

Assessment of Demand for a Job Placement Service for the Poultry Science Association

K. G. Maciorowski,* S. C. Ricke,*¹ K. L. Medvedev,* and G. P. Martint†

*Department of Poultry Science, Texas A&M University, College Station, Texas 77843-2472; and †Poultry Science Association, 1111 N. Dunlap Avenue, Savoy, Illinois 61874

ABSTRACT A placement service for the membership of the Poultry Science Association (PSA) is a possible future consideration. This service should provide a formal national platform that could aid membership and their employers in position services. A survey was conducted with the objective of determining the interest of the membership in such a placement service and the maximum expense that members would be willing to pay for the service. Ten questions in an undisguised questionnaire format, covering demographic, historical, and interest points was devised with survey questions designed for a forced response on most of the questions. A total of

2,050 surveys was mailed to PSA members in the US, including 1,850 regular members and 200 student members; 518 responded to the survey. A majority of all age groups favored the construction of a placement service, but the respondents' willingness to use the service depended upon age, education, and work experience and whether or not they believed a placement service was needed. Sources of information used in finding a position varied with age; trade journals and publications were the most frequent sources for the responses. It appears that the membership likes the idea of a placement service, is willing to pay something for it, and would use it if it were available.

(Key words: placement service, poultry science, survey, respondents, industry)

2000 Poultry Science 79:640-651

INTRODUCTION

By 1995, the total consumption of poultry in the US had increased approximately 185% since 1960 (Pardue, 1997). However, increased demand for poultry products has not resulted in an increased demand for university departments. The number of poultry science departments serving the US has declined over the last 10 yr with university personnel decreasing by approximately 15% (Beck, 1992). As most poultry departments have merged with animal science or other agricultural departments, poultry science program emphasis has declined, and instruction devoted to the poultry species has declined (Sunde, 1969; Cook, 1988, 1992). Currently, poultry science departments are geographically concentrated in the southeastern quadrant of the US (Pardue, 1997). This shift in geographical location of available faculty as advisors may cause a shift of information sources and contacts in job searches for poultry science students.

Many of the remaining poultry science departments are active in recruiting undergraduate students, and employment opportunities can be viewed as a recruitment

asset (Pescatore, 1988). However, the industry is often isolated from the undergraduate population, influencing curriculum indirectly through employer surveys. Consumer and employer demands have urged increased training outside the core poultry science curriculum, such as environmental impact (Marks and Ottinger, 1992; Weber et al. 1995), business and communication skills (Broder and Houston, 1986), awareness of global economy structure (Snetsinger, 1992), and problem solving (Minish et al., 1993). Pardue (1997) noted that, in a survey of corporate vice presidents and directors of human resources of turkey and broiler production companies, communication and business skills were more highly rated than technical ability. Yet, to undergraduates, the industry often represents a vague entity, limited in exposure to upper-level undergraduate internships (Climenson, 1992). Gallagher et al. (1992) reported that a majority of the respondents of a survey at the University of Pittsburgh indicated a high or moderate need of assistance in the areas of job search strategies and the concern about career choice.

This demand for assistance with career hunting has been met by different areas, including professional societies. The American Society of Microbiology Placement Committee maintains a database of resumes for access

Received for publication August 12, 1999.

Accepted for publication January 28, 2000.

¹To whom correspondence should be addressed: Poultry Science Department, Room 101 Kleberg Center, Texas A&M University, College Station, TX 77843-2472; e-mail: sricke@poultry.tamu.edu.

Abbreviation Key: PSA = Poultry Science Association.

by prospective employers (including assisted searches), along with an interview room during annual meetings (American Society for Microbiology News, 1992). Even during the recessionary period of the US economy (1991), the number of positions available increased (American Society for Microbiology News, 1992). The American Society of Animal Science, an organization similar to Poultry Science Association (PSA) maintains listings for positions available and prospective employees in the *Journal of Animal Science*. The US Poultry and Egg Association and the Pacific Egg and Poultry Association sponsor strong interview programs, primarily for graduating Bachelor of Science students of poultry science and affiliated majors. Other scientific societies such as the Federation of American Societies for Experimental Biology maintain a year-round placement service that includes interview assistance during quarterly meetings and employee search utilities for employers during the year. Employment opportunities, along with positions desired, are published in the *FASEB Journal*.

Currently, PSA has provided opportunities for contact with employers by providing an interview meeting room and bulletin boards for position announcements. Position announcements and positions desired are published monthly in the association notes section of *Poultry Science*. However, a more frequent and interactive service could be developed. Electronic communication technology is becoming more accessible for such uses. For example, an internet website that offers profiles of job candidates and an available jobs listing is now in place for American Chemical Society members and national and student affiliates (Raber, 1999). In response to this apparent need, a placement service ad-hoc PSA committee, including representatives from industry, government, and academia over several geographic regions, was formed to investigate the need and format of a formal placement service (Martin et al., 1993). Preliminary formats for standardized forms and operational format were considered, using the American Society of Microbiology format as a guide (American Society for Microbiology News, 1992). The survey described in this study was conducted with the objective of determining the interest of the membership in such a placement service and the maximum expense that members would be willing to pay for the service.

MATERIALS AND METHODS

Survey Questionnaire

Ten questions were devised in an undisguised questionnaire format, covering demographic, historical, and interest points, (reproduced in Figure 1). The survey questions were designed for a forced response on most of the questions with different question structures for ease of implementation and coding. A total of 2,050 surveys was mailed to individual members of the PSA in the US, including 1,850 regular members and 200 student members, in February 1993.

| | | | | | | | | | |
|---|-----------------|----------------|------------------|------------------------------------|----------|---------|--|--------|--------|
| 1. How many years of work experience do you have? | | | | | | | | | |
| a. 1-3 years | b. 4-7 | c. 8-11 | d. 12-15 | e. 16-18 | f. 19-21 | g. 21 + | | | |
| Referring to the last school (institution) attended | | | | | | | | | |
| 2. Does your institution have a placement center? | | | | | | | | a. Yes | b. No |
| 3. If your institution has a placement center, how does it serve graduate students? | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | | | | | |
| Not at all | Limited service | Normal service | Extended service | Total service | | | | | |
| 4. Do you feel that the Poultry Science Association should provide a placement service to aid its members in career services? | | | | | | | | | |
| | | | | | | | | a. Yes | b. No |
| 5. How much would you be willing to pay, in part, for this service? | | | | | | | | | |
| a. \$10 | b. \$20 | c. \$30 | d. \$40 | e. \$50 | | | | | |
| 6. In which method do most people find position openings in your area? (circle most common) | | | | | | | | | |
| a. Job announcement bulletin | | | | f. PSA Journal | | | | | |
| b. Bulletin board | | | | g. From a friend | | | | | |
| c. From a professor | | | | h. School Placement Center | | | | | |
| d. Newspaper | | | | i. Trade Journals and publications | | | | | |
| e. From School Department offering position | | | | j. Company offering position | | | | | |
| 7. What is the highest degree you have attained? | | | | | | | | | |
| a. High school diploma | | | | d. Masters | | | | | |
| b. Associate of science/arts | | | | e. Doctorate | | | | | |
| c. Bachelors degree | | | | | | | | | |
| 8. In what fields (did/would) you most likely survey for your (present/future) work? | | | | | | | | | |
| a. Breeding and Genetics | | | | e. Nutrition | | | | | |
| b. Education & Extension | | | | f. Physiology | | | | | |
| c. Production and Applied Sciences | | | | g. Administration | | | | | |
| d. Poultry Health, Immunology & Pathology | | | | h. Processing & Marketing | | | | | |
| 9. Would you use an Association based placement service if it were available? | | | | | | | | | |
| | | | | | | | | a. No | b. Yes |
| 10. What is your Age? | | | | | | | | | |
| a. 18-20 | b. 21-30 | c. 31-40 | d. 41-50 | e. 51-60 | f. 61-70 | g. 71 + | | | |

FIGURE 1. Questionnaire for the Poultry Science Association Placement Service.

Statistical Analyses

Answers to the returned surveys, including multiple answers, were coded and analyzed for interactions and were sorted using the FREQ procedure of SAS® software (SAS Institute, 1985). Responses other than the choices given, such as "maybe," "perhaps," or "I don't know," were excluded from the analysis. Question 5 was an exception, and responses were included where the survey was actually marked "service should be free or have a price of zero," although this was not provided as one of the possible survey answers. Responses from questions allowing multiple answers were grouped into mutually exclusive categories for comparisons. Comparisons were made between all questions except for Question 3, which was not considered in the present study. The guidelines suggested by Cochran (1954) were followed for the combining of survey answers. Groups or responses were combined if a cell from that group or response contained an expected value (E_{ij}) < 1, or if > 20% of all E_{ij} in any chi-square test were < 5. The responses were considered dependent between survey questions if $P < 0.05$.

For questions involving multiple answers (Questions 6 and 8), each combination of answers was treated as a separate factor for analysis. Means were separated using the PDIFF option of the least squares means procedure of the same program. Model adequacy, variable signifi-

TABLE 1. Age and work experience of Poultry Science Association members who responded to a job placement survey¹

| Work experience (yr) | Age (yr) | | | | | Row no. | χ^2 | P |
|----------------------|--------------------|-------|-------|-------|------|---------|----------|-------|
| | <30 | 31–40 | 41–50 | 51–60 | >61 | | | |
| | (% of Respondents) | | | | | | | |
| 1–3 | 65.2 | 12.7 | 0.8 | 0.0 | 0.0 | 65 | 679 | <0.01 |
| 4–7 | 25.8 | 30.7 | 3.8 | 0.0 | 0.0 | 73 | | |
| 8–11 | 9.1 | 30.7 | 7.7 | 0.9 | 0.0 | 68 | | |
| 12–15 | 0.0 | 21.1 | 25.4 | 0.9 | 2.6 | 70 | | |
| 16–18 | 0.0 | 3.0 | 21.5 | 3.5 | 0.0 | 37 | | |
| 19–21 | 0.0 | 1.2 | 16.2 | 3.5 | 0.0 | 27 | | |
| 21+ | 0.0 | 0.6 | 24.6 | 91.2 | 97.4 | 173 | | |
| Total respondents | 66 | 166 | 130 | 113 | 38 | 513 | | |

¹Total returned = 518. Questions left blank were omitted from analysis.

cance, and mean differences were considered significant at $P < 0.05$.

RESULTS AND DISCUSSION

Demographics of Respondents

A placement service for the membership of the PSA was proposed. This service should provide a formal national platform that could aid members in finding available employment positions and employers in finding appropriately trained or suitable applicants. Of the 1,850 regular members and 200 student members survey questionnaires that were sent, 518 responses were received. Work experience ($\chi^2 = 679$; $P < 0.01$) and education ($\chi^2 = 151$; $P < 0.01$) depended upon age, as shown in Tables 1 and 2. The respondents were evenly divided by age among those in their 30s (32%), those in their 40s (25%), and those in their 50s (22%); 13% of the respondents were under 30, and 7% were over 60. Zey et al. (1999) reported one observation by an industry representative that college graduates may change jobs frequently for advancement, sometimes working for three different firms within 10-yr of graduation. Therefore, this population would most benefit from the increased contacts potentially provided by a national placement service. The majority of respondents (ranging from 78 to 94% of each age group) over the age of 30 possessed doctorates of philosophy (Ph.D.) or doctorates of veterinary medicine (DVM). Respondents under the age of 30 generally possessed either bachelor's or master's degrees; 20% had doctorate degrees (Table 2). Work expe-

rience also depended upon degree attained; approximately 40% of the respondents with bachelor's degrees had less than 3 yr experience, whereas 37% of doctorates had over 20 yr of experience (Table 3; $\chi^2 = 52.8$; $P < 0.01$). Several respondents did not know if time spent as a graduate student could be considered as work experience.

Job Placement Service Availability

Members were asked if they would use a placement service if it was offered by the PSA (Question 4; Tables 4 through 7). The respondents' willingness to use the survey depended upon age (Table 4; $\chi^2 = 32.1$; $P < 0.01$), education (Table 5; $\chi^2 = 8.0$; $P < 0.05$), work experience (Table 6; $\chi^2 = 31.1$; $P < 0.01$), and whether or not they believed a placement service was needed (Table 7; $\chi^2 = 129$; $P < 0.01$). A majority of all age groups favored the construction of a placement service, but the majority decreased as age increased. Over 90% of respondents under 30 or with a bachelor's degree would use a PSA-based placement service, whereas only 51% of those over 60 and 76% of those with doctorates would use one. This trend was consistent with years of work experience; over 90% of those with less than 3 yr work experience would use a placement service, whereas only 64% of those with 21 yr or more of work experience would use one. These trends are not surprising, as respondents with tenure or nearing retirement would be less inclined to change positions and, thus, would not need a placement service for themselves. Willingness to use a PSA-based service also depended upon the applicants' opinions about the

TABLE 2. Age and education of Poultry Science Association members who responded to a job placement survey¹

| Highest degree attained | Age (yr) | | | | | Row no. | χ^2 | P |
|---------------------------|--------------------|-------|-------|-------|------|---------|----------|-------|
| | <30 | 31–40 | 41–50 | 51–60 | >61 | | | |
| | (% of Respondents) | | | | | | | |
| B.S. or less | 43.1 | 3.6 | 3.8 | 6.2 | 0.0 | 46 | 151 | <0.01 |
| Masters | 36.9 | 18.2 | 16.2 | 8.8 | 5.3 | 87 | | |
| Doctorate (Ph.D., D.V.M.) | 20.0 | 78.2 | 80.0 | 85.0 | 94.7 | 378 | | |
| Total respondents | 65 | 165 | 130 | 113 | 38 | 511 | | |

¹Total returned = 518. Questions left blank were omitted from analysis.

TABLE 3. Educational level and work experience of Poultry Science Association members who responded to a job placement survey¹

| Work experience (yr) | Highest degree attained | | | Row no. | X ² | P |
|----------------------|-------------------------|---------|-----------------|---------|----------------|-------|
| | B.S. | Masters | Ph.D. or D.V.M. | | | |
| | (% of Respondents) | | | | | |
| 1-3 | 39.6 | 21.3 | 7.9 | 68 | 52.8 | <0.01 |
| 4-7 | 16.7 | 16.9 | 13.2 | 73 | | |
| 8-11 | 6.3 | 14.6 | 13.5 | 67 | | |
| 12-15 | 10.4 | 14.6 | 7.7 | 70 | | |
| 16-18 | 6.3 | 5.6 | 7.7 | 37 | | |
| 19-21 | 0.0 | 2.2 | 6.6 | 27 | | |
| 21+ | 20.8 | 24.7 | 37.3 | 173 | | |
| Total respondents | 48 | 89 | 378 | 515 | | |

¹Total returned = 518. Questions left blank were omitted from analysis.

TABLE 4. Age and willingness of association survey respondents to use an association based placement service¹

| Willingness to use service | Age (yr) | | | | | Row no. | X ² | P |
|----------------------------|----------------------|-------|-------|-------|------|---------|----------------|-------|
| | <30 | 31-40 | 41-50 | 51-60 | >60 | | | |
| | (% of Respondents) | | | | | | | |
| No | 9.4 | 13.6 | 22.2 | 31.1 | 48.6 | 105 | 32.1 | <0.01 |
| Yes | 90.6 | 86.4 | 77.8 | 68.9 | 51.4 | 380 | | |
| Total respondents | 64 | 154 | 126 | 106 | 35 | 485 | | |

¹Total returned = 518. Questions left blank were omitted from analysis.

TABLE 5. Educational level and willingness of association survey respondents to use an association based placement service¹

| Willingness to use service | Highest degree attained | | | | Row no. | X ² | P |
|----------------------------|-------------------------|------|------|-----------------|---------|----------------|-------|
| | Assoc. | BS | MS | Ph.D. or D.V.M. | | | |
| | (% of Respondents) | | | | | | |
| No | 25.0 | 5.4 | 17.2 | 23.9 | 104 | 8.0 | <0.05 |
| Yes | 75.0 | 94.6 | 82.8 | 76.1 | 383 | | |
| Total respondents | 8 | 37 | 87 | 355 | 487 | | |

¹Total returned = 518. Questions left blank were omitted from analysis.

TABLE 6. Work experience and willingness of association survey respondents to use an association based placement service¹

| Willingness to use service | Work experience (years) | | | | | | | Row no. | X ² | P |
|----------------------------|-------------------------|------|------|-------|-------|-------|------|---------|----------------|-------|
| | 1-3 | 4-7 | 8-11 | 12-15 | 16-18 | 19-21 | 21+ | | | |
| | (% of Respondents) | | | | | | | | | |
| No | 9.0 | 13.4 | 14.1 | 17.6 | 17.6 | 19.2 | 35.6 | 105 | 31.1 | <0.01 |
| Yes | 91.0 | 86.6 | 85.9 | 82.4 | 82.4 | 80.8 | 64.4 | 384 | | |
| Total respondents | 67 | 67 | 64 | 68 | 34 | 26 | 163 | 489 | | |

¹Total returned = 518. Questions left blank were omitted from analysis.

TABLE 7. Opinion on need for a placement service and willingness of association survey respondents to use an association based placement service¹

| Willingness to use service | Does PSA need a placement service? | | Row no. | χ^2 | P |
|----------------------------|------------------------------------|------|---------|----------|-------|
| | No | Yes | | | |
| | (% of Respondents) | | | | |
| No | 74.6 | 12.8 | 101 | 129 | <0.01 |
| Yes | 25.4 | 87.2 | 365 | | |
| Total respondents | 67 | 399 | 466 | | |

¹Total returned = 518. Questions left blank were omitted from analysis.

demand for the assistance (Table 7; $\chi^2 = 129$; $P < 0.01$). Those who did not think PSA needed a placement service generally would not use one, whereas those that believed PSA needed a placement service would use it if it were available. Overall, some 85% of those answering the survey felt that PSA needed a placement service; several respondents indicated that they would use a placement service as an employer seeking applicants.

The response to willingness to pay for a placement service and the acceptable price for the service are listed in Tables 8 and 9, respectively. The acceptable price for the service depended upon work experience (Table 8; $\chi^2 = 49.1$; $P < 0.01$), the need for a PSA-based center (Table 9; $\chi^2 = 78.2$; $P < 0.01$), and respondents' willingness to use the center (Table 9; $\chi^2 = 48.0$; $P < 0.01$). A majority of respondents with less than 3 yr work experience preferred to pay \$10 or \$20 for the service, whereas between 20 and 41% of those with 4 yr or more work experience would agree to a fee of \$40 or \$50. Generally, more than 90% of each category were willing to pay for a placement service, with the exception of two groups. Half of the respondents who indicated that PSA did not need such a service and 22% of the respondents who would not use a placement service were unwilling to pay for such a center. A separate newsletter with subscription charges could be created and mailed with the journal so that those unwilling to pay for the service would not be forced to pay an increase in dues. The subscription to the newsletter would then be an option on membership renewal forms. Several respondents were unclear about whether the suggested fees listed on the survey were a one-time, annual, or monthly fee.

Job Searching Methods

Members were also asked to choose the most common method of finding a position (Question 6). Many respondents chose multiple answers, so the answers were grouped into mutually exclusive categories for analysis. Written or published methods of finding position openings were listed in Tables 10 and 11. Overall, approximately 29% of the respondents indicated that trade journals were most widely used to find positions, 19% used a job announcement bulletin, and 7% used the bulletin board. The percentages of respondents seeking positions using bulletins varied by work experience (Table 10; $\chi^2 = 13.4$; $P < 0.05$), ranging between 12 and 37% with no clear trends. The percentages of members seeking positions through bulletin boards varied by age (Table 11; $\chi^2 = 9.6$; $P < 0.05$); the highest percentages were under 30 (11%) or over 61 (16%). The percentages of members seeking positions through trade journals varied by work experience (Table 10; $\chi^2 = 11.6$; $P < 0.05$) and age (Table 11; $\chi^2 = 13.0$; $P < 0.025$). The highest percentages of individuals using trade journals had 4 to 7 yr of work experience, a doctorate, or were over 30 yr in age. One respondent noted that journals often list available positions in the same month as their closing dates and expressed a desire for more advanced notice.

Institutional methods of seeking positions included a professor or school department offering a position and are listed in Tables 12 through 17. Overall, 26% of respondents listed professors as a prime resource, which varied with work experience (Table 12; $\chi^2 = 13.1$; $P < 0.05$), the presence of an institutional placement center (Table 13;

TABLE 8. Work experience and acceptable price for a Poultry Science Association-based placement service¹

| Acceptable price of service (US \$) | Work experience (years) | | | | | | | Row no. | χ^2 | P |
|-------------------------------------|-------------------------|------|------|-------|-------|-------|------|---------|----------|-------|
| | 1-3 | 4-7 | 8-11 | 12-15 | 16-18 | 19-21 | 21+ | | | |
| | (% of Respondents) | | | | | | | | | |
| 0 ² | 1.6 | 0.0 | 7.3 | 5.2 | 3.2 | 4.2 | 10.9 | 24 | 49.1 | <0.01 |
| 10 | 41.3 | 26.2 | 25.5 | 17.2 | 22.6 | 25.0 | 17.1 | 101 | | |
| 20 | 27.0 | 23.0 | 21.8 | 36.2 | 19.4 | 20.8 | 17.8 | 98 | | |
| 30 | 19.0 | 19.7 | 14.5 | 10.3 | 19.4 | 29.2 | 13.2 | 68 | | |
| 40-50 | 11.1 | 31.1 | 30.9 | 31.0 | 35.5 | 20.8 | 41.1 | 130 | | |
| Total respondents | 63 | 61 | 55 | 58 | 31 | 24 | 129 | 421 | | |

¹Total returned = 518. Questions left blank were omitted from analysis.

²Zero price response represents responses marked "free" or "zero."

TABLE 9. Acceptable price of a Poultry Science Association-based placement service compared to placement service need and willingness to use it¹

| Acceptable price of service (US \$) | No | Yes | Row no. | X ² | P |
|--|------------------------|------|---------|----------------|-------|
| | — (% of Respondents) — | | | | |
| Does PSA need a placement service? | | | | | |
| 0 ² | 50.0 | 3.4 | 23 | 78.2 | <0.01 |
| 10–30 | 40.0 | 64.9 | 260 | | |
| 40–50 | 10.0 | 31.7 | 125 | | |
| Total respondents | 20 | 388 | 408 | | |
| Would you use a PSA placement service? | | | | | |
| 0 ² | 22.2 | 2.6 | 21 | 48.0 | <0.01 |
| 10 | 37.0 | 22.3 | 98 | | |
| 20 | 13.0 | 24.9 | 94 | | |
| 30 | 7.4 | 17.8 | 66 | | |
| 40 | 0.0 | 4.0 | 14 | | |
| 50 | 20.4 | 28.4 | 110 | | |
| Total respondents | 54 | 349 | 403 | | |

¹Total returned = 518. Questions left blank were omitted from analysis.

²Zero price response represents responses marked “free” or “zero.”

TABLE 10. Work experience and published methods of finding position openings used by survey respondents¹

| Method ² | Work experience (years) | | | | | | | Row no. | X ² | P |
|---------------------------|-------------------------|------|------|-------|-------|-------|------|---------|----------------|-------|
| | 1–3 | 4–7 | 8–11 | 12–15 | 16–18 | 19–21 | 21+ | | | |
| | — (% of Respondents) — | | | | | | | | | |
| Job announcement bulletin | 13.4 | 23.9 | 12.5 | 11.8 | 25.7 | 37.0 | 19.1 | 92 | 13.4 | <0.05 |
| Other | 86.6 | 76.1 | 87.5 | 88.2 | 74.3 | 63.0 | 80.9 | 402 | | |
| Total respondents | 67 | 71 | 64 | 68 | 35 | 27 | 162 | 494 | | |
| Trade journals | 17.9 | 33.8 | 25.0 | 25.0 | 28.6 | 18.5 | 16.8 | 143 | 11.6 | <0.05 |
| Other | 82.1 | 66.2 | 75.0 | 75.0 | 71.4 | 81.5 | 63.6 | 351 | | |
| Total respondents | 67 | 71 | 64 | 68 | 35 | 27 | 162 | 494 | | |

¹Total returned = 518. Questions left blank were omitted from analysis.

²Respondents were allowed to choose multiple answers. “Other” indicates any combination of methods that does not include the use of the item mentioned.

TABLE 11. Age and published methods of finding position openings used by survey respondents¹

| Method ² | Age (yr) | | | | | | Row no. | X ² | P |
|---------------------|------------------------|-------|-------|-------|-------|------|---------|----------------|-------|
| | <30 | 31–40 | 41–50 | 51–60 | 61–70 | 71+ | | | |
| | — (% of Respondents) — | | | | | | | | |
| Bulletin board | 10.8 | 5.6 | 1.6 | 4.7 | 16.2 | | 32 | 9.6 | <0.05 |
| Other | 89.2 | 94.4 | 95.9 | 95.3 | 83.8 | | 458 | | |
| Total respondents | 65 | 160 | 122 | 106 | 37 | | 490 | | |
| Trade journals | 10.8 | 32.5 | 32.0 | 31.1 | 30.3 | 50.0 | 143 | 13.0 | <0.03 |
| Other | 89.2 | 67.5 | 68.0 | 68.9 | 69.7 | 50.0 | 347 | | |
| Total respondents | 65 | 160 | 122 | 106 | 33 | 4 | 490 | | |

¹Total returned = 518. Questions left blank were omitted from analysis.

²Respondents were allowed to choose multiple answers. “Other” indicates any combination of methods that does not include the use of the item mentioned.

TABLE 12. Work experience of survey respondents and use of professor for finding position openings¹

| Method ² | Work experience (yr) | | | | | | Row no. | X^2 | P | |
|---------------------|----------------------|------|------|-------|-------|-------|---------|-------|------|-------|
| | 1-3 | 4-7 | 8-11 | 12-15 | 16-18 | 19-21 | | | | 21+ |
| | (%) of Respondents | | | | | | | | | |
| Professor | 35.8 | 18.3 | 20.3 | 17.6 | 28.6 | 18.5 | 32.1 | 129 | 13.1 | <0.05 |
| Other | 64.2 | 81.7 | 79.7 | 82.4 | 71.4 | 81.5 | 67.9 | 365 | | |
| Total respondents | 67 | 71 | 64 | 68 | 35 | 27 | 162 | 494 | | |

¹Total returned = 518. Questions left blank were omitted from analysis.

²Respondents were allowed to choose multiple answers. "Other" indicates any combination of methods that does not include the use of the item mentioned.

TABLE 13. Presence of an institutional placement center and use of professor for finding position openings¹

| Method ² | Presence of institutional placement center | | Row no. | X^2 | P |
|---------------------|--|------|---------|-------|-------|
| | No | Yes | | | |
| | (%) of Respondents | | | | |
| Professor | 17.3 | 28.8 | 124 | 5.3 | <0.03 |
| Other | 82.7 | 71.2 | 345 | | |
| Total respondents | 98 | 371 | 469 | | |

¹Total returned = 518. Questions left blank were omitted from analysis.

²Respondents were allowed to choose multiple answers. "Other" indicates any combination of methods that does not include the use of the item mentioned.

TABLE 14. Age of survey respondents and use of professor for finding position openings¹

| Method ² | Age (yr) | | | | | | Row no. | X^2 | P |
|---------------------|--------------------|-------|-------|-------|-------|------|---------|-------|-------|
| | <30 | 31-40 | 41-50 | 51-60 | 61-70 | 71+ | | | |
| | (%) of Respondents | | | | | | | | |
| Professor | 29.2 | 21.9 | 20.5 | 29.2 | 45.5 | 50.0 | 127 | 12.0 | <0.05 |
| Other | 70.8 | 78.1 | 79.5 | 70.8 | 54.5 | 50.0 | 363 | | |
| Total | 65 | 160 | 122 | 106 | 33 | 4 | 490 | | |

¹Total returned = 518. Questions left blank were omitted from analysis.

²Respondents were allowed to choose multiple answers. "Other" indicates any combination of methods that does not include the use of the item mentioned.

TABLE 15. Acceptable price of the placement service and use of school department to find a position opening¹

| Method ² | Acceptable price of PSA placement service | | | | | | Row no. | X^2 | P |
|---------------------|---|------|------|------|------|------|---------|-------|-------|
| | Free | \$10 | \$20 | \$30 | \$40 | \$50 | | | |
| | (%) of Respondents | | | | | | | | |
| School department | 33.3 | 6.0 | 10.5 | 6.2 | 13.3 | 9.1 | 39 | 16.4 | <0.01 |
| Other | 66.7 | 94.0 | 89.5 | 93.8 | 86.7 | 90.9 | 367 | | |
| Total respondents | 21 | 100 | 95 | 65 | 15 | 110 | | | |

¹Total returned = 518. Questions left blank were omitted from analysis.

²Respondents were allowed to choose multiple answers. "Other" indicates any combination of methods that does not include the use of the item mentioned.

TABLE 16. Educational level of respondent and use of school department to find a position opening¹

| Method ² | Highest degree attained | | | Row no. | X ² | P |
|---------------------|-------------------------|---------|-----------|---------|----------------|------|
| | Bachelors | Masters | Doctorate | | | |
| | (% of Respondents) | | | | | |
| School department | 2.2 | 4.8 | 11.6 | 47 | 6.9 | 0.05 |
| Other | 97.8 | 95.2 | 88.4 | 446 | | |
| Total respondents | 46 | 84 | 363 | 493 | | |

¹Total returned = 518. Questions left blank were omitted from analysis.

²Respondents were allowed to choose multiple answers. "Other" indicates any combination of methods that does not include the use of the item mentioned.

$\chi^2 = 5.3; P < 0.025$), and age (Table 14; $\chi^2 = 12.0; P < 0.05$). Thirty-five percent of respondents with less than 3 yr work experience sought professors, probably graduate advisors, for employment contacts. Thirty-two percent of those with 21 or more yr of work experience and over 45% of those over 61 listed professors as a resource for finding jobs, possibly because the respondents themselves are advisors or because of a large business network acquired over the length of their career. A higher percentage of respondents with an institutional placement center listed professors as a contact than those without, possibly due to professors referring students to centers or vice versa. Overall, 10% of members indicated school departments for position searches, depending upon acceptable cost of a PSA placement service (Table 15; $\chi^2 = 16.4; P < 0.01$), degree attained (Table 16; $\chi^2 = 6.9; P < 0.05$), and age (Table 17; $\chi^2 = 9.9; P < 0.05$). Thirty-three percent of those desiring a free PSA service sought careers through school departments; perhaps that group would rather contact schools directly. The percentage of respondents seeking positions through school departments also increased with degree (from 2 to 12%) and age (from 5 to 22%).

Interpersonal methods of finding positions included friends or companies and are listed in Table 18. Overall, 16% of respondents listed friends as an important resource for career searches, a percentage that depended upon their willingness to use a PSA placement service (Table 18; $\chi^2 = 5.3; P < 0.05$). Eighteen percent of those willing to use the PSA placement service listed friends as a resource, whereas only 8% of those unwilling to use the service valued friends for position seeking. Respondents seeking positions directly with companies depended upon the willingness to use a PSA placement

service (Table 18; $\chi^2 = 10.8; P < 0.01$) and their belief that PSA needs a placement service (Table 18; $\chi^2 = 6.1; P < 0.025$). Approximately 46% of respondents who either did not think that PSA needed a placement service or would not use one found positions with companies, whereas approximately 30% of those that wanted the service found positions through companies. Perhaps the increased percentage of those not desiring a placement service is due to those seeking positions in production facilities in a specific area and, thus, would not need a national placement service. Zey et al. (1999) noted that, in Texas, many graduates were unwilling to locate outside of their home state.

Types of Jobs

Respondents were also asked about fields most likely surveyed for present or future work (Question 8; Tables 19 through 26). Fields related to institutions included administration, education or extension, nutrition and poultry health, immunology, and pathology. Overall, approximately 15% of respondents were interested in administration, a percentage that varied and increased with years of job experience (Table 19; $\chi^2 = 13.9; P < 0.05$). Approximately 17% of respondents overall were interested in education or extension, a percentage that varied with age (Table 20; $\chi^2 = 9.5; P < 0.05$). The group most interested in education were those between the ages of 31 and 40 (22%), followed by those between the ages of 41 and 50 (19%). Thirty-eight percent of the respondents were interested in nutrition, which increased with degree until half of the respondents with master's degrees and 37% of those with doctorates responding to Question 8 were interested in nutrition (Table 21; $\chi^2 = 9.1; P < 0.05$).

TABLE 17. Age of survey respondents and use of school department to find a position opening¹

| Method ² | Age (yr) | | | | | Row no. | X ² | P |
|---------------------|----------------------|-------|-------|-------|------|---------|----------------|-------|
| | <30 | 31-40 | 41-50 | 51-60 | 61+ | | | |
| | (% of Respondents) | | | | | | | |
| School department | 4.6 | 6.9 | 9.8 | 11.3 | 21.6 | 46 | 9.9 | <0.05 |
| Other | 95.4 | 93.1 | 90.2 | 88.7 | 78.4 | 444 | | |
| Total respondents | 65 | 160 | 122 | 106 | 37 | | | |

¹Total returned = 518. Questions left blank were omitted from analysis.

²Respondents were allowed to choose multiple answers. "Other" indicates any combination of methods that does not include the use of the item mentioned.

TABLE 18. Interpersonal methods of finding position openings used by survey respondents compared with placement service need and willingness to use it¹

| Method ² | Opinion | | | X ² | P |
|--|---------|------|---------|----------------|-------|
| | No | Yes | Row no. | | |
| Would you use a PSA placement service? | | | | | |
| Friend | 8.2 | 17.8 | 74 | 5.3 | <0.05 |
| Other | 91.8 | 82.2 | 394 | | |
| Total respondents | 97 | 371 | 468 | | |
| Does PSA need a placement service? | | | | | |
| Company with position | 46.2 | 30.6 | 154 | 6.1 | <0.03 |
| Other | 53.8 | 69.4 | 316 | | |
| Total respondents | 65 | 405 | 470 | | |
| Would you use a PSA placement service? | | | | | |
| Company with position | 46.4 | 28.8 | 152 | 10.8 | <0.01 |
| Other | 53.6 | 71.2 | 316 | | |
| Total respondents | 97 | 371 | 468 | | |

¹Total returned = 518. Questions left blank were omitted from analysis.

²Respondents were allowed to choose multiple answers. "Other" indicates any combination of methods that does not include the use of the item mentioned.

TABLE 19. Work experience and institutional fields most likely surveyed for present/future work by survey respondents¹

| Field ² | Years of work experience | | | | | | | Row no. | X ² | P |
|--------------------|--------------------------|------|------|-------|-------|-------|------|---------|----------------|-------|
| | 1-3 | 4-7 | 8-11 | 12-15 | 16-18 | 19-21 | 21+ | | | |
| | (% of Respondents) | | | | | | | | | |
| Administration | 6.2 | 6.8 | 11.9 | 17.1 | 21.6 | 23.1 | 19.5 | 76 | 13.9 | <0.05 |
| Other | 93.8 | 93.2 | 88.1 | 82.9 | 78.4 | 76.9 | 80.5 | 431 | | |
| Total respondents | 65 | 73 | 67 | 70 | 37 | 26 | 169 | 507 | | |

¹Total returned = 518. Questions left blank were omitted from analysis.

²Respondents were allowed to choose multiple answers. "Other" indicates any combination of methods that does not include the use of the item mentioned.

TABLE 20. Age and institutional fields most likely surveyed for present and future work by survey respondents¹

| Field ² | Age (yr) | | | | | Row no. | X ² | P |
|-----------------------|----------------------|-------|-------|-------|------|---------|----------------|-------|
| | <30 | 31-40 | 41-50 | 51-60 | 61+ | | | |
| | (% of Respondents) | | | | | | | |
| Education & extension | 9.1 | 21.8 | 18.7 | 18.2 | 5.3 | 88 | 9.5 | <0.05 |
| Other | 90.9 | 78.2 | 81.3 | 81.8 | 94.7 | 419 | | |
| Total respondents | 66 | 165 | 128 | 110 | 38 | 507 | | |

¹Total returned = 518. Questions left blank were omitted from analysis.

²Respondents were allowed to choose multiple answers. "Other" indicates any combination of methods that does not include the use of the item mentioned.

TABLE 21. Educational level and institutional fields most likely surveyed for present/future work by survey respondents¹

| Field ² | Highest degree attained | | | | Row no. | X ² | P |
|--------------------|-------------------------|-----------|---------|-----------|---------|----------------|-------|
| | Associates ³ | Bachelors | Masters | Doctorate | | | |
| | (% of Respondents) | | | | | | |
| Nutrition | 11.1 | 29.7 | 50.0 | 37.3 | 194 | 9.1 | <0.05 |
| Other | 88.9 | 70.3 | 50.0 | 62.7 | 311 | | |
| Total respondents | 9 | 37 | 86 | 373 | 505 | | |

¹Total returned = 518. Questions left blank were omitted from analysis.

²Respondents were allowed to choose multiple answers. "Other" indicates any combination of methods that does not include the use of the item mentioned.

³Includes high school diplomas and associates of science and the arts.

TABLE 22. Presence of a placement center and opinion on the need for a placement service compared with institutional fields most likely surveyed for present and future work by survey respondents¹

| Field ² | No | Yes | Row no. | X ² | P |
|---|------------------------|------|---------|----------------|-------|
| | — (% of Respondents) — | | | | |
| Presence of institutional placement service | | | | | |
| Poultry health ³ | 28.7 | 17.8 | 96 | 5.9 | <0.03 |
| Other | 71.3 | 82.2 | 382 | | |
| Total respondents | 101 | 377 | | | |
| Opinion: Does PSA need a placement service? | | | | | |
| Poultry health ³ | 10.1 | 22.0 | 98 | 5.1 | <0.03 |
| Other | 89.9 | 78.0 | 385 | | |
| Total respondents | 69 | 414 | 483 | | |

¹Total returned = 518. Questions left blank were omitted from analysis.

²Respondents were allowed to choose multiple answers. "Other" indicates any combination of methods that does not include the use of the item mentioned.

³Also includes the areas of immunology and pathology.

TABLE 23. Acceptable price and production fields most likely surveyed for present/future work by survey respondents¹

| Field ² | Acceptable price for association placement service ³ | | | | | | Row no. | X ² | P |
|------------------------|---|------|------|------|------|------|---------|----------------|-------|
| | \$0 | \$10 | \$20 | \$30 | \$40 | \$50 | | | |
| | — (% of Respondents) — | | | | | | | | |
| Processing & marketing | 23.8 | 17.2 | 20.6 | 21.2 | 6.7 | 7.0 | 65 | 12.0 | <0.05 |
| Other | 76.2 | 82.8 | 79.4 | 78.8 | 93.3 | 93.0 | 348 | | |
| Total respondents | 21 | 99 | 97 | 66 | 15 | 115 | 413 | | |

¹Total returned = 518. Questions left blank were omitted from analysis.

²Respondents were allowed to choose multiple answers. "Other" indicates any combination of methods that does not include the use of the item mentioned.

³Zero price response represents responses marked "free" or "zero."

TABLE 24. Age and production fields most likely surveyed for present and future work by survey respondents¹

| Field ² | Age (yr) | | | | | Row no. | X ² | P |
|------------------------|------------------------|-------|-------|-------|------|---------|----------------|-------|
| | <30 | 31–40 | 41–50 | 51–60 | 61+ | | | |
| | — (% of Respondents) — | | | | | | | |
| Processing & marketing | 27.3 | 12.1 | 13.3 | 13.6 | 18.4 | 77 | 9.6 | <0.05 |
| Other | 72.7 | 87.9 | 86.7 | 86.4 | 81.6 | 430 | | |
| Total respondents | 66 | 165 | 128 | 110 | 38 | 507 | | |

¹Total returned = 518. Questions left blank were omitted from analysis.

²Respondents were allowed to choose multiple answers. "Other" indicates any combination of methods that does not include the use of the item mentioned.

TABLE 25. Educational level and production fields most likely surveyed for present and future work by survey respondents¹

| Field ² | Highest degree attained | | | | Row no. | X ² | P |
|------------------------|-------------------------|-----------|---------|-----------|---------|----------------|-------|
| | Associates ³ | Bachelors | Masters | Doctorate | | | |
| | — (% of Respondents) — | | | | | | |
| Processing & marketing | 22.2 | 40.5 | 19.8 | 11.3 | 76 | 24.9 | <0.05 |
| Other | 77.8 | 59.5 | 80.2 | 88.7 | 429 | | |
| Total respondents | 9 | 37 | 86 | 373 | 505 | | |

¹Total returned = 518. Questions left blank were omitted from analysis.

²Respondents were allowed to choose multiple answers. "Other" indicates any combination of methods that does not include the use of the item mentioned.

³Includes high school diplomas and associates of science and the arts.

TABLE 26. Presence of a placement center and opinion on the need for a placement service compared with production fields most likely surveyed for present and future work by survey respondents¹

| Field ² | No | Yes | Row no. | X ² | P |
|---|------------------------|------|---------|----------------|-------|
| | – (% of Respondents) – | | | | |
| Presence of institutional placement service | | | | | |
| Production, applied science | 14.9 | 24.7 | 108 | 4.4 | <0.05 |
| Other | 85.1 | 75.3 | 370 | | |
| Total respondents | 101 | 377 | 478 | | |
| Opinion: Does PSA need a placement service? | | | | | |
| Production, applied science | 11.6 | 24.2 | 108 | 5.4 | <0.03 |
| Other | 88.4 | 75.8 | 375 | | |
| Total respondents | 69 | 414 | 483 | | |
| Opinion: Would you use a PSA placement service? | | | | | |
| Production, applied science | 10.8 | 25.2 | 106 | 9.7 | <0.01 |
| Other | 89.2 | 74.8 | 373 | | |
| Total respondents | 102 | 377 | 479 | | |

¹Total returned = 518. Questions left blank were omitted from analysis.

²Respondents were allowed to choose multiple answers. "Other" indicates any combination of methods that does not include the use of the item mentioned.

Twenty percent of respondents were interested in poultry health, which varied with the presence of an institutional placement service (Table 22; $\chi^2 = 5.9$; $P < 0.03$) and the opinion of whether PSA needs a placement service (Table 22; $\chi^2 = 5.1$; $P < 0.03$). A greater percentage of those who did not have an institutional placement service or thought that PSA needed a placement service were interested in poultry health than those that did have a placement center or did not think PSA needed one.

Production-oriented fields sought by survey respondents included processing and marketing, production, or other applied sciences. Overall, 15% of survey respondents were interested in processing or marketing, a number that decreased with the suggested price for a PSA placement service (Table 23; $\chi^2 = 12.0$; $P < 0.05$) and age after 30 (Table 24; $\chi^2 = 9.6$; $P < 0.05$). Twenty-seven percent of members under 30 were interested in marketing, which could reflect the greater demand for specialists in further processed foods or marketing in a global economy (Pardue, 1997). Interest in processing and marketing also varied with degree attained; over 40% of respondents with only a bachelor's degree were interested in marketing, whereas only 11% of doctorates were interested in marketing (Table 25; $\chi^2 = 24.9$; $P < 0.05$). This result may indicate that at least some PSA members were involved with industry sales. Overall, 22% of respondents were interested in production or applied sciences, a percentage that varied with the presence of institutional placement service (Table 26; $\chi^2 = 4.4$; $P < 0.05$), respondent desire for a PSA placement service (Table 26; $\chi^2 = 5.4$; $P < 0.025$), and the respondents' willingness to use a placement service (Table 26; $\chi^2 = 9.7$; $P < 0.01$). A greater percentage of respondents who experienced an institutional placement center favored and would use a PSA placement center and were interested in production sciences more than those that did not have an institutional placement center and would not favor one sponsored by PSA.

Summary and Conclusions

A vast majority of respondents in the PSA survey favored the creation of a placement service for assisting

members to find career opportunities. The younger members would be willing to pay between \$10 and \$20 for such a service, whereas the senior members would be willing to pay between \$40 and \$50 for a placement service. However, between 5 and 14% of the respondents indicated that they would not be interested in a placement service, a minority that should be considered when calculating fees. Trade journals and professors were the most common methods of searching for position openings, suggesting that perhaps a monthly bulletin or newsletter to be mailed with the journal would be most advantageous. Members who choose to receive job listings may indicate their desire on renewal forms, whereas those only desiring to receive *Poultry Science* may avoid the additional expense. It would be interesting to determine if an interactive addition to the PSA homepage would also be beneficial toward connecting employers with graduates, as the Internet was not included in the survey.

In conclusion, a clear theme that is shown by the data is that the membership likes the idea of a placement service, is willing to pay something for it, and would use it if it were available. Of interest also is the sources that members can use to find positions. The role of the professor as a network resource is highlighted.

ACKNOWLEDGMENTS

This research was supported by Hatch grant H8311 administered by the Texas Agricultural Experiment Station, Texas A&M University (College Station, TX 77843). We wish to thank S. L. Whitlow for her assistance in collecting and organizing the survey responses and A. K. Reinert for assistance in preparing the manuscript. K.G.M. is supported by a Pilgrim's Pride Fellowship (Pilgrim's Pride, Pittsburg, TX, 75686). The authors also wish to thank C. R. Creger, Poultry Science Dept., Texas A&M University (College Station, TX 77843), R. D. Reynnells, USDA/CREES/PAS, (Laurel, MD 20707), and Bob Schmidt, Poultry Science Association, (Savoy, IL 61874) for their support of this project. A portion of this work was presented previously (Martin et al., 1993).

REFERENCES

- American Society for Microbiology, 1992. Placement service active despite recession. *ASM News* 58:148-149.
- Beck, M. M., 1992. Status of poultry science departments and poultry research within combined departments. *Poultry Sci.* 71:1328-1331.
- Broder, J. M., and J. E. Houston, 1986. Employer assessments of graduates. *NACTA J.* 30:18-22.
- Climenson, J. D., 1992. A student's perspective on issues in curricula. *Poultry Sci.* 71:1319-1321.
- Cochran, W. G., 1954. Some methods for strengthening the common χ^2 tests. *Biometrics* 10:417-451.
- Cook, M. E., 1992. Current teaching programs in poultry science. *Poultry Sci.* 71:1313-1315.
- Cook, R. E., 1988. Poultry research programs in the future. *Poultry Sci.* 67:890-896.
- Gallagher, R. P., A. Golin, and K. Kelleher, 1992. The personal, career, and learning skills needs of college students. *J. College Student Devel.* 33:301-309.
- Marks, H., and M. A. Ottinger, 1992. Symposium: Issues facing the Poultry Science Association, Inc.—Education and research in poultry science. *Poultry Sci.* 71:1306-1307.
- Martin, G. P., S. C. Ricke, S. L. Whitlow, and R. Reynnells, 1993. The development of a poultry science association placement service. *Poultry Sci.* 72(Suppl. 1):33. (Abstr.).
- Minish, R. M., A. A. Hertzler, and R. B. Frary, 1993. Transferable job skills for current and future employment of food and nutrition alumni: An exploratory study. *Topics Clin. Nutr.* 8:83-89.
- Pardue, S. L., 1997. Educational opportunities and challenges in poultry science: Impact of resource allocation and industry needs. *Poultry Sci.* 76:938-943.
- Pescatore, A. J., 1988. Role of teaching programs. *Poultry Sci.* 67:879-882.
- Raber, L., 1999. ChemJobs offers job seekers more options. *Chem. Eng. News* 77(29):92.
- SAS Institute, 1985. SAS®/STAT Guide for Personal Computers. Version 6 Edition. SAS Institute Inc., Cary, NC.
- Snetsinger, D. C., 1992. Poultry science training—what industry needs. *Poultry Sci.* 71:1308-1312.
- Sunde, M. L., 1969. Poultry science—today, tomorrow. *Poultry Sci.* 48:3-8.
- Weber, G. M., T. J. Hoban, P. A. Kendall, and L. S. Bull, 1995. Consumer concerns about modern technology in agriculture: considerations for undergraduate and graduate teaching. *J. Anim. Sci.* 73:2727-2732.
- Zey, M., A. Luedke, and S. Murdock, 1999. Changing employment demands and requirements for college graduates: Focus group interviews with industry, agency, and school district representatives in Texas. Report to the Office of the Chancellor, the Texas A & M University System. Strategic Policies Research Group: the Texas A&M University System, College Station, TX.