

ARCPACS: A decade of progress

G. E. Richards, CPAg,* and Jean M. MacCubbin, CPSS

ABSTRACT

The American Registry of Certified Professionals in Agronomy, Crops, and Soils (ARCPACS) became operational in 1977 as a credentialing organization for agronomists, crop scientists, and soil scientists. This is a report of the progress and accomplishments of ARCPACS over the last 10 yr. The ARCPACS Board of Directors has set minimum educational and experience requirements for certification, developed a program for credit by examination, and established a policy of continued education to maintain certification. Through the end of 1987, 2965 individuals have been certified. Thirty-one organizations have accepted the ARCPACS purposes and code of ethics and become affiliated chapters. Thirty-one states or agencies have established laws or regulations regarding practice in the agronomic sciences, which emulate ARCPACS certification requirements; 13 states cite ARCPACS qualifying criteria in rules/regulations. Employers and governmental agencies use the ARCPACS Registry of Certified Professionals as a source of qualified practitioners.

THE American Registry of Certified Professionals in Agronomy, Crops, and Soils (ARCPACS) is a member service of the American Society of Agronomy (ASA). Its purposes are:

1. To develop standards and procedures for recognition of persons qualified as professionals in agronomy, crops, and soils
2. To maintain a registry of persons so qualified for the welfare of the general public

The program came into being as a result of member demands for a professional credentialing program for agronomic scientists. A developmental history of ARCPACS has been presented elsewhere (Openshaw, 1980-1981) and will be only briefly reviewed. The focus of this paper will be on the role ARCPACS has played in establishing the professional identity of agronomists, crop scientists, and soil scientists during its first 10 yr, as well as its impact on other disciplines.

In 1961 the Soil Science Society of America (SSSA) started a program to certify soil scientists (Olsen et al., 1962). Its purpose was to improve undergraduate education by certifying graduating seniors who met specific course requirements as soil scientists. Soon the committee on Training of Soil Scientists, which operated the program, received requests for certification from persons at

G.E. Richards, Univ. of Arkansas, Southeast Res. and Ext. Center, P.O. Box 3508, Monticello, AR 71655; and J.M. MacCubbin, American Society of Agronomy, 677 S. Segoe Rd., Madison, WI. 1987 and 1988 Chair of the ARCPACS Board of Directors and ARCPACS Director/Coordinator, respectively. Published with the approval of the Arkansas Agric. Exp. Stn. Received 16 Sept. 1988. *Corresponding author.

Published in *J. Agron. Educ.* 18:21-26 (1989).

all educational degree levels. The SSSA program was unable to accommodate these requests.

By 1965 both agronomists and soil scientists were discussing ways to become professionally identified before the public and to receive recognition from their employers as professionals (Openshaw, 1980-1981). Their concerns were (i) any person could claim to be an agronomist, (ii) other professionals were practicing in the agronomic sector, and (iii) employers (particularly industry) often failed to recognize them as professionals because there was no licensing or credentialing body (Openshaw, 1980-1981).

This matter was studied and developed by ASA for the next several years. A certifying body was named and the first board of directors was appointed in 1975 (ASA, 1976) (Table 1). The Board established standards, certification procedures, code of ethics, articles of incorporation, and by-laws (Openshaw, 1980-1981; ASA, 1986). ARCPACS was incorporated in the state of Wisconsin on 24 Sept. 1976 (ASA, 1977). Dr. Martin D. Openshaw was hired by ASA to implement the program. He became the first director of ARCPACS and began his duties at ASA headquarters in Madison on 21 July 1977. Thus, ARCPACS took its place among organizations seeking to improve the professional status, performance, and recognition of practitioners by registration or certification. Since the early 1970s there has been an increase in organizations that have started, or are investigating the possibility of establishing a certification program for their respective discipline. A chronological listing of other professional, agriculturally related credentialing organizations is displayed in Table 2.

IMPACT OF ARCPACS

Acceptance

The impact of ARCPACS may be assessed through the acceptance of its objectives and purposes by other organizations, by the acceptance of the credentials of registrants by employers, and by the citing of ARCPACS qualifications by agencies of government.

Thirty-one organizations have accepted the ARCPACS purposes and code of ethics and associated themselves as affiliated chapters (Table 3). These chapters are gen-

Table 1. First ARCPACS Board of Directors.

Agronomy sub-board	Crops sub-board	Soils sub-board
B.R. Bertramson	W.H. Daniel	R.W. Johnson
J.C. Engibous††	M.A. Massengale	G.B. Lee
R.F. Holland	D.E. McCloud‡	D.L. Lorio
R.W. Howell	D.L. Smith	M.D. Openshaw‡
N.R. Usherwood	R.E. Wagner	A.L. Page

† Board chair.

‡ Sub-board chair.

Table 2. Certification program administered by professional organizations.

Year began	Program name (organization)
1936-1937	Accredited Farm Managers and Rural Appraisers (Am. Soc. of Farm Managers and Rural Appraisers)
1956	Professional Meteorologists (Certified Consulting Meteorologist Program, Am. Meteorological Soc.)
1963	Professional Geologists (Am. Inst. of Professional Geologists)
1970	Am. Registry of Professional Entomologists (Entomological Soc. of Am.)
1971	Golf Course Superintendents (GCSAA Certification Program, Golf Course Superintendents Assoc. of Am.)
1973	Certified Photogrammetrists (Evaluation for Certification, Am. Soc. of Photogrammetry and Remote Sensing)
1977	Certified Professional Chemists, Chemical Engineers and Certifcees-in-Training (Natl. Certification Commission in Chemistry and Chemical Engineering, Am. Inst. of Chemists)
1977	Associate and Certified Professional Agronomists, Crop Scientists/Specialists, and Soil Scientists/Specialists/Classifiers (Am. Registry of Certified Professionals in Agronomy, Crops, and Soils, Board of Directors, ASA)
1978	Certified Range Management Consultants (Range Consultant Review Panel, Soc. for Range Management)
1979	Certified Environ. Professionals (Certification Review Board, Natl. Assoc. of Environ. Professionals)
1981	Certified Professional Erosion and Sediment Control Specialists (Certification Review Panel, Soil and Water Conserv. Soc.)
1982	Professional Hydrologists and Hydrogeologists (Am. Inst. of Hydrology)

erally state professional groups of soil scientists or soil classifiers.

The American Registry of Professional Entomologists has adopted and is beginning to implement the ARCPACS recertification program in its credentialing program for registered professional entomologists. The ARCPACS director has been consulted by similar organizations to assist in initiating their own certification program. Foreign organizations have also looked to ARCPACS as a model. The Chilean Society of Agronomy accepted the ARCPACS Code of Ethics in total as its own.

Thirty-one states or subdivisions thereof have established laws or regulations regarding practitioners in areas covered by ARCPACS. These regulations either require or recommend the use of ARCPACS-certified professionals or have established qualifications of practitioners that are the same or similar to those of ARCPACS (Table 4). Most of these regulations occurred within the last 3 to 4 yr due to federal guidelines and regulations such as the Federal Clean Water Act and amendments, FCWA (1972, 1987); National Environmental Protection Act, NEPA (1976); Resource Conservation and Recovery Act, RCRA (1976); Surface Mining and Conservation Reclamation Act, SMCRA (1976); Comprehensive Environmental Response Compensation and Liability Act, "Superfund," CERCLA (1980); and Food Security Act, FSA (1985). A number of states have established registration or licensing laws covering the agronomic profession, particularly soil science (Table 5).

Some employers have either made ARCPACS certification a requirement for employment or have strongly recommended it (Standard Oil Co., Potash & Phosphate Instit., CENEX, and Growmark, Inc.). The ASA placement service routinely receives position announcements that include ARCPACS certification as a requirement.

Table 3. ARCPACS-affiliated chapters.

Date affiliated	Name (inclusive states)
30 Apr. 1980	NJAPSS—New Jersey Assoc. of Professional Soil Scientists
29 May 1980	ISCA—Illinois Soil Classifiers Assoc.
12 June 1980	PSCAA—Professional Soil Classifiers Assoc. of Alabama
14 June 1980	WSPSS—Washington Soc. of Professional Soil Scientists
14 June 1980	SCAM—Soil Classifiers Assoc. of Michigan
30 Sept. 1980	SSSSNE—Soc. of Soil Scientists of Southern New England (CT, RI, and MA)
14 Oct. 1980	WVAPSS—West Virginia Assoc. of Professional Soil Scientists
13 Dec. 1980	OSSS—Oregon Soc. of Soil Scientists
25 Mar. 1981	PSSAC—Professional Soil Scientists Assoc. of California
14 May 1981	KASC—Kentucky Assoc. of Soil Classifiers
14 May 1981	PAPAA—Pennsylvania Assoc. of Professional Soil Scientists
14 May 1981	PSCI—Professional Soil Classifiers of Iowa
15 Sept. 1981	AOP—Assoc. of Ohio Pedologists
19 Jan. 1982	NSPSS—Nebraska Soc. of Professional Soil Scientists
10 May 1982	IAPSC—Indiana Assoc. of Professional Soil Classifiers
10 May 1982†	MAPSC—Minnesota Assoc. of Professional Soil Classifiers
2 Oct. 1982	ESP—Empire State Pedologists (NY)
16 July 1983	MAPSS—Missouri Assoc. of Professional Soil Scientists
15 Aug. 1983	PSCASD—Professional Soil Classifiers Assoc. of South Dakota
7 Oct. 1983	WSPSS—Wisconsin Soc. of Professional Soil Scientists
29 Nov. 1983	PSSAT—Professional Soil Scientists Assoc. of Texas
10 July 1984	SSSNNE—Soc. of Soil Scientists of Northern New England (NH, VT, and ME)
30 Oct. 1984	SSSNC—Soil Science Soc. of North Carolina
10 June 1985	FAPSC—Florida Assoc. of Professional Soil Classifiers
10 June 1985	ISSA—Idaho Soil Scientists Assoc.
18 June 1985	KAPSC—Kansas Assoc. of Professional Soil Classifiers
16 Sept. 1985	NAICC—Natl. Alliance of Independent Crop Consultants
2 Sept. 1986	ASPSS—Alaska Soc. of Professional Soil Scientists
16 Apr. 1987	PSSAO—Professional Soil Scientist Assoc. of Oklahoma
10 June 1987†	MAPSS—Minnesota Assoc. of Professional Soil Scientists
16 Dec. 1987	NHACSS—New Hampshire Assoc. of Consulting Soil Scientists
23 May 1988	MAAPSS—Mid-Atlantic Assoc. of Professional Soil Scientists

† Name change in 1987 resulted in reapplication under new name.

The ASA headquarters office regularly receives requests (25 in 1987) for the names of professionals qualified to practice in a given specialty. To meet this demand, ARCPACS maintains the Consultant's Directory, a file of specialties in which members are deemed competent and available to consult. ARCPACS compiles lists of registrants by specialty and/or geographic area and makes them available to interested parties.

Enhancing Professionalism

In the past 11 yr, specific core requirements have been developed to establish minimum credit hours for certification. However, for those with degrees in related fields, an examination is provided. It gives these applicants an opportunity to demonstrate that they have obtained a level of knowledge appropriate to the Bachelor of Science degree in the area of certification via some other means.

In addition to establishing and continually strengthening the standards for certification, the ARCPACS Board has acted to protect the value of certification and the ARCPACS name by (i) denying renewal of certification when it has been demonstrated that a person failed to comply with the Code of Ethics, (ii) warning registrants who misuse the ARCPACS name or logo for advertising purposes, and (iii) notifying agencies when it appears that

Table 4. State programs that regulate practice in agronomic sciences.

State	Program/area cited (agency)
AR	Registered Soil Classifier (Board of Registration for Professional Soil Classifiers)
CA†	Registered Soil Erosion and Sediment Control Specialists (state resolution administered by counties)
CT	Certified Soil Scientist/wetlands determinations (Dep. of Environ. Protection, Div. of Water Resour.)
DE†	Licensed Site Evaluator/on-site waste water treatment and disposal, Class D License (DNR and Environ. Control)
FL	Registered Soil Scientist (Dep. Environ. Resour., progress unknown)
IN†	Certified Soil Scientist/Specialist/Classifier/on-site sewage disposal (Board of Health, Div. of Water Pollution)
KY†	Registered Soil Scientist/Classifiers/identification of prime farmland and postmining reconstruction (Dep. Surface Mining, Reclamation and Enforcement, KY USDA-SCS Ram no. 86)
LA†	Registered Soil Scientist/storage treatment and disposal of drilling and oil field waste (DNR)
MA†	Certified Soil Scientist/sewage disposal systems (Dep. of Environ. Quality and Engineering)
ME	Registered Soil Scientist (Board of Certification for Geologists and Soil Scientists)
MI	Soil Erosion and Sediment Control (Bureau of Water Quality and Engineering, administered by counties)
MN	Certified Soil Scientist/land treatment of hazardous waste (Pollution Control Agency)
MO†	Registered Soil Tester/on-site waste water systems (DNR, Div. of Environ. Quality)
MO†	Registered Soil Scientist/mining permit applications (Land Reclamation Program)
MS	Registered Soil Scientist/Classifier (Dep. of Agric. and Commerce, Div. of Plant Industry)
NC	Certified Soil Scientist (DNR and Community Dev., Div. of Environ. Management)
ND	Registered Soil Classifier (Board of Registration for Professional Soil Classifiers)
NE	Licensed Fertilizer Applicators/proposed
NE	Soil Erosion and Sediment Control/proposed certification (Natural Resour. Commission)
NH	Qualified Soil Scientist, voluntary (State Conserv. Commission)
NH†	Registered Soil Scientist/soil-type/lot size, high intensity soil mapping (Board of Natural Scientists)
NJ	Registered Soil Scientist (Soil and Resour. Dev.)
NJ	Qualified Professionals (Dep. Environ. Protection, Div. of Coastal Resour.)
PA	Registered Soil Erosion and Sediment Control Specialists/earth disturbances (Div. of Soil Resour. and Erosion Control)
PA	Registered Soil Scientists/Classifiers/proposed (Board of Registration of Soil Classifiers)
RI†	Soil Scientist/soil-type land surveys
SC†	Registered Soil Classifiers (Soil and Resour. Dev., Land Resour. and Conserv.)
VA	Registered Soil Scientist (Dep. of Commerce, Board of Professional Soil Scientists)
WA†	Certified Soil Scientist (Board of Health, Office of Environ. Health)
WI†	Soil Tester/Site Evaluator/domestic waste disposal, on-site waste disposal (Dep. Health, Industry and Labor Relations)
WY†	Certified Soil Scientist/mining permits and reclamation (Dep. of Environ. Quality, Land Quality Div.)

† Programs that recognize ARCPACS certification.

misuse or misrepresentation of the ARCPACS credential has occurred.

From early in its history, ARCPACS has sponsored symposia on topics appropriate to its mission. The first was in 1979 at the ASA annual meeting in Ft. Collins, CO. Since then, seven more programs have been presented at ASA annual meetings. The ARCPACS Board has established a policy of developing programming of interest to registrants for each annual meeting (Table 6).

It is tenant of ARCPACS that to remain certified one must maintain their professional and technical skills. Initial certification is valid for 5 yr and is renewed annual-

Table 5. Registration and certification programs administered by state licensing professional organizations.

State	Program (organization†)
CT	Certified Soil Scientist (SSSSNE), recognized by Dep. of Environ. Protection, inland wetlands determinations
IL	Certified Soil Classifiers (IASSC)
IN	Registered Soil Scientists (IAPSC), in progress, DNR
MI	Certified Soil Classifier (SCAM)
NC	Certified Soil Scientist (NCAPSS), DNR, Div. of Environ. Management
PA	Licensed Soil Erosion and Sediment Control Specialists and Licensed Sewage Installers (Penn. Land Treatment Contractors Assoc.)
OR	Certified Soil Scientist/Soil Consultant (OSPSS)
WI	Certified Soil Scientists/Classifiers (WSPSS), Dep. of Health, Industry, and Labor Relations, sewage disposal and design.

† Refer to Table 3 for complete name of organization.

Table 6. Symposia sponsored by ARCPACS at ASA annual meetings.

Year	Meeting location	Symposium title (cosponsor)
1979	Ft. Collins, CO	Agronomists in action: solving problems, serving people
1981	Atlanta, GA	Educating agronomists to meet their worldwide responsibility (Div. A1)
1983	Washington, DC	Why should we be in the business of recertification? (Div. A1a)
1985	Chicago, IL	Agronomic consultants (Div. A4 and A7)
1987	Atlanta, GA	Exploring the competitive job market (Comm. ACS 527)
1988	Anaheim, CA	Waste Management Professionals (Div. A5) Motivation and professionalism (Div. A1, A4, and Comm. ACS 526) Open discussion: a decade of history

ly by payment of the required fees. During this period one is expected to accumulate 9.0 continuing education units (CEU's) through participation in various professional and personal development activities (ASA, 1986). The four major areas of the professional maintenance and recertification program are (i) continuing education, (ii) publications, (iii) professional society participation, and (iv) other professional activities. Certified professionals must accumulate CEU's in at least two of these areas. For those unable to attend professional meetings, field days, etc., the ARCPACS Board will consider an individual personal development program suggested by a registrant.

To encourage young professionals to become certified, a procedure to certify associate professionals (formerly professionals-in-training) was initiated in 1977 and 1978 (ASA, 1988). This credential is similar to the Engineering-in-Training credentials offered by state licensing boards for engineers, as it allows one to be recognized while acquiring the necessary experience to become a fully certified professional.

Since 1982 the ARCPACS office has processed applications and provided administrative and promotional services to implement the Certified Professional Erosion and Sediment Control Specialist (CPESC) program for the Soil and Water Conservation Society (formerly Soil Conservation Society of America). The ARCPACS procedures and policies were widely accepted in establishing the CPESC program (ASA, 1986).

A directory of certified professionals was first pub-

Table 7. ARCPACS services.

Year	Service
1977	Certificates and wallet cards
1979	ARCPACS logo items Business cards Professional embosser/seal and rubber stamp Symposia at annual meeting Computerization of records and processing Booth at ASA annual meeting
1980	International Experience Directory, ARCPACS only Chapter affiliation Certification printed on convention badges
1981	Consultants' Directory, computerized
1983	Professional maintenance and recertification program Soil Classifier area added
1984	Professional-in-Training upgraded to Associate Professional
1985	Int. Directory, combined with ASA
1986	Lapel pins, recognition of recertification

lished in 1978 and has been republished periodically. A directory of those with international experience has also been developed, as well as a directory of state soil scientist associations.

A large percentage of ARCPACS registrants are involved in consulting. ARCPACS has provided services to fill the professional need. Services provided to registrants include (i) a logo, (ii) a rubber stamp and metal embosser, (iii) business cards, (iv) referral service, (v) a monthly newsletter (*Agronomy News*), (vi) news release for new registrants, and (vii) graduating senior packets promoting the Society, professionalism, and ARCPACS. A listing of services by year of availability is included in Table 7.

Professional liability insurance, as an additional service, has been investigated, but to date a satisfactory program has not been located.

MAKE-UP OF THE REGISTRY: THEN AND NOW

The first two applications were received on 10 Jan. 1977. They were from Drs. B.R. Bertramson and R.W. Howell. The first group of completed and processed applications was sent to the ARCPACS Board for review on 13 Sept. 1977 and certification was granted on 27 September to 16 individuals. This first group to be certified is listed in Table 8. Certificate 1 was reserved for Dr. Fred. L. Patterson, who was ASA president when

Table 8. First group certified by ARCPACS, 27 Sept. 1977.

Certificate no.	Name of individual	Area of certification
2	James C. Engibous	CPAg
3	B.R. Bertramson	CPAg
5	Donald M. Smith	CPAg/CS
14	M.D. Openshaw	CPAg/SS
15	M.A. Massengale	CPAg/CS
19	G.E. Richards	CPAg/SS
24	R.L. Ellsworth	CPAg
25	Chaing-Chi Chu	CPCS
28	William E. Lonkerd	CPSS
35	George L. Derendinger	CPAg
38	Alvin G. Law	CPAg
41	W.R. Thompson, Jr.	CPAg
42	M.B. Kirkham	CPAg
45	L.J. Sullivan	CPAg
46	Felix M. Entenmann	CPAg
60	Matthias Stelly	CPAg

ARCPACS was incorporated. Certificate 2 was granted to Dr. J.C. Engibous, the first ARCPACS Board chair; and Certificate 3 was presented to Dr. B.R. Bertramson, ARCPACS Board member and outspoken advocate of professionalism. Other certificates were numbered in the order in which applications were received (not in order certification was granted).

By the end of 1977, 241 applications had been received, with 60 processed and the applicants certified. By the end of 1987, 2965 people had been granted certification and 1986 were currently certified. By comparison, 47.5% of ASA members enrolled during the same period retained their membership at the end of 1987. If ARCPACS were a division of ASA, it would be the second largest division in the Society (the largest being Division C-1, Crop Breeding Genetics and Cytology).

The Societies have encountered a loss in membership due to nonrenewals and fewer people joining. By comparison, ARCPACS had a 96% renewal rate compared to 89% for ASA in 1987.

Every ASA president since 1976, except two, has been certified by ARCPACS, as were 6 of the last 12 Presidents of Crop Science Society of America (CSSA) and 10 of the 12 SSSA Presidents. Furthermore, since the inception of the program, 40% of the ASA Board of Directors have been ARCPACS-certified professionals.

The make-up, or profile, of the registry by degree level, employer, and area of certification is given in Table 9. Soil scientists/soils specialists make up the largest segment of the registry with agronomists second, crop scientists third, and soil classifiers fourth. There is a strong representation within the registry from each of the three major classes of employers—government, universities/colleges, and industry. It is encouraging to note that some government and university employees find it advantageous to become certified when they retire and enter private practice or consulting businesses. About 64% of the current registrants hold a B.S. or M.S. as the highest degree. This figure is up slightly from 61% in 1977 and

Table 9. ARCPACS registry profile: 10-yr comparison.

Parameter	1977	1987
	-----%-----	
Degree level		
B.S./B.A.	37.5	35.9
M.S./M.A.	23.3	28.4
Ph.D.	38.9	36.1
Employment		
Government	31.8	31.8
University	21.1	22.2
Institution, association, foundation	2.2	1.9
Industry, business, consultant	37.5	37.4
Student	1.2	2.4
Farmer, grower, rancher	0.8	0.8
Unemployed	0.0	0.1
Other, unspecified	4.6	1.7
Area of certification		
Agronomist	42.7	38.5
Crop scientist/specialist	12.1	10.2
Soil scientist/specialist	45.2	48.9
Soil classifier	0.0	2.4
Society membership		
Member	91.1	83.1
Nonmember	9.9	16.9

is expected to increase further. In 1987, more than 81% of the applications originated from B.S. or M.S. degreed individuals. The ARCPACS Board is gradually being changed through appointment to better represent those with a B.S. or M.S. degree.

Financing ARCPACS has been a concern from the beginning. The fact that the program lost money during the start-up period increased this level of concern. However, ARCPACS has operated on the positive side 4 of the last 5 yr. The lone negative value resulted from an overhead charge due to building alterations.

FUTURE: SUPPORT, PROFESSION, VISION

Many supporters and professionals on the Board believe ARCPACS is on schedule with the progress envisioned initially by Society committees, boards, and officers who determined its need, approved its formation, and financed its start-up. Only when one looks back to the state of professionalism in 1977 can one fully appreciate what has truly been accomplished.

At that time there was no national organization to certify credentials of practitioners in the plant and soil sciences; no consulting directory; no referral service; no state licensing program; few state professional organizations; few programs directed specifically toward enhancing professional performance; no logo; no newsletter; no continuing education requirements; and no standard as to what constitutes a professional level of training.

However, there is so much yet to accomplish.

First, the ARCPACS Board and the Society must continue to increase public awareness of ARCPACS and its registrants in order to improve recognition and professional status, and to encourage rule-makers to use ARCPACS registration as the criterion for defining and selecting qualified practitioners.

Second, the Board must continue to strengthen certification requirements. It needs to examine the need to raise core requirements, and to critically evaluate the depth and appropriateness of the professional experience of applicants. It must move toward a required written examination for all applicants to improve the professional status and credibility of certified professionals. The CPESC program has already made this decision and an exam becomes mandatory in 1989 (MacCubbin, 1987).

Third, ARCPACS must meet registrant's current and future needs. The ARCPACS Board regularly receives requests and suggestions for services that need to be investigated or implemented. Because of the diversity of the expertise of the registry, this input is appropriate and is encouraged by the Board. All of these suggestions have been reviewed and many have implemented. Some suggestions are not within the purpose and objectives of ARCPACS. Others are still under consideration or have been tabled as being too expensive, inappropriate, or not representative of needs of the registry. The most common request received from the practicing agronomists is for specific and more appropriate programming at the annual meetings.

Fourth, the ARCPACS Board may soon need to consider the concept of certification by specialties—soil fertility, weed control, biotechnology, waste disposal, etc. However, the increasing scope of agronomic activities in public and private sector gives rise to so many specialties that the board could become unyielding if a sub-board were required for each specialty.

Fifth, the ARCPACS Board is frequently requested to evaluate educational and experience credentials of foreign-educated scientists. The exploratory committee of ASA indicated that foreign practitioners would not be certified. However, from the beginning foreign applicants have been considered. Presently, applications from foreign-educated agronomists are handled on a case-by-case basis. But the question still remains: Can ARCPACS realistically be expected to evaluate the credentials of anyone in the world who applies? A fair and uniform policy needs to be established to handle this perplexing request.

Sixth, ARCPACS needs to take the lead in developing and promulgating an accepted definition for agronomist, crop scientist, and soil scientist. In more than one instance, there have been efforts to create, in a particular state, a legal definition of soil scientist that would likely exclude over half of the SSSA membership, or those professionals whose expertise is other than soil classification.

Following his retirement as chair of the ARCPACS Board, Dr. Martin A. Massengale, chancellor of the University of Nebraska, expressed the view that professionals in the agronomic sciences were near a crossroads at which we must make a decision as to the definition of a professional to which we subscribe. One dictionary definition describes professionalism as "the conduct, aims or qualities that characterize or mark a professional person." Another simply defines professionalism as "an activity for gain or livelihood" (Massengale, 1982).

During the period 1977 to 1987, nearly 3000 individuals answered this question by submitting their education and professional experience to peer review and subscribing to a code of ethics. The ARCPACS Boards during this period have laboriously, meticulously, and openmindedly discussed and reviewed procedures, standards, policies, requests, and missions—all in order to strengthen the professional certification program for agronomic scientists. ARCPACS, a program that has grown with the changes and demands of our profession, is now able to demonstrate worldwide recognition and acceptance, and is justified in taking credit for raising the professionalism of agronomists.

We have seen our profession grow beyond the demands of the agricultural sector; the public has come to look to our profession in meeting demands in the urban and environmental areas. In meeting our goals, we have been able to enter these areas with a competent and more diverse profession than envisioned just 10 yr ago.

The work of ARCPACS as a policy-making and review Board continues to be a challenge. The profession is gaining acceptance in areas where multidisciplinary expertise is required, and we vow to continue meeting the challenges facing our profession well into the next century.

REFERENCES

- American Society of Agronomy. 1976. Minutes, ASA Executive Committee. *Agron. J.* 68:168.
- American Society of Agronomy. 1977. Minutes, ASA Board of Directors. *Agron. J.* 69:159.
- American Society of Agronomy. 1986. ARCPACS—Mechanics of certification. ASA, Madison, WI.
- American Society of Agronomy. 1988. ARCPACS brochure. ASA, Madison, WI.
- MacCubbin, J.M. 1987. ARCPACS. *Agronomy News*. November, p. 8.
- Massengale, M.A. 1982. A message to my colleagues. *Agronomy News*. March–April, p. 6.
- Olson, R.A., L.C. Hammond, J.C. Hide, J.R. Love, and W.A. Raney. 1962. Training of Soil Scientists Committee Rep. *Soil Sci. Soc. Am. Proc.* 26:97.
- Openshaw, M.D. 1980–1981. History of ARCPACS. Parts 1–7. *Agronomy News*. March–April 1980 through March–April 1981.