

Spring 2016, No. 5

## PRECISION PEOPLE

**Human capital, the total capability of individuals based on their knowledge and skills, is a critical component of a sustainable agricultural system.** As the agriculture industry moves toward greater adoption of technology and precision management practices, the knowledge and skills necessary for a properly functioning workforce are changing. A major concern currently in the agriculture industry is a shortage of people properly trained in precision agriculture (PA) at the dealer/service provider level.

**According to the 2015 Precision Ag Dealership Survey conducted by Purdue University and CropLife magazine, 35% of dealerships currently employ someone dedicated to PA and another 57% plan to hire one within the next year.** These data appear positive and indicate growth in the industry, but nearly 80% of the survey respondents indicated that it is difficult to impossible to find qualified applicants in their area. Another question asked dealerships to rate the knowledge level of the PA applicants they've interviewed in the past two years and the majority ranked applicants low to deficient in the skills considered important or essential to work in PA.

**A primary concern regarding the lack of qualified applicants is that the essential skills that employers are looking for are not highly specialized, but basic, such as a general knowledge of PA technology and effective communication skills within PA activities.** It's not just PA skills that are lacking; 60% of applicants in the past two years were rated as low to deficient in their ability to make effective agronomy recommendations. Basic agronomic skills including describing crop growth stages and selecting proper hybrids and varieties for production systems were among those rated most essential for an entry-level PA position. In fact, 68% of the dealers surveyed indicated a candidate with a strong agronomy background but weak technology knowledge would be desirable over someone with strong technology experience but weak agronomy knowledge. Despite the increasing technicality in agriculture, knowledge of basic scientific principles remains the foundation of a well-trained agronomic adviser.

**An interesting result in the survey is the anticipated shift in educational background of qualified applicants.** Currently, 52 to 82% of agronomists and PA technical and sales staff have a B.S. or M.S. degree and another 7 to 18% hold a 2-yr college degree. In five years, employers predict that the education of those employed as agronomists will remain roughly the same (70% B.S.; 10% M.S.; 15% 2-yr), but the percentage of employees hired for PA-specific positions holding only 2-yr degrees will increase dramatically (1.5 to 3-fold). These data clearly indicate a perception among dealers that potential employees coming out of the community college system are better prepared for a career in PA than those graduating from 4-yr universities. Why is this?

**One professor at a major land grant university speculated that community colleges have greater flexibility with their curriculum and can adapt quicker to changing needs in the workplace.** The same professor said "PA is always cutting edge; constantly changing. This makes it hard to keep up in the classroom. There are new advances in agronomy that we add to our teaching, but for the most part agronomic education doesn't change much." Nonetheless, the academic community recognizes the shortage of applied agronomists and PA technical support personnel and great strides have been made in the past few years to add PA classes, degree programs, and certifications at several universities and colleges throughout the US.

**Increasing the number of properly educated and trained PA employees is critical to support sustainable agriculture systems in the US.** Whether it is through educational improvements at the college and university level, increased fee-based training opportunities, or PA specialization for certified crop advisers, the first step is establishing a dialogue between the industry and academia. This important panel discussion is on the agenda for the next InfoAg Conference, which will be held August 2 – August 4, 2016 at the Union Station Hilton in downtown St. Louis, MO. In 2016, InfoAg and the International Conference on Precision Agriculture will be co-located, providing additional educational and networking opportunities. Stay informed by visiting [www.infoag.org](http://www.infoag.org) and following @InfoAg.

– SBP –

For more information, contact Dr. Steve Phillips, Director, IPNI North America Program, Ph: (256) 529-9932, E-mail: [sphillips@ipni.net](mailto:sphillips@ipni.net).

Note: *Plant Nutrition TODAY* articles are available online at the IPNI website: [www.ipni.net/pnt](http://www.ipni.net/pnt)