

The USDA's Food and Agricultural Education Information System: FAEIS¹

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Abstract

As a comprehensive nationwide system, the Food and Agricultural Education Information System (FAEIS) provides empirical data and analyses for planning, benchmarking, and coordinating efforts, directed towards supporting higher education in the food, human, agricultural, and natural resource sciences. FAEIS ([http:// faeis.usda.gov/](http://faeis.usda.gov/)) is an accessible resource for data users that includes faculty, higher education administrators, government officials, industry professionals, and the general public to strengthen higher education programs and is sponsored by the U. S. Department of Agriculture (USDA). Recently 2008 marked one of the best years for FAEIS reporting with 100% reporting from nearly all of our sponsoring associations: Association of Public and Land-Grant Universities (APLU), formally National Association of State Universities and Land-Grant Colleges (NASULGC) ; American Association of State Colleges of Agriculture and Renewable Resources (AASCARR); Association of American Veterinary Medical Colleges (AAVMC); Board on Human Sciences (BOHS); Council on Administrators of Family and Consumer Sciences (CAFCS); Society of American Foresters (SAF); and National Association of University Forest Resources Programs (NAUFRP). This article seeks to expand awareness of FAEIS, discuss the data collection process, and provide readers with examples of how they can use FAEIS.

Introduction

The U.S. Department of Agriculture's (USDA) Food and Agricultural Education Information System (FAEIS) is a comprehensive web-based database of student and faculty data. Its purpose is to compile nationwide higher education data for life, food, veterinary, human, natural resource, and agricultural sciences (The USDA's Food and Agricultural Education Information System, 2009).

FAEIS is the nation's most definitive repository of student enrollment and degrees granted information for the food and agricultural sciences. FAEIS also includes useful faculty salary information as well as detailed reports, by variables such as gender and academic discipline, for benchmarking and other comparative studies. Congress periodically requests workforce projections from USDA, and FAEIS is our primary source for providing this response. Institutional research and administrative decision-makers also consult FAEIS data to develop policy statements and economic analysis. If you're a faculty member writing a grant application, there's no better place than FAEIS to find student enrollment projections to support your project. --Greg Smith, National Education Program Leader for Higher Education Programs at the National Institute of Food and Agriculture (NIFA) formally Cooperative State Research, Education, and Extension Service (CSREES), USDA, on July, 2, 2009 (Smith, G., personal communication).

FAEIS was originally developed by the USDA in 1983 to provide data for federal reporting purposes in collaboration with Texas A & M University. In 2001 FAEIS transferred to Virginia Tech and is currently funded through a USDA grant (#2008-38420-04799) and operated by the College of Agriculture and Life Sciences.

As a comprehensive nationwide system, FAEIS provides empirical information for use in planning, benchmarking, and coordinating efforts, directed towards supporting higher education in the food, agricultural, and natural resource sciences. FAEIS offers an accessible resource for data users that includes faculty, higher education administrators, government officials, industry professionals, and the general public to strengthen higher education programs. FAEIS can assist users examining enrollment trends, emerging disciplines, student placement, and faculty salaries.

¹The FAEIS project was supported by USDA grant (#2008-38420-04799) from the USDA's National Institute of Food and Agriculture (NIFA) Higher Education Program.

FAEIS Data Collection

FAEIS annually conducts three major surveys: the Fall College Enrollment Survey, the Student Survey, and the Faculty Survey. The Fall College Enrollment Survey asks for initial student headcount for an entire college or school in the program areas of life, food, veterinary, human, natural resource, and agricultural sciences (<http://faeis.usda.gov/> for a detailed listing of these programs). The Student Enrollment Survey collects data concerning institutional majors as categorized by Classification of Instructional Programs (CIP) codes and lists the students enrolled in those majors by gender, race/ethnicity, degree level, and graduate placement.

The Faculty Survey focuses on faculty and administrators and automatically assigns a unique identification number to insure anonymity. Some of the key areas in which FAEIS collects faculty information includes monthly salary, primary discipline, academic rank, appointment term (e.g. 9 month or 12 month), tenure track status, appointment types by full time equivalence (research, teaching, and extension full-time equivalent [FTE]) and demographic information (gender, race/ethnicity, citizenship and age).

Data Collection

Presently, FAEIS collects data from over 220 colleges and universities, including the 1862, 1890, and 1994 land grants, American Association of State Colleges of Agriculture and Renewable Resources (AASCARR); Board on Human Sciences (BOHS); Council on Administrators of Family and Consumer Sciences (CAFCS); and Society of American Foresters (SAF) colleges and universities (for a list of participating institutions visit <http://faeis.usda.gov/>).

For data to be useful to users, FAEIS relies on strong and congenial relationships with institutions and their respective colleges or schools to voluntarily report the necessary data. FAEIS data entry partners at colleges and universities are initially contacted electronically with notification that the system is ready for access. Data collection also occurs through a series of point person contacts, with the FAEIS team member providing help and support to the data entry partner by generating reports for the data entry partner to update and review. The relationship between the data entry partner and the FAEIS team member serves as an asset to provide accuracy and consistency in reporting because the data entry partner informs FAEIS of changes within their departments and colleges.

FAEIS data are reported and categorized through the Classification of Instructional Programs (CIP) codes from the CIP 2000 edition. CIPs are a "taxonomic coding scheme that contains titles and descriptions of primarily postsecondary instructional programs" (Morgan and Hunt, 2002) and were developed by the National Center for Education Statistics and are thus the federal classification

standard. The data entry partner chooses the appropriate CIP codes for their disciplines. The CIP codes are discipline specific and allow for historically tracking information. For example, historically the field of agronomy referred to multiple disciplines that have been subsequently developed into separate programs such as soil science, crop science, and plant science. In 2009, FAEIS will begin to use the 2010 CIP edition for reporting purposes to ensure that current and relevant reporting standards are maintained.

Accuracy, Reliability, and Uniqueness

Often self-reporting databases, such as FAEIS, are criticized for the reliability of the data. Concerns are that institutions may report inaccurate data or may be unwilling or unable to report their true data (Fixsen, et al., 1972; Fowler, 2008). The FAEIS team views data validity and reliability as a critical component of planning and assessment for FAEIS performance. To improve the reliability of the data, the FAEIS team e-mails and calls departments and institutional research offices of reporting institutions to ensure the accuracy of the data reported. At the end of a reporting year, the FAEIS team sends out a combined report to university and college administrators. This report allows the institution final approval prior to the data being made public. The FAEIS team also asks institutions to check data when anomalies are noted in data that have been submitted. These measures help to ensure the accuracy of the FAEIS data.

The FAEIS team consistently seeks to improve the completeness and reliability of the system thorough collaboration with FAEIS users, including presentations at professional conferences and symposiums to obtain user feedback. Routine examinations of the current and historical data insure that the data are as accurate and reliable as possible. To adequately evaluate the value of FAEIS, annual and comprehensive assessments are conducted, as well as an annual meeting of the FAEIS Peer Panel. FAEIS users receive an annual survey to assess the value and ease of use for FAEIS. During the three-year grant cycle, FAEIS also conducts a comprehensive assessment of FAEIS to determine progress and plans for the future. Finally, the FAEIS Peer Panel meets annually to discuss the direction of FAEIS from the higher education viewpoint. These measures ensure that FAEIS continues to improve in functionality and value to the user.

FAEIS Advisory Board

In an effort to maintain reporting effectiveness, FAEIS receives feedback from a Peer Panel consisting of individuals from the sponsoring professional associations identified above. This advisory board meets along with the APLU during this association's annual conference. The primary role of the FAEIS Peer Panel is to represent, advocate, and advise FAEIS. Peer Panel provides technical guidance to

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FAEIS from its users on data collection, classification, formatting, and access issues. The advisory council provides valuable insight for improvements to FAEIS and recommendations for future reporting purposes. Finally, the Peer Panel serves as an advocate of FAEIS through communication with present and potential user groups across both the public and private sector.

Uses of FAEIS Data

The data that institutions provide to FAEIS are used to answer a wide variety of questions from different constituents. With the focus on agriculture and related sciences, government officials used FAEIS data for the 2008 Farm Bill (Boteler, 2008). Organizations also use FAEIS data for the promotion of legislation to state and federal government. Higher education administrators use FAEIS to learn about student and faculty trends.

"FAEIS data was very helpful for a comparative study of faculty compensation in family and consumer sciences requested by our central administration. The FAEIS data provided comparisons of different types of institutions to support this report. Information was concise, current, and easy to read. The prompt helpfulness of the staff was greatly appreciated." -- Nina Collins, C.C. Wheeler Professor and Chair, Family and Consumer Sciences, Bradley University (personal communication).

"We are trying to get a sense of the ratio of BS/MS/PHD in our 10 peer institutions. FAEIS happens to be very well suited to answer that question." -- Dale Whittaker, Associate Dean and Director of Academic Programs, College of Agriculture, Purdue University (Hunnings, 2009c).

By providing data to FAEIS, institutions enable the USDA to provide reports in response to Congressional inquiries, organizations to impact legislation, researchers to gain scholarship, and institutions to develop benchmark comparisons in a collegial fashion.

The 2008 reporting year marks the best year for FAEIS reporting with a record high 220 colleges and universities providing data. For the first time, 100% of the 1890 land grant colleges reported student survey data, a significant improvement from 2002, when only two of the eighteen 1890 institutions participated. In addition, 100% the 1862 Land-grants, Board of Human Sciences (BOHS), and Schools of Applied Forestry (SAF) institutions reported data.

As of this date, 2009 data is being finalized and will be available from FAEIS. As FAEIS reporting expands, new opportunities, resources and greater reliability of the data will be available to the user.

What FAEIS Can Do For You

Through the report builder feature on the FAEIS web site (<http://faeis.usda.gov/>). FAEIS provides users with the capability to select, filter, and present data exactly as needed, create multidimensional reports, and generate charts and graphs. These results can be downloaded to the user's computer in multiple formats that can be imported into Microsoft Word, Excel, or PowerPoint files. In conjunction, the FAEIS help desk can assist users to generate reports to meet specific needs.

For example, the report builder can generate an enrollment trend graph for peer institutions for an administrative user interested in creating a new undergraduate major in agribusiness example (Figure 1). Report builder can limit the type of data being accessed by a number of variables including but not limited to CIP codes, program areas, years, institution, and institutional type. Individuals that use report builder find this feature useful for conducting trend analysis and for benchmarking purposes.

For a grant writer whose grant focuses on underrepresented student populations, FAEIS can provide data on student diversity, (Figure 2).

For faculty interested in salary comparisons, the FAEIS report builder can generate a comprehensive report that delineates average salaries and headcount by tenure, appointment term, gender, race/ethnicity, and age. Figure 3 provides an example than compares 9 month to 10 month (or more) faculty

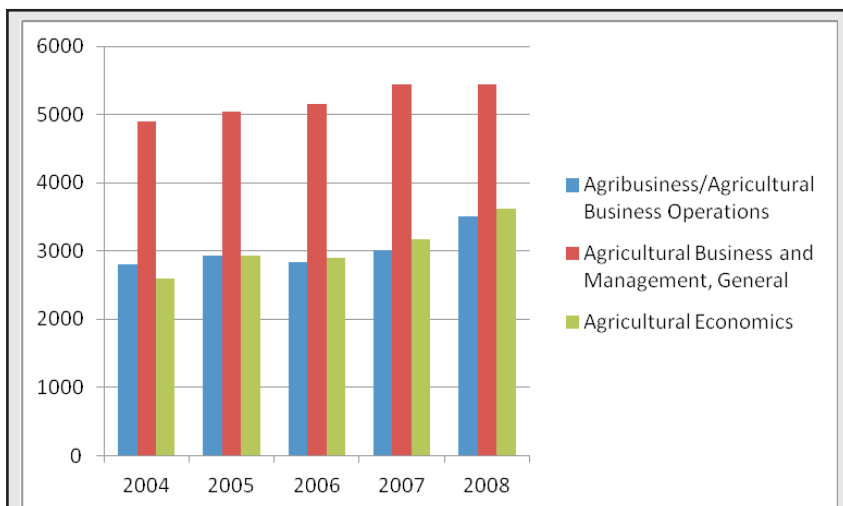


Figure 1. Baccalaureate Enrollment in Agribusiness.

Note: 88 institutions reporting. (The USDA's Food and Agricultural Education Information System, 2009c)

appointments over time for both new faculty hired and all faculty.

As FAEIS Grows ...

Since moving to Virginia Tech in 2001, three new components have been added to FAEIS: 1) the Board of Human Sciences (BOHS) benchmark survey, 2) the International Programs Database, and 3) the USDA Regional Teaching Workshops and Awards Programs website.

The BOHS benchmarking survey was developed at the request of the BOHS and Council of

For marketing, objectives include enhancing and improving the FAEIS website; reaching out to users by participating in conferences and workshops; and identifying non-participating institutions and working with them to foster participation. FAEIS will update its resources to include key information related to agriculture, natural resources, human sciences, and veterinary medicine. Examples include USDA's Resource, Education, and Economics Information System (REEIS) and Higher Education Programs (HEP). By attending national and regional conferences such as NACTA, the FAEIS team provides hands-on workshops on the uses of FAEIS. FAEIS has also reached out to non-participating institutions. Through these steps FAEIS plans to

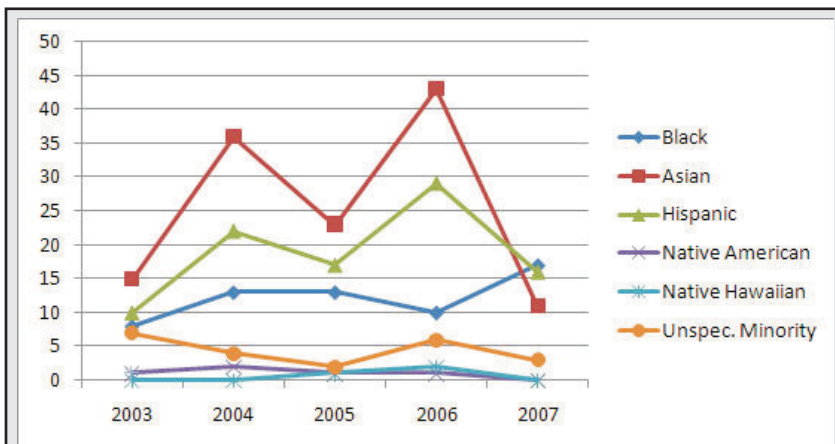


Figure 2. Trend of Minority Students Receiving Doctorate Degrees Awarded for the Agriculture Program Area (Hunnings, 2009b).
Note: This analysis only includes institutions with 5 years of continuous data that reported doctorate degrees for the years, 2003-2007, in this case 28 institutions

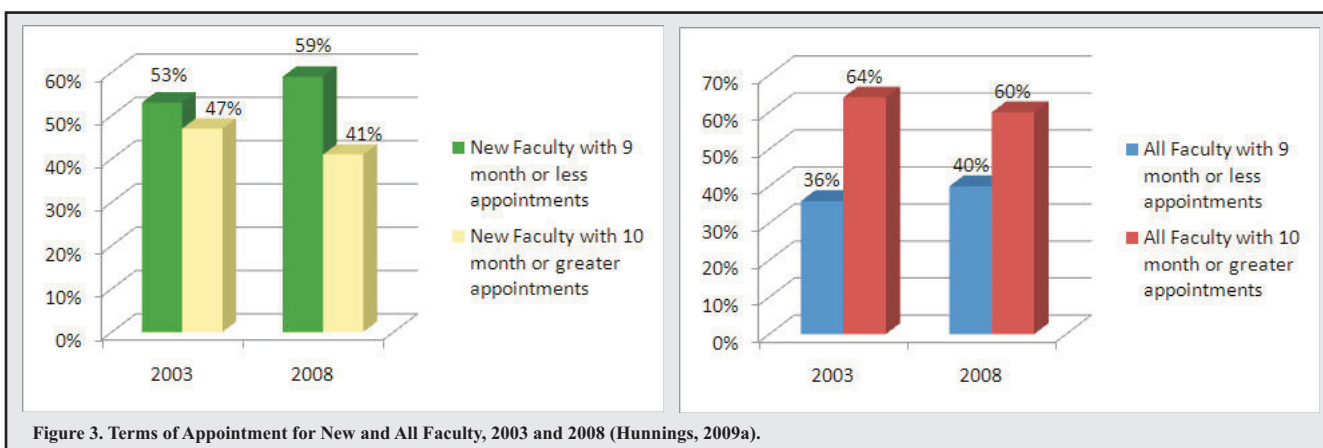


Figure 3. Terms of Appointment for New and All Faculty, 2003 and 2008 (Hunnings, 2009a).

Administrators of Family and Consumer Sciences. This annual survey serves as a repository for unique benchmarking data for the 50+ institutions that have family and consumer science programs. The International Programs Database (IPD) module was added in 2008 and collects data on students studying abroad, international research and outreach projects, and countries with international programs (Mack et al., 2008; Sutphin, 2008; Marchant et al., 2009).

The USDA Regional Teaching Workshops and Awards website was developed in collaboration with the APLU (www.aplu.org) and NIFA personnel. This site serves as a repository for presentations given at the regional teaching workshops, and highlights national and regional teaching award recipients. The website also links to other teaching resources such as NACTA and pertinent reports such as the National Research Council 2009 report: Transforming Agricultural Education for a Changing World.

In addition to these three new components, FAEIS consistently works to improve and reach out to the higher education community regarding the resources available through FAEIS. For the 2008-2011, FAEIS's objectives include market, enhance its databases, and survey and assess the value of FAEIS.

expand awareness and increase reporting institutions and users.

The FAEIS team is also striving to enhance the BOHS and International Database as well as the regional teaching workshops website. Currently, the FAEIS team is strengthening the BOHS Benchmarking Database and the International Database to provide survey trend results to institutions. The regional teaching workshop website is currently undergoing revisions to provide educators with the most recent teaching presentations from regional workshops.

Summary

FAEIS is a valuable resource for researchers, higher education administrators and faculty, government officials, industry professionals, and the general public in the fields of life, food, veterinary, human, natural resource, and agricultural sciences to use and is best summarized by the following quote:

"It was quite by accident that I found the FAEIS site while researching national degree programs in agriculture. What a treasure! The help desk is outstanding, the data are complete and current, and

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the reporting functions are very user-friendly. Clearly, it is the best one stop shop for higher education data. I agree wholeheartedly that FAEIS really is "your best source for getting the 'big picture' on what is happening with enrollment, placement, and faculty salaries."--Marcia Jones, Center for Agribusiness and Economic Development, University of Georgia (Hunnings, 2008).

The hope of the FAEIS team is that we continuously improve our services to users and enhance our relationships with institutions. If you would like to take advantage of FAEIS please explore our website at faeis.usda.gov and contact faeis@vt.edu for an account to use the FAEIS report builder.

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