher ratios for the overall program and laboratory situations are available upon request.
		An admissions application for the program is available upon request.
		Certified agriculture and/or aquaculture staff are scheduled for proper coverage of the 12 month program.

Please fill-in below the requested recruitment data from the 2022-2023 school year:

- number of students who applied; number of students accepted;
- number of students that enrolled in the program;
- number of students not accepted because of lack of space availability in program; and number of students rejected for other than space availability.

I hereby, certify that the information covered by Section 2, Form ED 503, is proper and valid in connection with the Regional Agricultural Science and Technology Education Center.

(Signature of ASTE Director\Department Head)

(Date)

(Print Name ASTE Director\Department Head)

(Date)

(Signature Superintendent of Schools)

(Date)

(Print Name Superintendent of Schools)

(Date)

