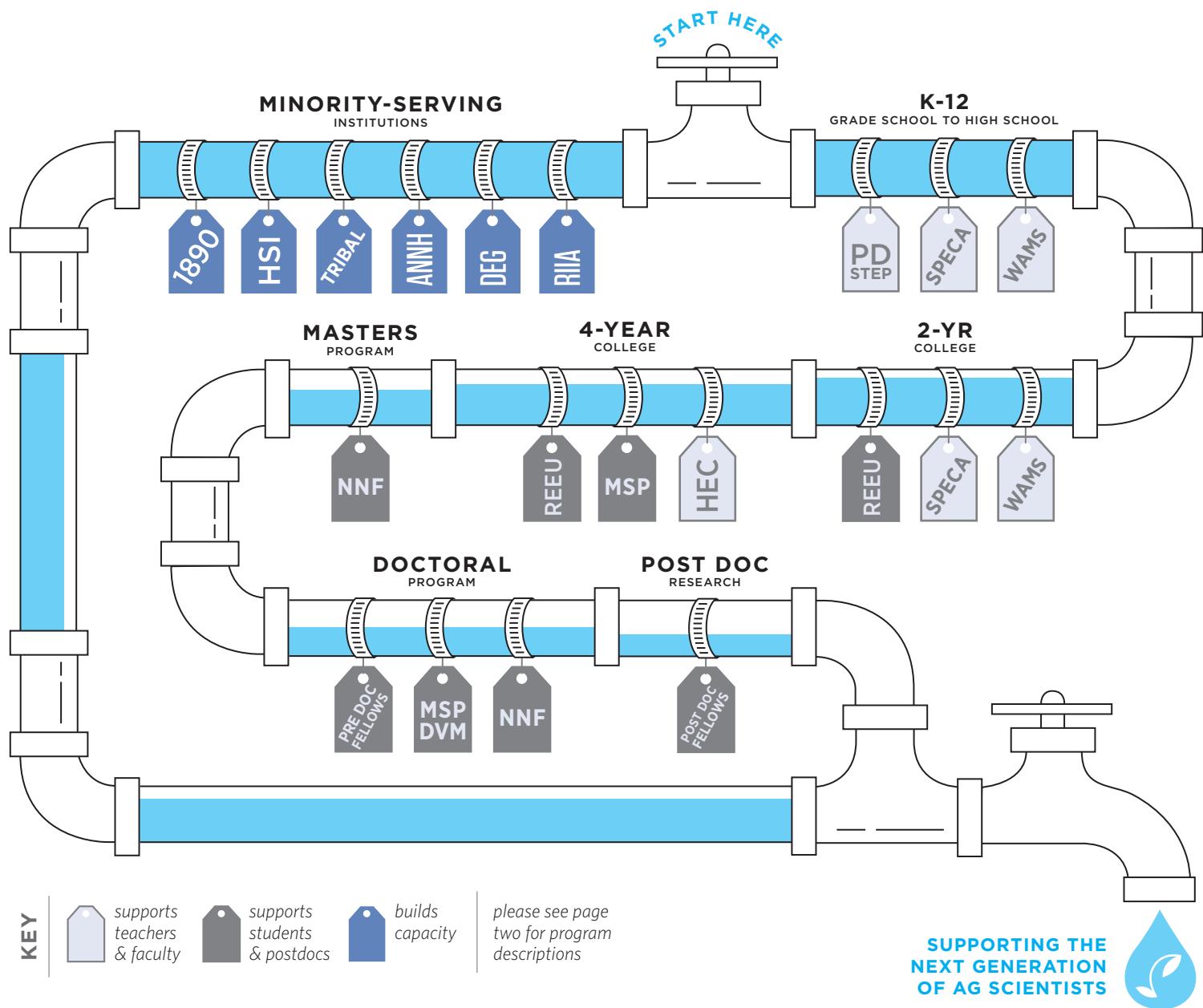


NIFA Reinforces the Agricultural Education Pipeline

Agricultural science, technology, engineering, and mathematics (STEM) education has been described as a “leaky pipeline,” as fewer students remain as they progress through advanced study. USDA’s National Institute of Food and Agriculture (NIFA) education programs are designed to enhance the pipeline through programs that support agricultural workforce development, increase student recruitment and retention, and build capacity.



INFOGRAPHIC: NIFA REINFORCES THE AGRICULTURAL EDUCATION PIPELINE (CONTINUED)

WORKFORCE DEVELOPMENT

NIFA supports agricultural **workforce development** by offering fellowship and experiential learning opportunities that prepare students and researchers for a variety of careers in the STEM agricultural pipeline.

The Agriculture and Food Research Initiative's Education and Literacy Initiative (AFRI ELI) provides funding to support multiple training opportunities:

- **The Research and Extension Experiences for Undergraduates (REEU) Program** provides practical experience for undergraduates in agricultural research, education, or extension.
- **The Predoctoral and Postdoctoral Fellowships** program provides stipends and research funds to Ph.D. candidates and postdoctoral researchers to complete agricultural research, education, or extension projects. Doctoral candidates and postdoctoral researchers are eligible to apply directly for these grants.

The Higher Education Multicultural Scholars Program (MSP) provides funding to institutions for awarding scholarships to undergraduate or Doctor of Veterinary Medicine (D.V.M.) students from groups of traditionally underrepresented individuals in the food and agricultural sciences.

The National Needs Graduate and Postgraduate Fellowship (NNF) Program provides funding for institutions to award scholarships to individuals pursuing master's or doctoral degrees in targeted expertise shortage areas within food, agriculture, natural resource, or human sciences.

LEARNING AND ENGAGEMENT

NIFA aims to increase the recruitment and retention of students in the pipeline through programs that promote **learning and engagement**. Many of these programs fund projects that develop curriculum and instructional materials and support teacher training that will ultimately strengthen students' critical thinking, communication, and leadership skills. NIFA also offers professional development opportunities to secondary school teachers so they may incorporate agricultural STEM education into their classrooms.

Professional Development Opportunities for Secondary School Teachers (PD STEP) in AFRI ELI provides program supports for K-14 educators and enhances research, education, or extension training in an academic, industry, or other field environment.

Capacity Building Grants for Non-land-grant colleges of agriculture (NLGCA) provides funding to develop curricula, conduct research, participate in outreach activities, and enhance agricultural related programs outside of the land-grant university system.

The Secondary Education, Two-Year Postsecondary Education, and Agriculture in the K-12 Classroom Challenge Grants Program (SPECA) funds agricultural projects that enable innovative curriculum development and teacher training at K-12 levels and community colleges.

The Women and Minorities in Science, Technology, Engineering, and Mathematics Fields Program (WAMS) funds projects that focus on women and other underrepresented minorities from rural areas in STEM agricultural fields.

The Higher Education Challenge (HEC) Grants Program funds projects that develop non-traditional agricultural education methodologies. Many of these projects leverage resources and enhance educational quality by bridging the gap among the university science, education, and private sector communities.

CAPACITY BUILDING

NIFA broadens representation within the agricultural pipeline through its **capacity building** programs. These programs facilitate access to higher education and support research, teaching, and extension activities at minority-serving institutions and institutions outside of the land-grant university system.

The Hispanic-Serving Institution Education Grants Program (HSI) supports innovative teaching or education proposals that increase enrollment and graduation rates in the agricultural sciences.

1890s Grants Programs build institutional capacities of historically black institutions by funding research, education, extension, and facilities projects at the 1890 land-grant institutions.

1994 Education, Extension, and Research Programs promote sovereignty and self-sufficiency by providing resources for higher education institutions, tribal communities, and native students of resource-poor Indian reservations.

The Alaska Native-Serving and Native Hawaiian-Serving Institutions Education Competitive Grants Program (ANNH) and insular area programs support projects that enhance educational equity and strengthens institutional educational capacities.

Distance Education Grants for Institutions of Higher Education in Insular Areas (DEG) strengthen the capacity of Institutions of Higher Education in Insular Areas to carry out resident instruction, curriculum, and teaching programs through distance education technology.

Resident Instruction Grants Program for Institutions of Higher Education in Insular Areas (RIIA) promotes and strengthens the ability of Insular Area Institutions to carry out teaching and education program by strengthening institutional educational capacities in instruction and curriculum, and enhancing the quality of teaching and learning.