



Workforce Needs Assessment

PHASE 1: PRODUCER NEEDS

QUANTITATIVE SURVEY RESULTS AND ANALYSIS

FINAL COMPREHENSIVE REPORT

This project is designed to assess future human capital needs in swine production, with focus on Bachelor's and Advanced Degrees, to support the National Pork Board (NPB) work group in developing a fellowship program and to support the future human capital needs of U.S. Pork.

Among the desired outcomes is to provide informed understanding of current and anticipated workforce needs for pork production, from the lens of pork producers, academia and allied industry.

PHASE 1: PRODUCER SURVEY METHODOLOGY

- A quantitative online survey of the top 65 pork producers was administered in December 2019.
- Invitations were sent to HR professionals or CEOs/Owners, depending on the organization size and structure.
- Initially, a total of 99 surveys were sent to contacts from 64 production companies identified by the working committee.
- Follow up emails and calls were made to alternate contacts for those producers that did not respond to initial invitations with response goals achieved by December 20, 2019.

SURVEY OUTCOMES: EXECUTIVE SUMMARY

Survey Respondents

- 29 producer survey responses are included in this final report, representing approximately 1,518,800* sows in production in 2019 (nearly one-quarter of all sows in U.S.). Respondents represent diverse operation sizes and production models within the Top 65. The Appendix lists the participating producers.

**Sow production figure based on Successful Farming Pork Powerhouse Ranking for Top 40 and information provided by NPB for producers ranked 41-65.*

For Advanced Degree Specialties

- Nutrition and Feed Mill Management are currently among the most-staffed specialties, and producers rate availability of these candidates lower than other specialties.
- Demand for Geneticists is expected to increase in the next five years, and the availability of candidates for this specialty is currently rated third-lowest among positions presented.

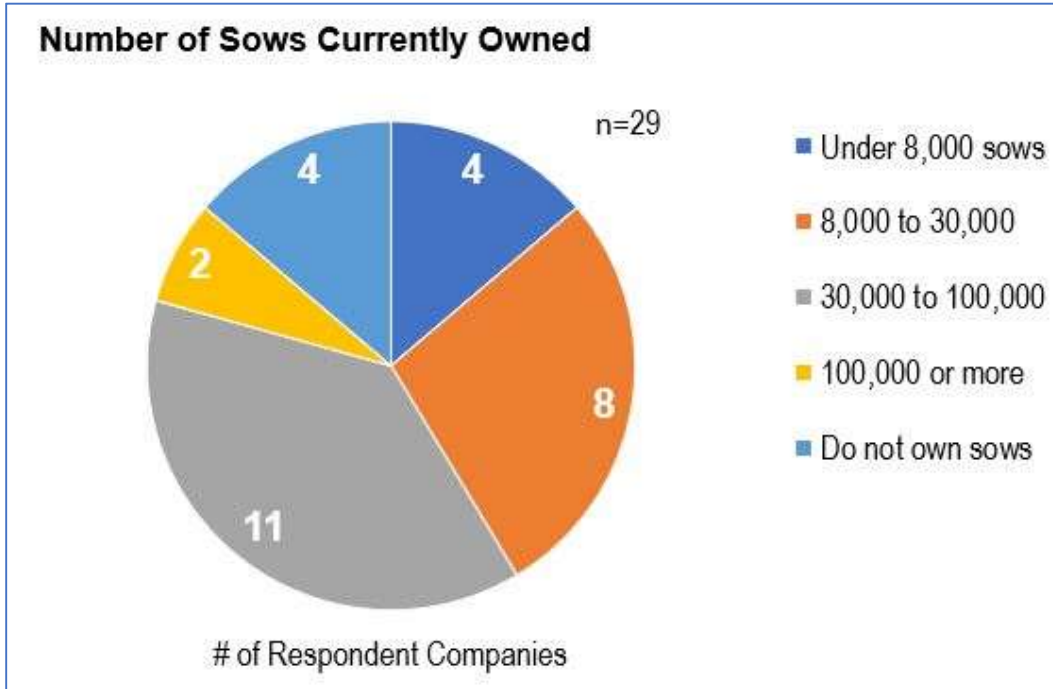
- Producers anticipate an ongoing need for Doctor of Veterinary Medicine (DVM) and Animal Science professionals with swine expertise. While availability is currently rated as relatively strong by producers currently staffing these positions, there will be more demand in the next five years.
- Facility, Business and Financial Management, along with foreign language and human resources, are the most desired skills for Advanced Degree specialists (beyond specific academic disciplines).
- Experience and specialization in pork production is required or strongly preferred by nearly half of producers, especially those raising 30,000+ sows.
- Business management, leadership and communication skills, and practical and industry experience are among the talent gaps most-often mentioned by producers.

For Barn-Level Positions

- Farm and Production Manager positions are currently harder to staff, among the barn-level manager positions listed. Production Manager is most likely to have a requirement or preference for Advanced or Bachelor's Degrees. Producers with headquarters in Minnesota, Iowa and Michigan rate Production Manager availability as more difficult than those headquartered in other regions.
- Environmental Manager is the most likely position to be added in the next five years for those not currently staffing it, and most producers with Environmental Managers have been requiring a Bachelor's Degree at minimum.
- Lack of practical and industry experience, a shortfall of qualified candidates, and leadership and communication skills are among the gaps mentioned by producers for these positions.

Respondent Demographics

- Surveys were completed by respondents in a variety of roles, with the majority completed by Human Resource professionals.
- The average tenure respondents reported in current role is 12.5 years.
- Producers with headquarters in 11 different states participated in the survey
- Headquarters by state and the number of participating producers in that state included:
Minnesota (6 producers), Ohio (5), Iowa (4), Nebraska (3), North Carolina (3), Indiana (2), Michigan (2), Illinois (1), Kansas (1), Oklahoma (1) and Pennsylvania (1)
- Total number of employees represented by companies completing the survey is 17,056.
- Total number of employees with Bachelor's Degrees represented in survey is 1,918 (11% of total represented employee workforce).
- Total number of employees with Advanced Degrees represented in survey is 228 (1% of total represented employee workforce).
- Respondents represent a cross-section of operation sizes within the Top 65 (see chart below).



- All production models are included in survey results. The most represented systems are farrow-to-finish (38%) and farrow-to-feeder (28%).
- One-third of respondents rely nearly exclusively on contract growers (90-100% of total production).

SURVEY OUTCOMES: DETAILED FINDINGS AND ANALYSIS

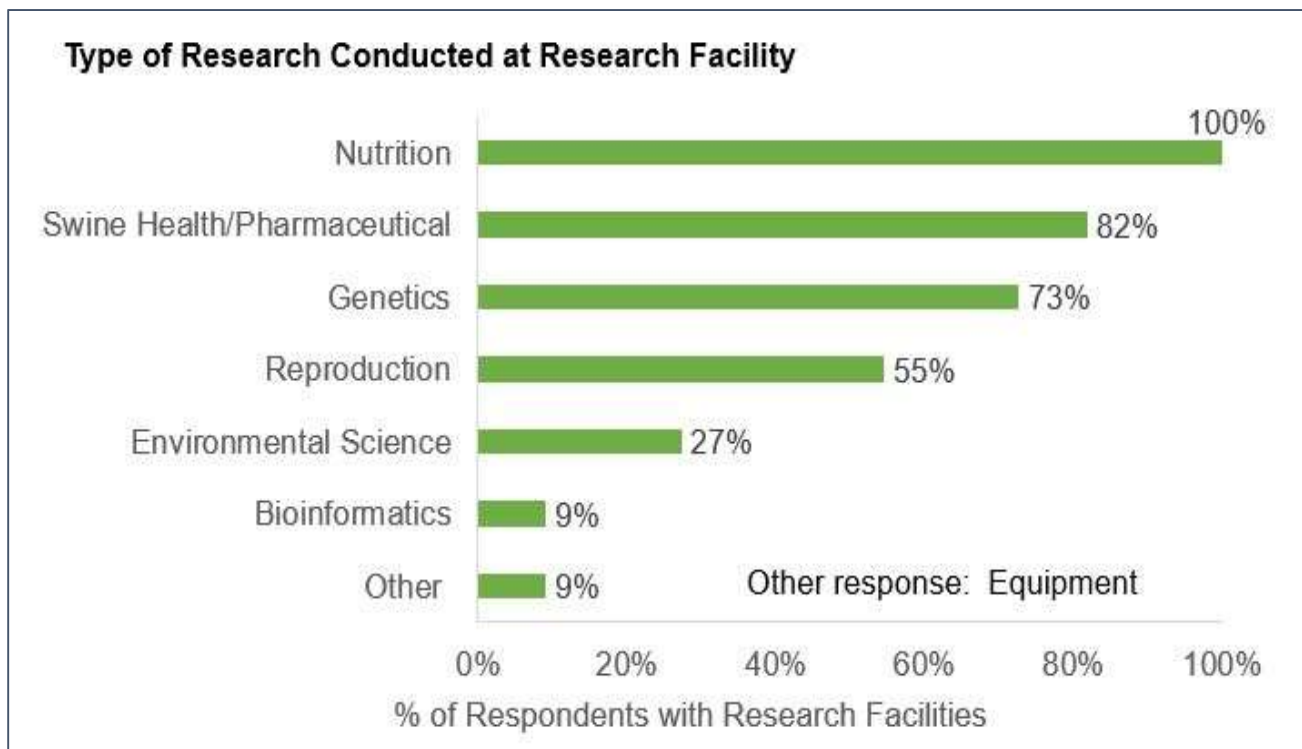
INTERNAL RESEARCH BY PRODUCERS

Q11. Do you own and operate your own research facility? (n=27)

If yes

Q11a. What areas of research is your organization currently conducting? (check all that apply) (n=11)

- Eleven (41%) of the responding producers own proprietary research facilities. Nutrition is the leading research area; all 11 producers conduct research of this type.



11b. How many total employees work in your research department? (n=11)

11c. How many specialists with advanced degrees work in your research department? (n=11)

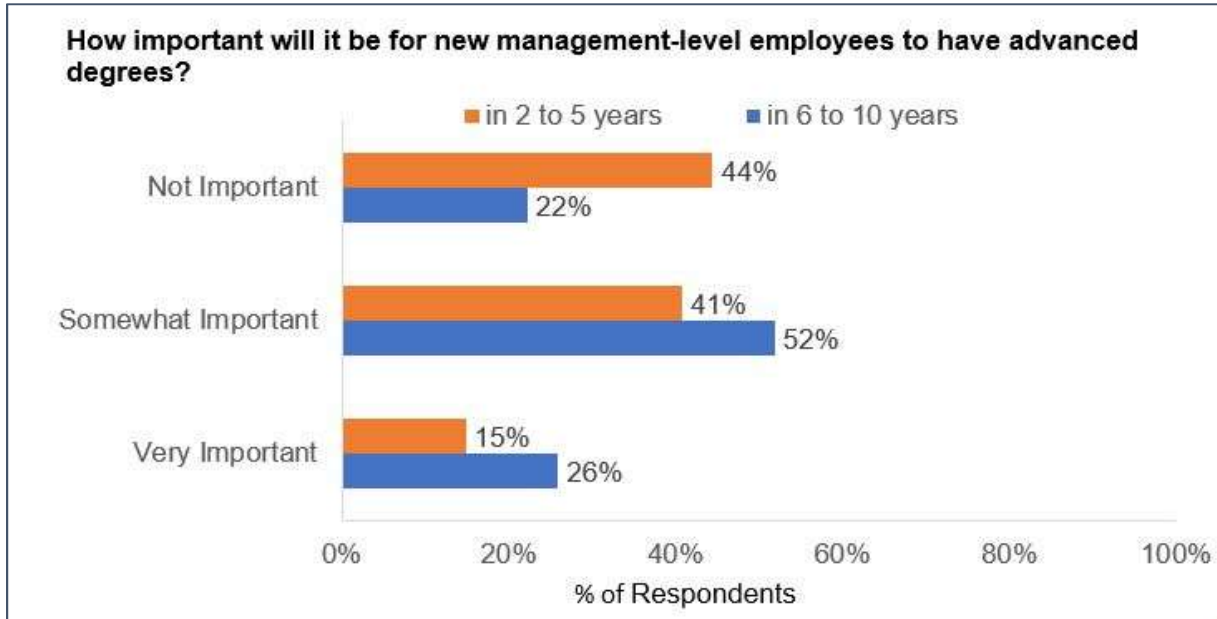
- Those producers with research facilities employ, on average, seven employees in the research facility, with one having an Advanced Degree.
- In total, the 11 companies with research facilities employ 15 staff with Advanced Degrees and illustrate a significant range in number by individual company. Two of the 11 producers have 4 research staff with Advanced Degrees. Three producers who operate their own research facilities do not currently employ any Advanced Degree specialists for research.
- Over half of the producer research facilities employ five or fewer staff members (including all academic backgrounds).

ADVANCED DEGREE POSITIONS

Importance of Advanced Degrees in the Future

Q12. As you look to the future, how important will it be for new management-level employees to have advanced degrees (Education level of MS, PhD or DVM)? (n=27)

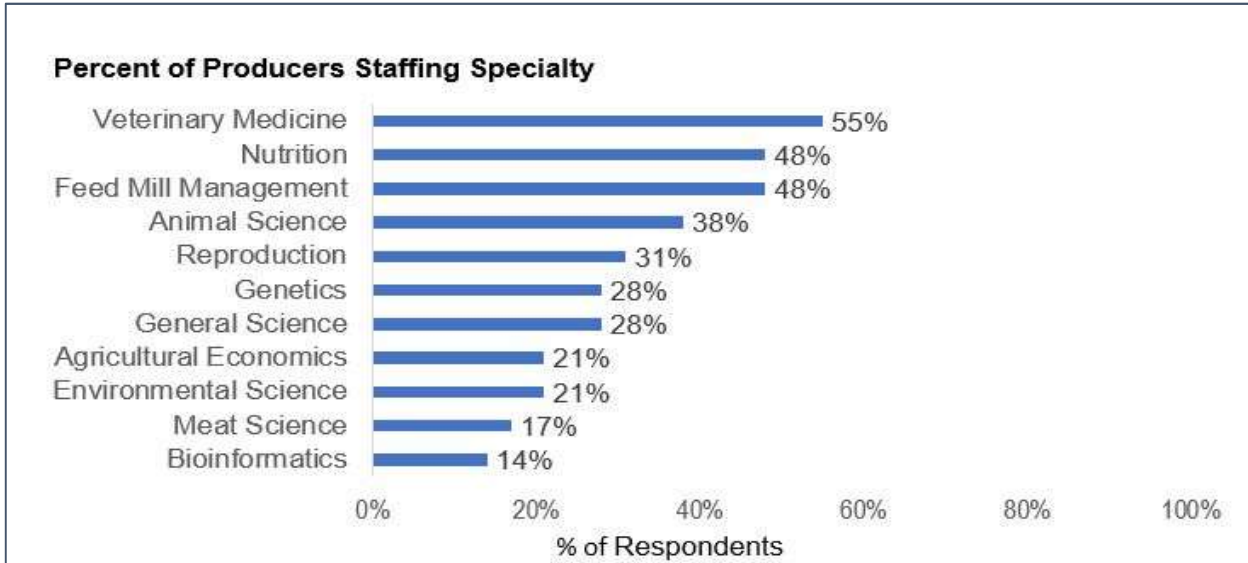
- Several producers cite growing importance of new management staff having Advanced Degrees.



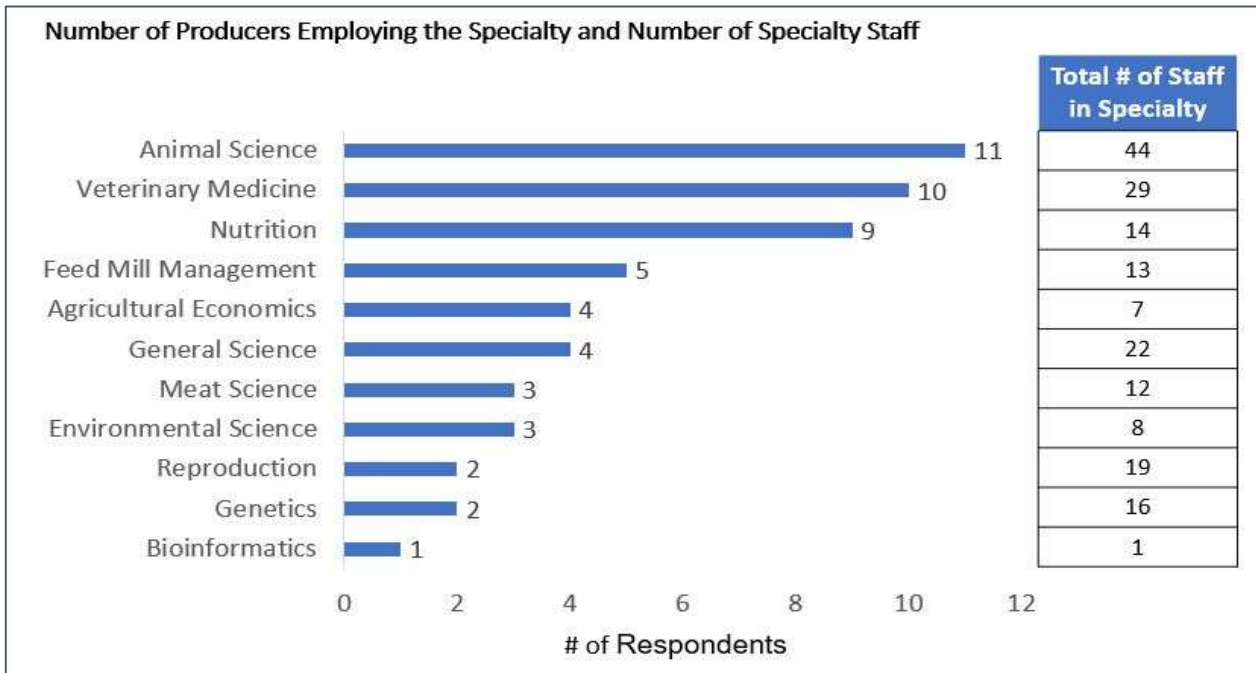
Staffing, Vacancies and Candidate Availability

Q13. How many advance degree professionals do you currently employ with these specialties? (n=16)

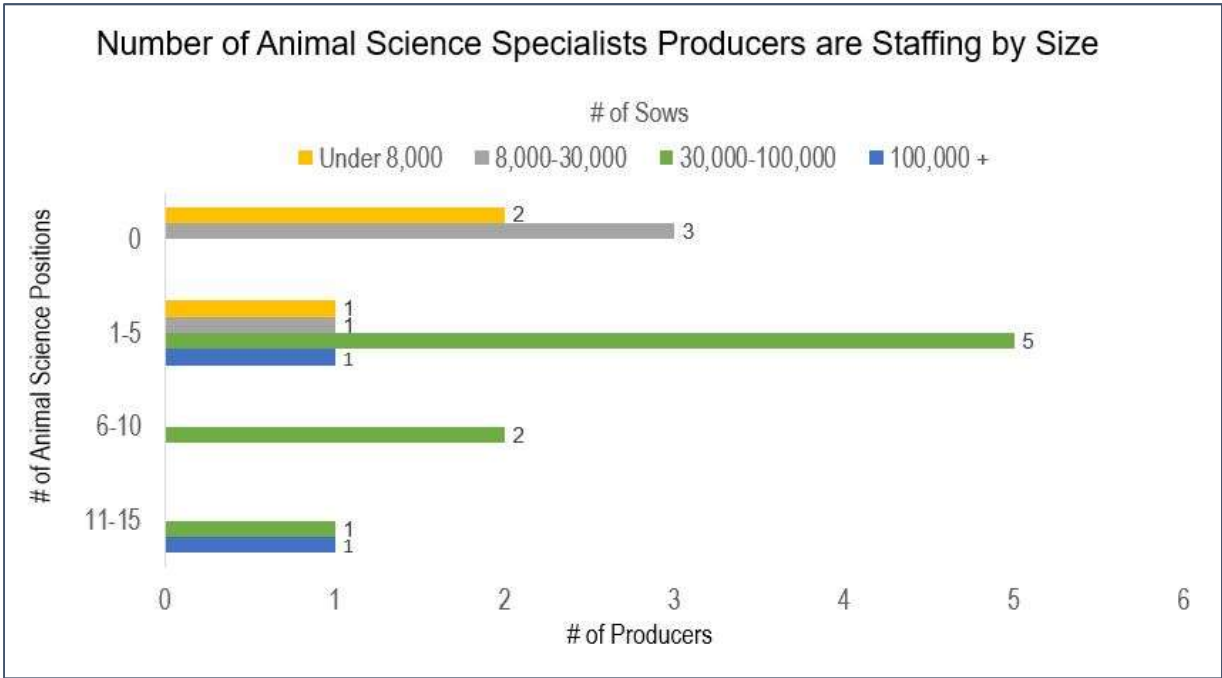
- Around half of the respondents employ at least one staff member with an Advanced Degree in the specialties of Veterinary Medicine, Nutrition and Feed Mill Management.



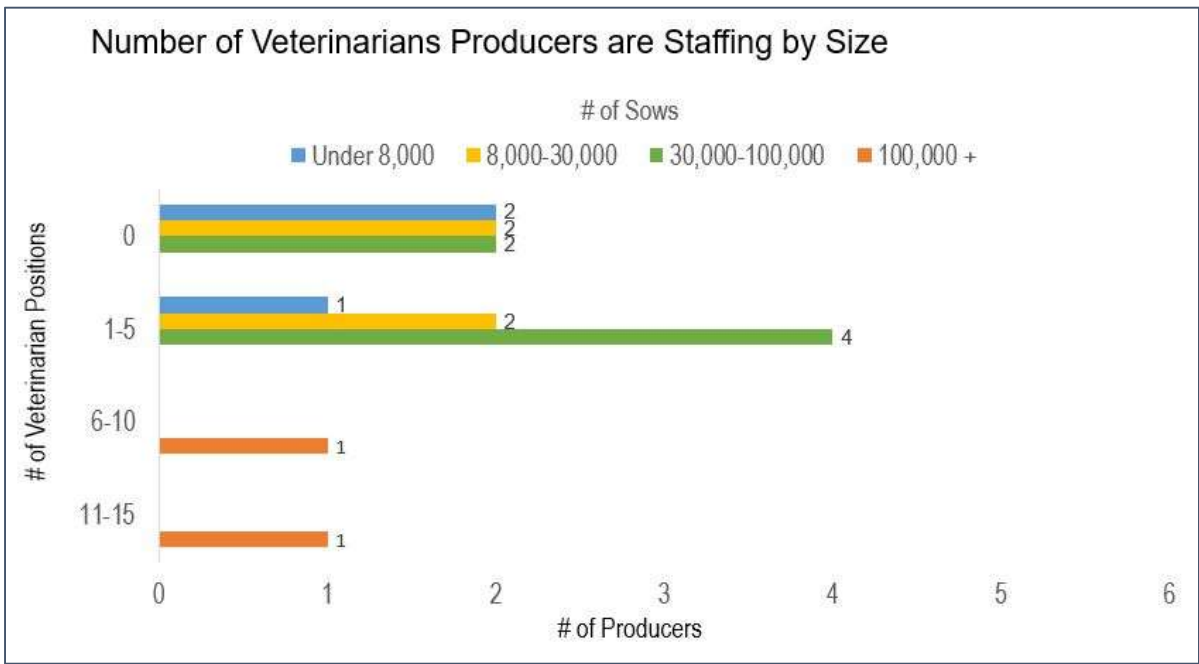
- When reviewing total number of staff with Advanced Degrees, among all respondents, Animal Science and Veterinary Medicine are currently the leading specialties.



- More medium-sized producers (30,000-100,000 sows) employ Animal Scientists. In examining the number of employees for this segment, those with over 400 employees hire the most in this specialty.

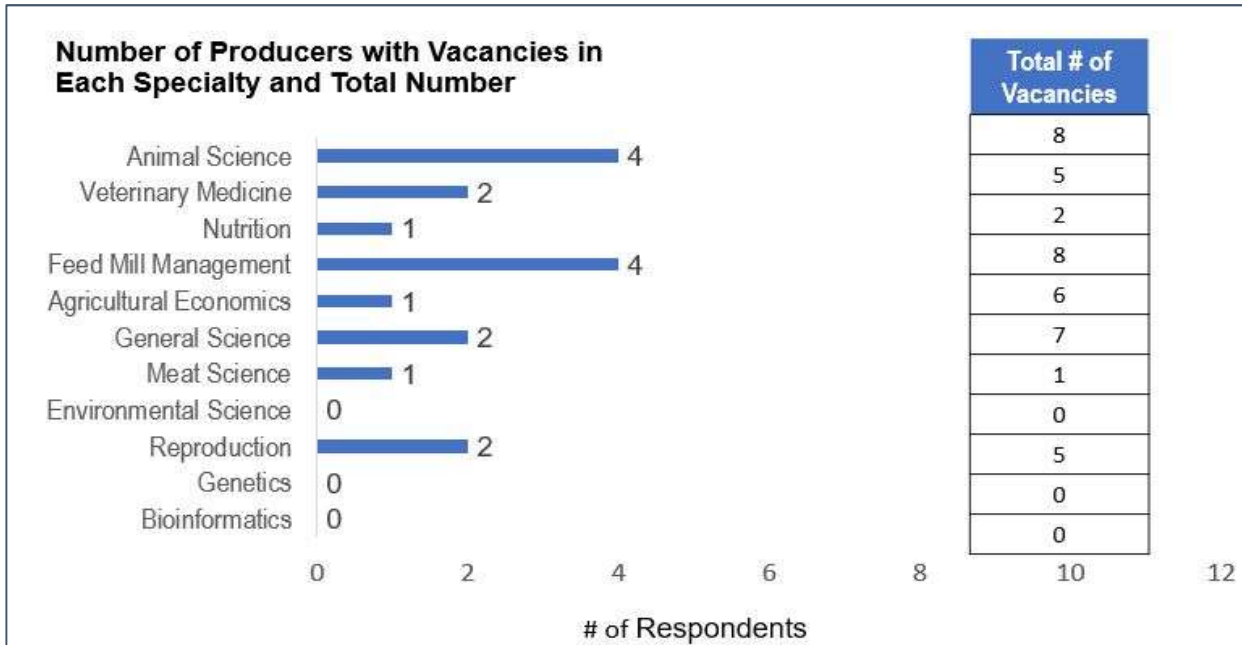


- Conversely, large producers (100,000+ sows) staff more Veterinarians.



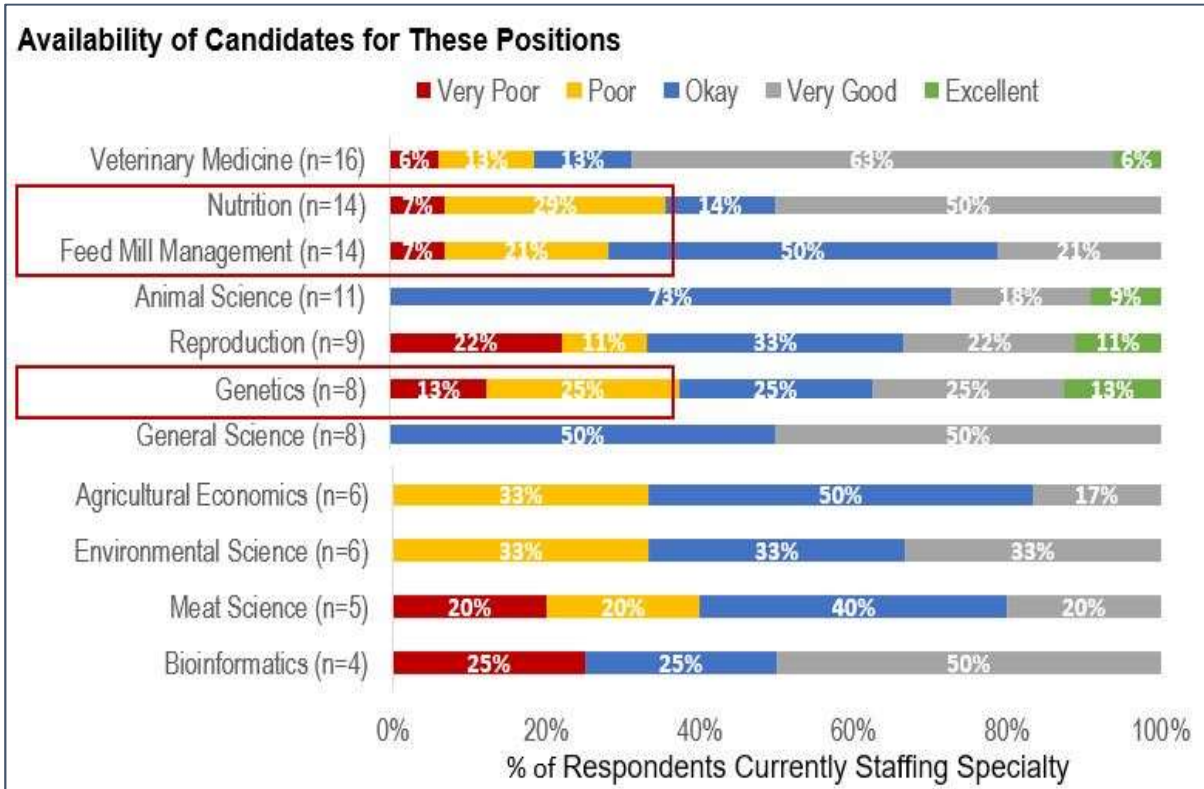
Q14. How many vacancies do you currently have in this specialty? (n=16)

- Animal Science and Feed Mill Management currently have the most vacancies, followed by General Science, Ag Economics, Veterinary Medicine and Reproduction.



Q17. How would you rate the availability of advance degree professionals for these specialties? (n=4-16)

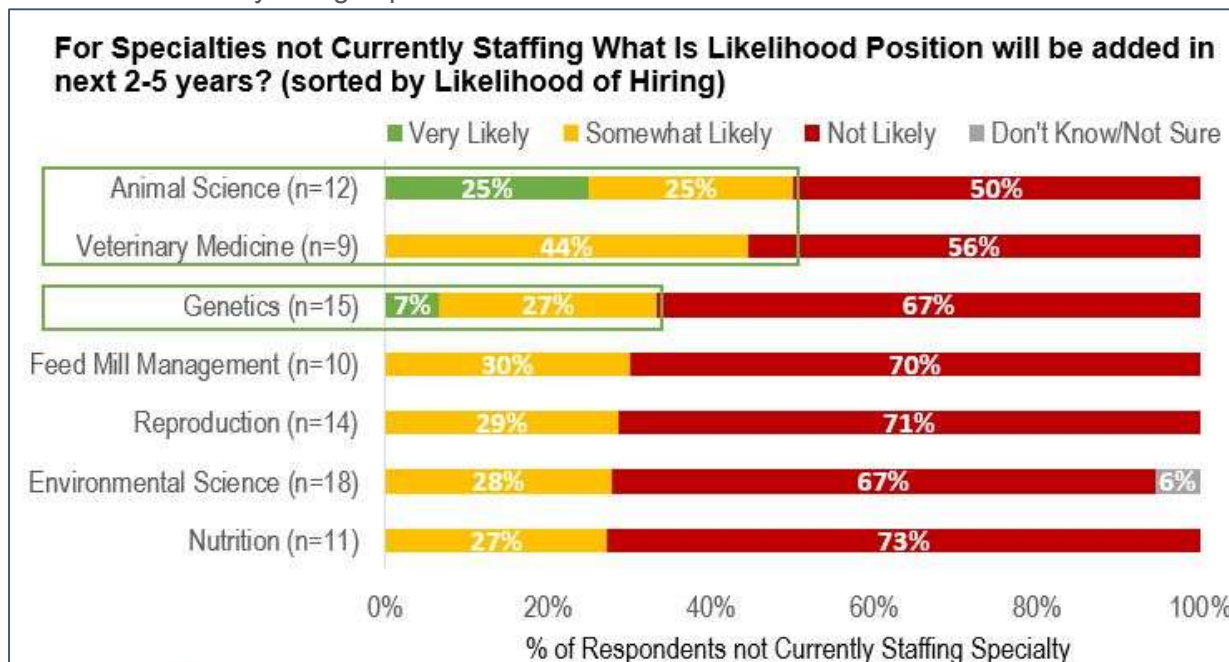
- Feed Mill Management and Nutrition are among the specialties staffed most often, and more producers rate candidate availability as Very Poor/Poor. Availability of Geneticists is also rated lower.



Likelihood to Staff Specialties in the Future

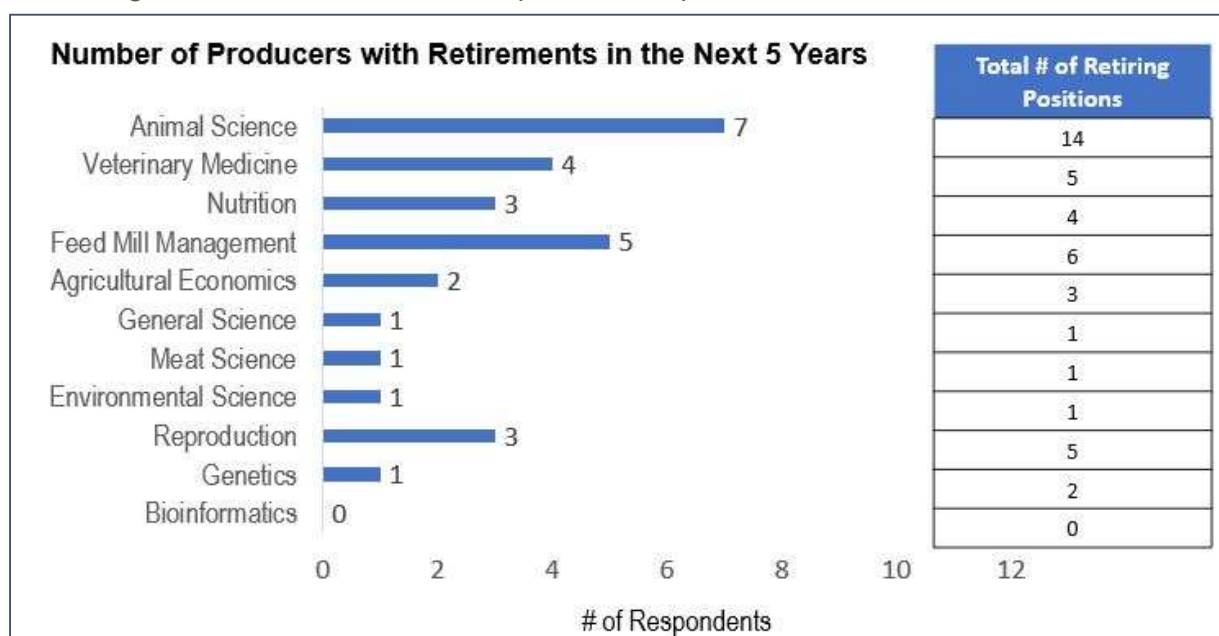
Q18. For the specialties you do not currently employ, what do you see as the likelihood you will add the specialty in the next 2-5 years? (n=9-18)

- About half of the producers not currently staffing Animal Scientists and Veterinarians are likely to employ them in the next five years. Demand for Geneticists will likely increase as well; recall the low current availability rating in previous chart.



Q15. How many retirements do you anticipate in this specialty in the next 5 years? (n=16)

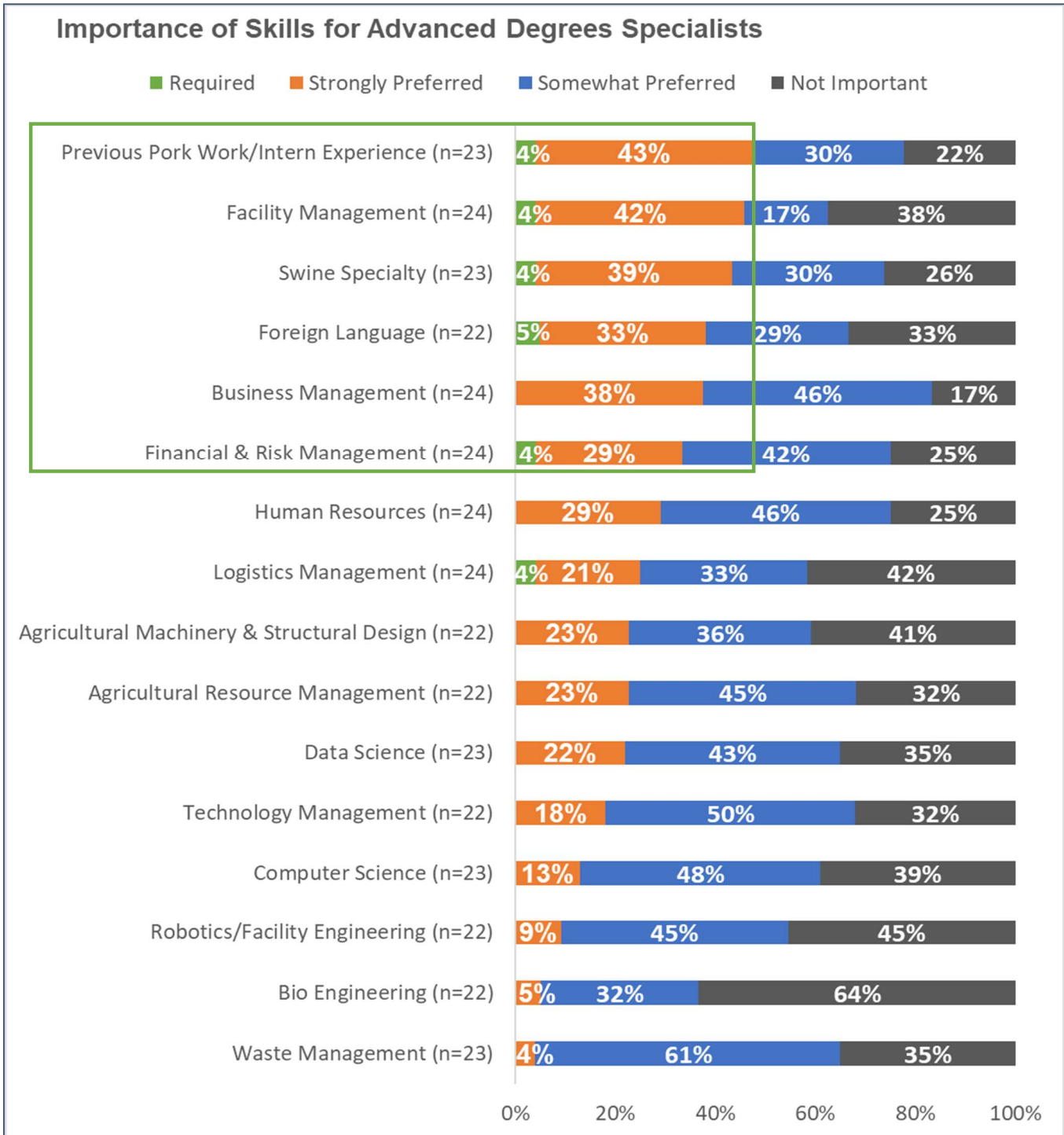
- Most vacancies due to retirement in the next five years are those in roles of Animal Scientists, Feed Mill Management, Veterinarians and Reproductive Specialists.



Skills for Advanced Degree Specialists

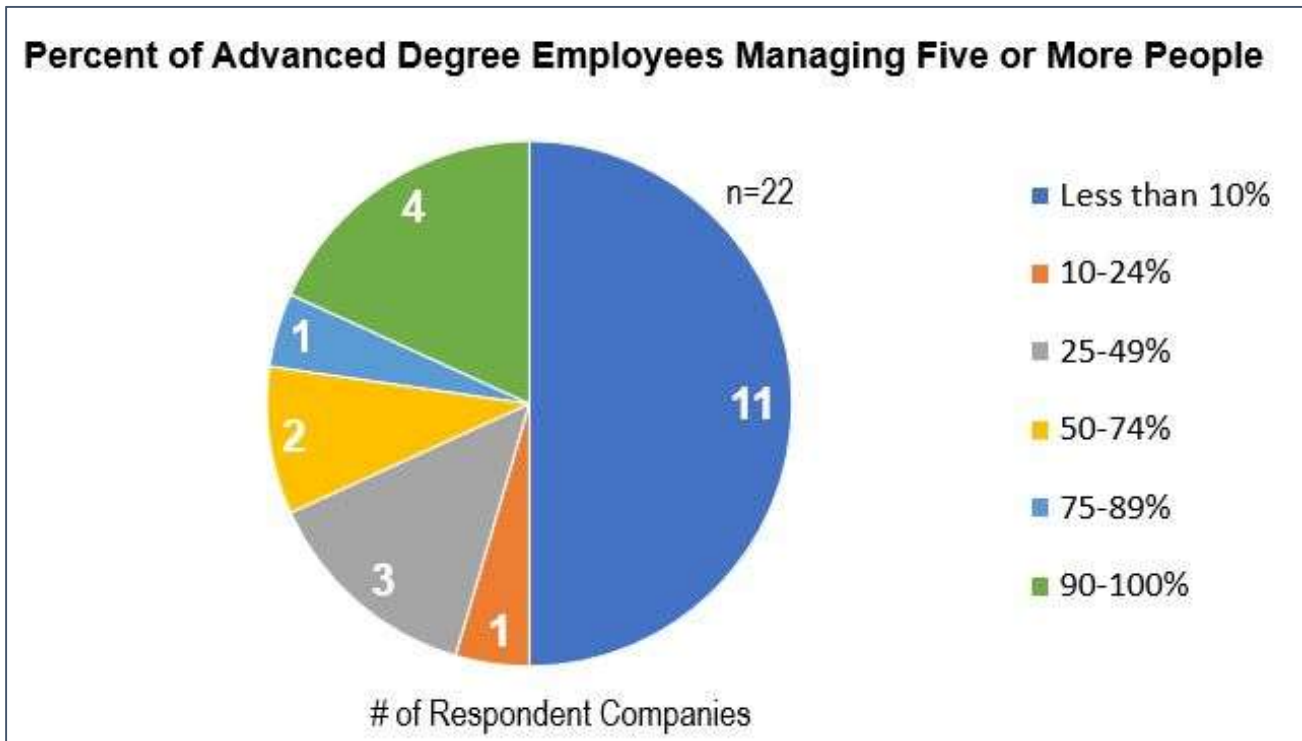
Q19. As you look to the future, how important will it be for advanced degree specialists to have the following skills as candidates for your company? (n=22-24)

- Beyond specific academic disciplines, the most desired skills for Advanced Degree employees are previous pork experience and facility management, followed by swine specialty, foreign language, business management and financial management.



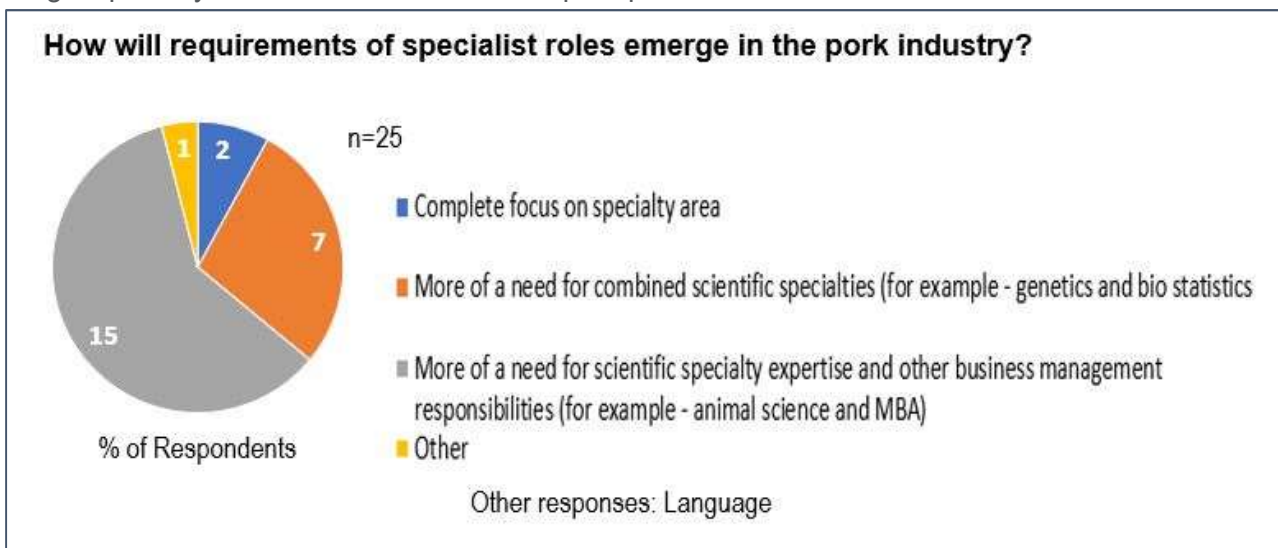
Q20. What percent of your employees with advanced degrees are managing five or more people? (n=22)

- The expectation of those with Advanced Degrees to manage teams of people varies considerably by producer.



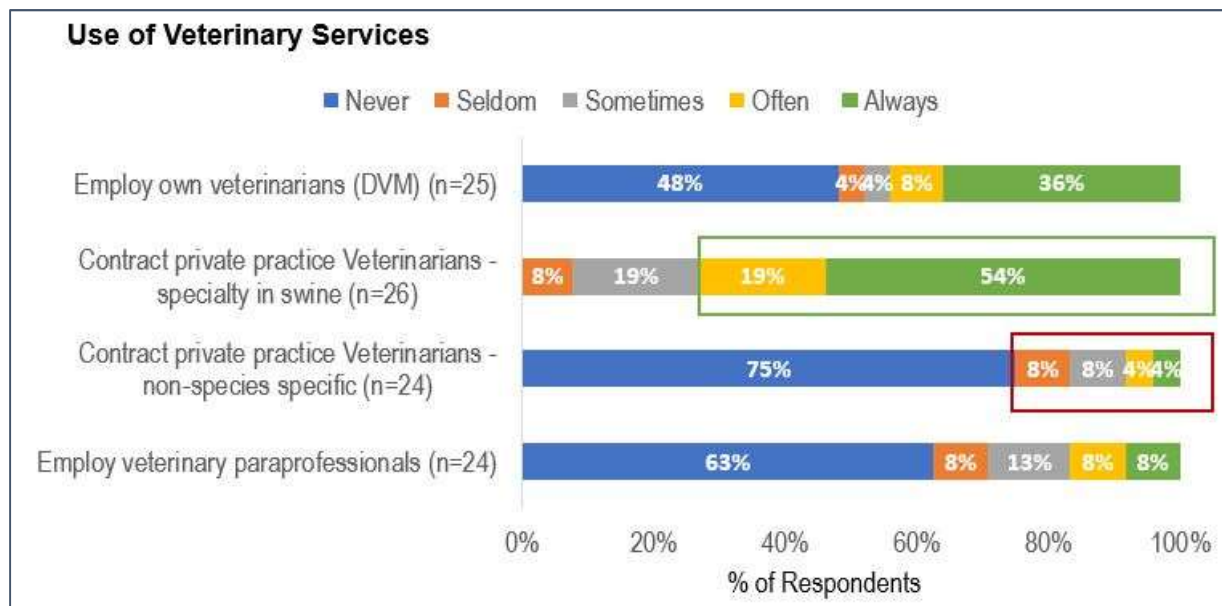
Q22. How do you see the requirements of specialist roles emerging in the pork industry? (n=25)

Considering options that describe emerging technical needs, 60% of producers indicate there will be more of a need for scientific specialty / expertise along with other business management responsibilities (e.g. – Animal Science and MBA). Secondly, producers expect a need for a combination of scientific specialties. Survey outcomes support the hypothesis of the work group that single specialty focus will be less useful to pork production in the future.



Q23. Which veterinarian services do you currently utilize for your business? Please select how you would describe your company's current use of each position.

- Three in four producers Often or Always contract Vets with a swine specialty. Smaller producers (under 30k sows) most often contract Vets with swine specialties while respondents from larger operations employ their own Veterinarians.



Gaps in Talent in Next 10 Years

Q24. What, in your opinion, are the gaps in advanced degree talent that you would forecast in the next 10 years? (n=17)

When respondents were asked their opinion (via open-ended question) of the gaps in Advanced Degree talent, it is interesting to note that few of the responses were about academic discipline and more centered on business or “softer skills.” Respondents forecast that in the next 10 years, business management, leadership and communication skills, and practical and industry experience are among the talent gaps.

Representative responses to the open-ended question about gaps included:

One producer called out specific positions:

“Crop Technicians, Logistics Management, Swine specific Animal Science”

Those producers not currently staffing advanced degree specialists, are not concerned by gaps in talent.

“If we need someone with an advanced degree, we hire them as a consultant. Our TN visa holders have Vet degrees in Mexico, but I did not count them as advanced degrees because we are not utilizing them for that degree. The gaps we see are more for reliable, capable swine caretakers.”

“For us personally, we aren't looking for this level of education. We need more “boots on the ground” labor for our production. It seems like everyone wants a management position or some big title, but the reality is we are struggling to fill positions at the farm level.”

The ongoing need for veterinarians and the challenges in staffing them was mentioned:

“Our industry will continue to need swine specific veterinary professionals. The challenge is they take on a lot of debt and get paid a similar rate of pay as management and other professionals who do not have to incur as much debt.”

INSTITUTIONS AS TOP SOURCES FOR ADVANCED DEGREE STAFF

Q25. Name the top 3 educational institutions that you feel are the best source of advanced degree staff or technical expertise for your business. (n=17)

In an open-ended question, the five educational institutions most-often mentioned by participating producers include:

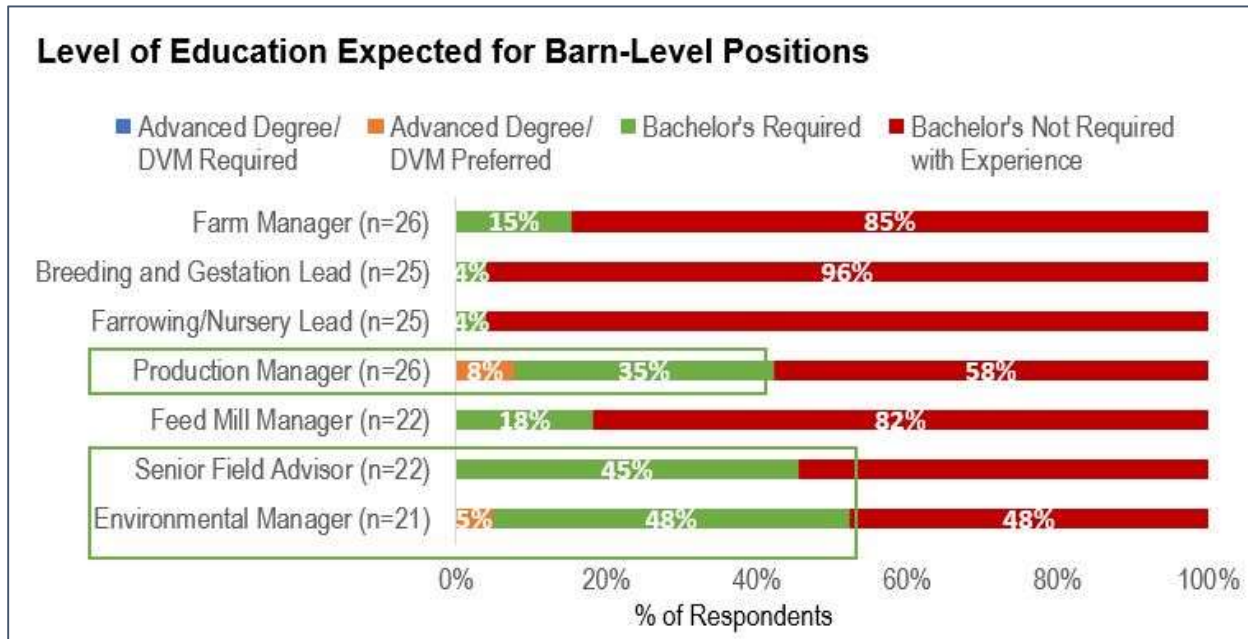
- Iowa State (11 mentions)
- Kansas State (9 mentions)
- Purdue (5 mentions)
- Ohio State (3 mentions)
- Michigan State (3 mentions)

BARN-LEVEL MANAGEMENT POSITIONS

Importance of Bachelor's Degrees for Barn-Level Managers

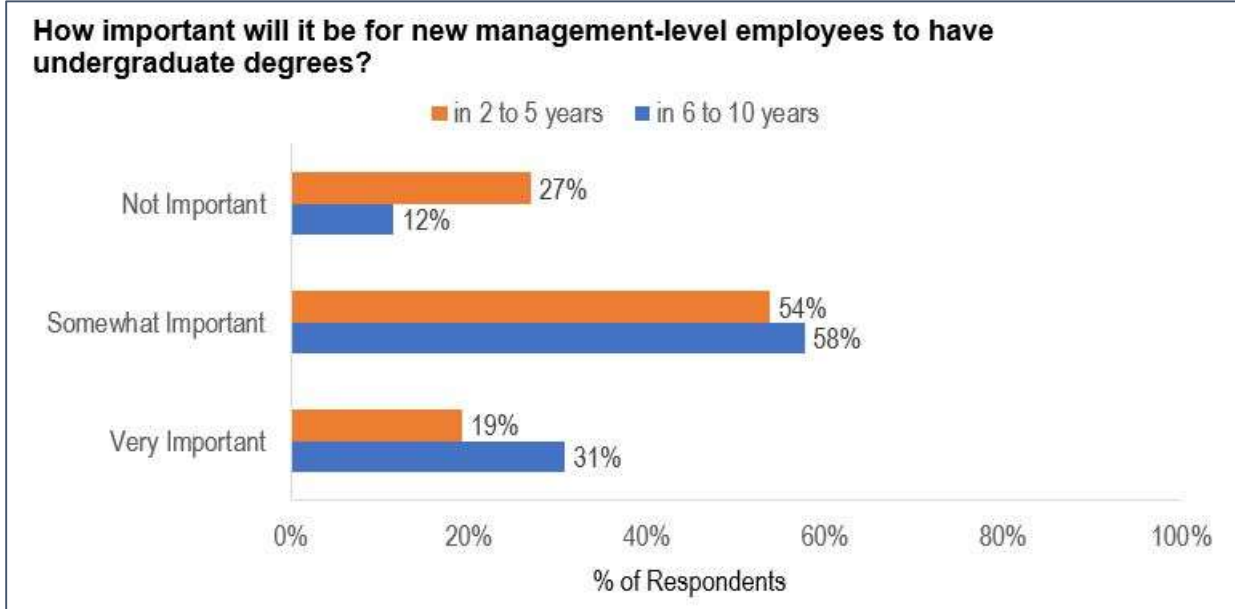
Q27. Thinking about the positions in your organization like those listed below, what level of education would you expect candidates to have? (n=21-26)

- Producers are more likely to require a Bachelor's degree for Production Managers, Senior Field Advisors and Environmental Managers. A few respondents prefer an Advanced Degree for Production and Environmental Managers. None of the survey participants indicated an Advanced Degree or DVM as a requirement for barn-level managers.



Q26. As you look to the future, how important will it be for new managers to have undergraduate degrees (Education level of BS)? (n=26)

- More producers consider an undergraduate degree (BS or equivalent) increasingly important for new barn-level managers as they forecast needs in six to 10 years.



Staffing and Candidate Availability

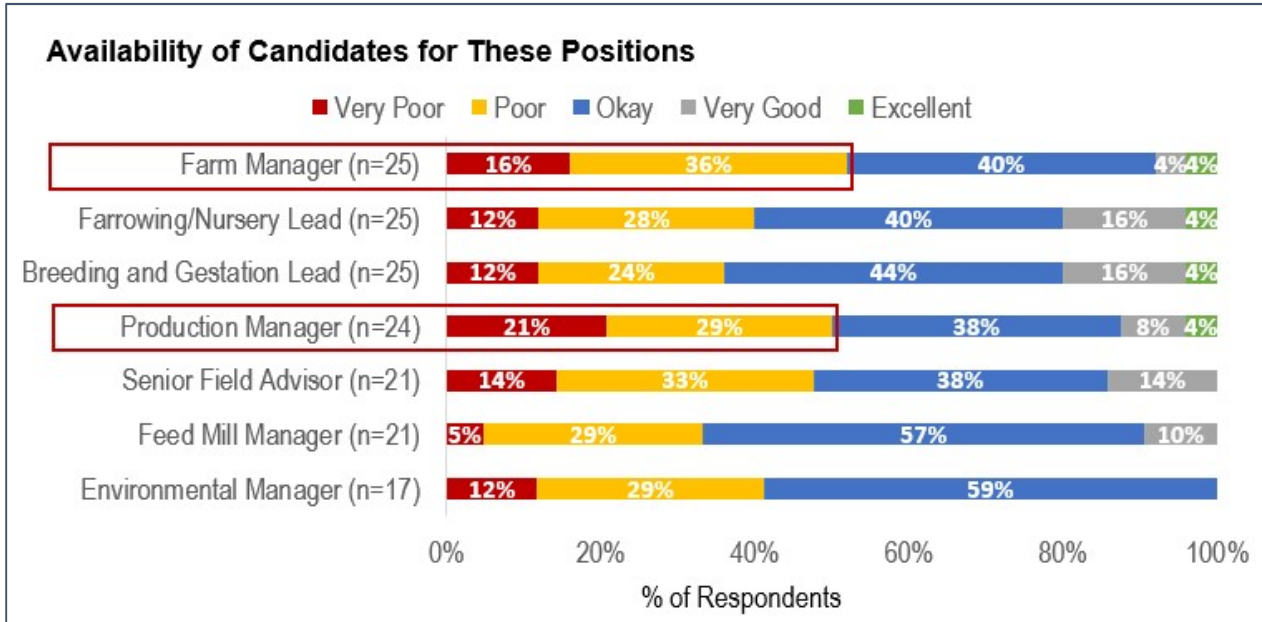
Staffing numbers derived from Q27 for those who responded, “Not currently staffing that position.” (n=21-25)

- Every producer reports they employ Farm Managers, Breeding and Gestation Leads and Farrowing/Nursery Leads, and all but one staffs for the Production Manager role.



Q29. How would you rate the availability of candidates for these positions? (n=17-25)

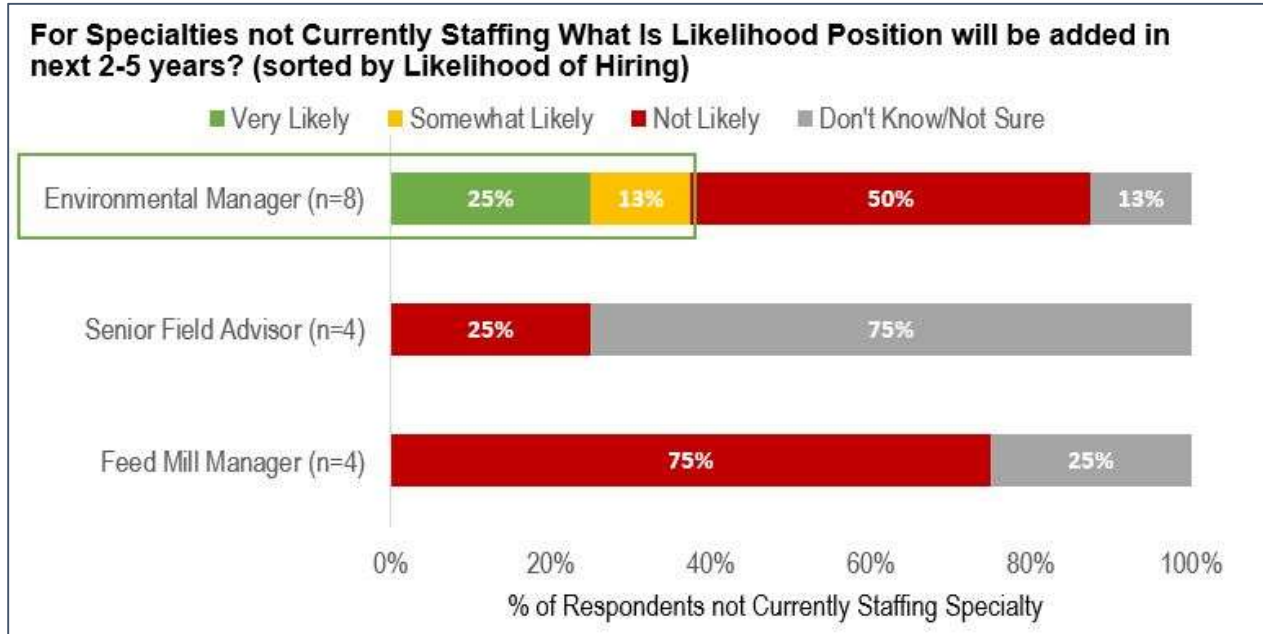
- More producers rate current availability for Farm Managers and Production Managers as Very Poor or Poor, which is problematic as it is a critical staffing need common among nearly all producers.
 - Producers with headquarters in Minnesota, Iowa and Michigan rate Production Manager availability lower than those headquartered in other states.



Likelihood to Staff in the Future

Q30. For the management positions you do not currently employ, what do you see as the likelihood you will add the position in the next 2-5 years? (n=4-8)

- The Environmental Manager position is the most likely to be added (if not currently employed).



Gaps in Barn-Level Management Talent in Next 10 Years

Q31. What, in your opinion, are the gaps in barn-level management talent that you would forecast in the next 10 years? (n=15)

When respondents were asked – in an open-ended question – what gaps in barn-level management talent they see in the next 10 years, responses followed four themes: practical and industry experience, lack of qualified candidates, leadership and communication skills, and business experience.

Representative responses to the open-ended question about gaps included:

“A general lack of experience working with animals for food production and the acceptance that animals for food production is in fact different than animals owned as pets or for other purposes.”

“The gaps vary depending on geographic location of the sow farm. Gaps are in recruiting high quality employees who are committed to work in production, learn the business and grow with the company. This has been our program for years and we have trained successful managers through this plan. But if we don't have committed production workers willing to put in the time and learn the system, this could become a challenge in the future.”

One producer suggests that barn-level management positions can be more readily filled by those with 2-year degrees: “These individuals do not need to have advanced degrees, Ag. Associates degree are great, we need to focus on short course programs these positions strengthen the Ag. community based on numbers needed. Communications and people management skills required.”

Business Management skills were also mentioned:

“Understanding metrics & statistical analysis of data, foreign language & business sense.”

Best Recruitment Tools

Q32. Name the top 3 recruitment tools that are the best source of barn-level management talent for your business. (n=16)

The tools cited as the best for recruitment of barn-level managers fall into four different categories:

- Online/Advertising
- Academic Resources
- Internal Efforts
- Other Resources