

**A Career Pathways Web Portal for Student Success**

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### Introduction

Career development is an important topic for undergraduate education in the food and agricultural sciences, and career development is key to addressing the shortage of baccalaureate graduates for the nation's projected agricultural career opportunities (Goecker et al., 2015). A number of initiatives, including undergraduate research (Hamilton et al., 2016), major-specific advising centers (Trivedi et al., 2021), experiential learning and study abroad (Jean-Philippe et al., 2020), and career preparation courses (Fike, 2019) are aimed at helping agricultural undergraduates to secure careers in their field. These initiatives underscore the need for academic departments to help students connect with varied career information and experiences. At North Carolina State University (NC State), we developed a dynamic *Career Pathways* web portal to foster career development among current and potential agricultural undergraduates. Web portals are highly structured web pages that provide users with organized content about a distinctive subject. An open format characterizes web portals whereby users see all of their options. Research has demonstrated that web portals engage users in searching and using concordant information to a greater extent than wide-open search engines (Edgerly et al., 2014). The web portal provides agricultural students a convenient place for career exploration and engagement.

### How it Works

The *Career Pathways* web portal highlights varied career opportunities, academic and career development programs, and helpful publications for obtaining and advancing in food and agricultural careers (Whorley et al., 2022). The web portal's content, inclusive of NC State's academic, research, and outreach missions, is presented via a career matrix, blog posts, publications, and programs.

- **Career Matrix:** We developed an online career matrix to engage students with agricultural baccalaureate programs and agricultural careers. The online matrix aligns three primary sources of online information: (a) Holland's (1997) six occupational themes (Realistic, Investigating, Artistic, Social, Enterprising, and Conventional); (b) O\*NET occupations specific to food and agricultural sciences; and (c) academic programs at NC State's College of Agriculture and Life Sciences. O\*NET (National Center for O\*NET Development, 2022) is a free database that contains occupational information, including skills, work activities, required credentials, and more for approximately 1,000 jobs in the United States. Strong Interest Inventory® is an assessment based on Holland's six occupational themes, illuminating students' specific interests for work, leisure, and learning; personal work preferences (such as working alone or with others); and career opportunities (Donnay et al. 2005). Undergraduates may complete the Strong Interest Inventory® to understand themselves and build career management skills. Additionally, the matrix provides sufficient background information to use successfully without the formal Strong Interest Inventory®. Students review the themes to understand work preferences while discovering academic pathways in the College of Agriculture and Life Sciences and their alignment to various O\*NET careers (Whorley et al., 2022).

## Innovative Idea

- **Blog Posts:** To inform students about the abundant food and agricultural careers, we share monthly blog posts. Our blog posts highlight careers of recent Agricultural Science graduates, career development opportunities, and internship programs. One of our most popular blog posts is titled “USDA Reports a High Demand in Jobs for Agricultural Graduates”. Likewise, the next most popular blog post explains the increased agricultural salaries delineated in the recent National Ag Graduates Salary Survey. Both blog posts magnify research about favorable employment opportunities for agricultural graduates.
- **Publications:** The *Career Pathways* web portal spotlights current publications related to career exploration and professional development. Currently, the web portal features professional development tools for Extension professionals.
- **Programs:** The *Career Pathways* web portal serves as a platform for new career development programs in our department. Currently, the web portal presents the Career Pathways in Agriculture for Community College Students (Career PACCS). Community college students use the website to apply for the Career PACCS program and explore the website’s varied career resources. The website provides an important entry-point for community college students to connect with NC State’s agricultural programs.

### Results to Date

To date, the web portal’s content that captures the most views have been blog posts about future career opportunities, namely the continuing high demand for agricultural careers. This emphasizes the need for academic departments to showcase resources to help students traverse college and careers. The web portal provides a feedback tab encouraging users to review each resource. To date, an article highlighting an Extension professional conducting farmworker safety and health programs has received the most favorable feedback, underscoring interest in career information and resources. An important implication of this initiative is that current and potential students seek and use career information from academic departments.

### Future Plans

In the future, we plan to use the *Career Pathways* web portal to link students with pertinent career experiences, including internship opportunities. Notably, research has indicated that agricultural undergraduates perceive relevant career experiences, such as internships, as more important for their career preparation than their coursework (Feldpausch, 2019). Research is needed to understand students’ web portal usage and how it can address their career-related needs. An intended goal for the *Career Pathways* web portal is to provide agricultural professionals with career development in the agricultural industry, further strengthening linkages among agricultural faculty, undergraduates, and employers.

### Costs and Resources Needed

The university hosts the web portal using a WordPress® platform. NC State provides professional development in web portal creation and management. The major cost for this innovation is a grant-funded graduate student who produces and manages updated content.

## References

- Donnay, D. A. C., Morris, M. L., Schaubhut, N. A., & Thompson, R. C. (2005). *Strong Interest Inventory Manual*. The Meyers-Briggs Co.
- Edgerly, S., Vraga, E. K., McLaughlin, B., Alvarez, G., Yang, J., & Kim, Y. M. (2014). Navigational structures and information selection goals: A closer look at online selectivity. *Journal of Broadcasting & Electronic Media*, 58(4), 542-561.
- Feldpausch, J. A., Bir, C. L., Olynk Widmar, N. J., Zuelly, S. M., & Richart, B. T. (2019). Agricultural student perceptions of career success factors: Ranking attributes of collegiate experiences. *Journal of Agricultural Education*, 60(1), 234-267. <https://doi.org/10.5032/jae.2019.01234>
- Fike, K. E. (2019). Addressing the diverse needs and career interests of animal sciences undergraduate students in a career preparations course. *Journal of Animal Science*, 97(Suppl 3), 177–178. <https://doi.org/10.1093/jas/skz258.365>
- Goecker, A. D., Smith, E., Fernandez, J. M., Ali, R., & Theller, R. G. (2019). Employment opportunities for college graduates in food, agriculture, renewable natural resources, and the environment, 2020-2025. <https://www.purdue.edu/usda/employment/>
- Hamilton, L., Grant, R. W., Wolf, M. M., & Mathews, L. G. (2016). The value of undergraduate research: A study of agribusiness alumni perceptions. *NACTA Journal*, 60(2), 207-212. [https://www.nactateachers.org/attachments/article/2411/13%20%20Hamilton\\_NACTA%20Journal.pdf](https://www.nactateachers.org/attachments/article/2411/13%20%20Hamilton_NACTA%20Journal.pdf)
- Holland, J. L. (1997). *Making vocational choices: A theory of vocational personalities and work environments* (3rd ed): Psychological Assessment Resources.
- Jean-Philippe, S., Richards, J., Pulte, A. J., Stephens, C. A., Beyl, C. A., & Cooper, T. (2020). Shifting perspectives and perceptions of agriculture of undergraduates through experiential programming. *NACTA Journal*, 64(2), 316-321. <https://www.nactateachers.org/attachments/article/3010/2020-0211%20FINAL.pdf>
- National Center for O\*NET Development. (2022). O\*NET OnLine. <https://www.onetonline.org/>
- Trivedi, S., Clark, J. C., & See, M. T. (2021). Veterinary professions advising center: An innovative approach to preveterinary advising for Animal Science students. *Translational Animal Science*, 5(2), txab064. <https://doi.org/10.1093/tas/txab064>
- Whorley G., Donaldson, J., & Lambert M. D. (2022, June 20-24). A career matrix amplifies community college advising and career development in agriculture. [Poster presentation]. North American Colleges and Teachers of Agriculture Conference Abstracts, NACTA Conference, Wooster, OH, United States (Virtual conference). <https://assets.swoogo.com/uploads/full/1872123-62a8ee2fd4c86.jpg>