

# CURRICULUM VITAE

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## Antonio P. Mallarino

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### Education

Ph.D., 1988. Crop Production and Physiology, Iowa State University,  
M.S., 1981. Soil Fertility, and Crop Production and Physiology; Iowa State University.  
B.S., 1975. Agronomy and Animal Science, University of Uruguay.

### Employment

2003-present. Professor, Soil Fertility. Agronomy Dep., Iowa State University.  
1998-2002. Associate Professor, Soil Fertility. Agronomy Dep., Iowa State University.  
1993-1997. Assistant Professor, Soil Fertility. Agronomy Dep., Iowa State University.  
1989-1990. Postdoctoral Research Associate, Soil Fertility. Agronomy Dep., Iowa State Univ.  
1991-1992. Assistant Scientist II (1992), Soil Fertility. Agronomy Dep., Iowa State University.  
1981-1988. Associate Professor, Soil Fertility. Dep. of Soils, University of Uruguay.  
1976-1980. Assistant Professor, Soil Fertility. Dep. of Soils, University of Uruguay.  
1974-1975. Instructor (½ time), Soils. Dep. of Soils, Univ. of Uruguay.

### Responsibilities at Iowa State University

#### 1. Research (55% estimated actual dedication):

The research program focuses on developing cost-effective and environmentally sound nutrient management practices for cropping systems of Iowa and the North Central region with emphasis on P, K, micronutrients, lime, and manure P management for conservation tillage systems including calibration of soil and tissue tests, fertilizer and manure placement methods, impacts of nutrient management on soil and P water quality, development of P loss risk assessment tools, and use of precision agriculture technologies. The program integrates conventional field plot and laboratory research with innovative on-farm research and demonstrations utilizing precision agriculture technologies, and it is developed in cooperation with producers, agribusiness, and extension agronomists.

2. Extension (38% estimated actual dedication): Extension activities focus on issue related to crop production and environmental nutrient management mainly for areas emphasized by the applied research program and on supporting state-wide or regional extension programs. The effort involves outreach to producers and agribusiness, training of field extension agronomists, co-responsibility for establishing nutrient management guidelines, and teaching continuing education courses. The activities include presentations in a variety of conferences and workshops targeted to producers or agribusiness, on-farm demonstrations, preparing extension publications and articles, and teaching continuing education short-courses.

3. Teaching (1% estimated actual dedication): The position has no formal resident teaching requirement. A minor resident teaching effort has included teaching four lectures related to phosphorus agronomic and environmental issues of the course Agron/AnSci 543X Environmental Management of Livestock, preparing materials for three chapters of two soil courses of the Long Distance M.S. in Agronomy program, and occasional contributions to undergraduate and graduate courses through invited lectures. Other contributions include advising graduate students in relation to course programs and both preparing

and evaluating questions for the Soils Ph.D. preliminary exams. A significant effort on non-resident continuing education is included with extension activities.

4. International (2% estimated actual dedication): A minor but important effort involves collaborative outreach projects and advising to research project development with various research and education institutions and other organizations in Argentina and Uruguay. The activities relate mainly to use of soil testing and plant analysis, improving soil fertility management for conservation tillage, and use of precision agriculture technologies for nutrient management.

5. Service (4% estimated actual dedication): Significant service activities to ISU and the State of Iowa have been developed mainly in the following areas: Member of the supervisory committee for the Iowa State University Soil Testing and Plant Analysis Laboratory and co-responsible for its recommendations and member of the Science Team of the Iowa Nutrient Reduction Strategy, represent the Iowa Experiment Station and Chair for 2016-2017 at the regional committee NCERA-13 (North-Central Committee for Soil Testing and Plant Analysis) and SERA-17/IEG (Minimizing Phosphorus Losses from Agriculture), represented the Soil Science Society of America and the NCERA-13 soil testing and plant analysis committee at the Oversight Committee for the North American Proficiency Testing Program, advise the Iowa Natural resources Conservation Service and the Department of Natural Resources in relation to agronomic and environmental P management practices.

### **Professional Activities and Memberships**

- Chair, NCERA-13 regional soil testing committee. 1997-1998 and 2016-2017.
- Chair, Soil Science Society of America Committee for the Applied Research Award (2013)
- Chair, Soil Fertility Division (S4), Soil Science Society of America (2012).
- Honorary Member Graduate Faculty of the College of Agriculture, University of Uruguay (since 2012)
- Member, Soil Science Society of America Applied Research Award committee (2011).
- Member (representative of the NCERA-13 regional committee), Oversight Committee for the North American Soil Testing Proficiency Testing Program (NAPT) (S890) of the SSSA. 2009-2011.
- Member, Werner L. Nelson Award Committee (A439) of the ASA. 2007.
- Representative of Iowa State Univ., NCERA-13 regional committee. Since 1994 (Chair 1997-1998).
- Representative of Iowa State Univ., SERA-17/IEG national committee. Since 2000.
- Associate Editor, Soil Science Society of America Journal. 1999-2004.
- Associate Editor, Agronomy Journal. 2000-2005.
- Representative of SSSA, S890 Oversight Committee for the NAPT. 2004-2005.
- Certified Professional Soil Scientist (Soil Science Society of America, ARCPACS).
- Farmland's nutrient management advisory board (1999-2003).
- American Society of Agronomy.
- Soil Science Society of America.
- Soil Science Society of Uruguay.
- Gamma Sigma Delta Honor Society for Agriculture.
- Phi Kappa Phi Honor Society for Science.
- Sigma Xi Honor Society for Scientific Research.

### **Awards and Recognitions**

- Researcher of the Year Award, Fluid Fertilizer Foundation. 2018
- Outstanding Achievement in International Agriculture Award. College of Ag, Iowa State Univ. 2015.
- College of Agriculture (ISU) Dean's Citation for Extraordinary Contributions. 2013
- Lee R. Kolmer Award for Excellence in Applied Research. Iowa State University. 2010.

- Fellow, Soil Science Society of America. 2007
- Soil Science Society of America Applied Research Award. 2007
- Fluid Fertilizer Foundation Werner L. Nelson Award. 2005.
- Fellow, American Society of Agronomy. 2005.
- R. Baker Award (ISU) for contributions to study of P environmental issues. 2004.
- USDA/ARS Secretary Group Award (for contributions to technology transfer). 2004.
- Certificate of Appreciation, Iowa State University Extension. 2003.
- USDA/ARS Secretary Group Award (for contributions to P index development). 2003.
- W. L. Nelson Award for Diagnosis of Yield-Limiting Factor, American Soc. of Agron. 2003.
- Extension Award, Iowa State University - Cooperative Extension Service. 1999.
- Award for Excellence in Graduate Research, Iowa State University. 1988.
- C. R. Weber Award for Excellence in Plant Science, Iowa State University. 1987.
- International Scholar Fellow, World Food Institute, Iowa State University. 1986.

### **Student Advising.**

1. Major Professor at Iowa State University (since 1994): 44 students (16 Ph.D., 28 M.S.).
2. Thesis Director at the University of Uruguay (1976-1986): 33 students.

### **Publications.** [*Asterisks identify Mallarino graduate students or research associates*]

#### 1. Peer-reviewed journal articles, book chapters, and position papers.

##### a. Refereed journal articles (90).

- Groenenboom, S.J.\*, and A.P. Mallarino. 2018. Potassium, sulfur, and liming value of ash co-product from corn stover processing for ethanol production. *Agron. J.* 110:115-126.
- Jones, J.D.\*, and A.P. Mallarino. 2018. Influence of source and particle size on agricultural limestone efficiency at increasing soil pH. *Soil Sci. Soc. Am. J.* 82:271-282.
- Stammer, A.J.\*, and A.P. Mallarino. 2018. Plant tissue analysis to assess phosphorus and potassium nutritional status of corn and soybean. *Soil Sci. Soc. Am. J.* 82:260-270.
- Baffaut, C., N.O. Nelson, J.A. Lory, G.M.M.M.A. Senaviratne, A.B. Bhandari, R.P. Udawatta, D.W. Sweeney, M.J. Helmers, M.W. Van Liew, A.P. Mallarino, and C.S. Wortmann. 2017. Multisite evaluation of APEX for water quality: I. Best professional judgement parameterization. *J. Environ. Qual.* 46:1323-1331.
- Nelson, N.O., C. Baffaut, J.A. Lory, G.M.M.M.A. Senaviratne, A.B. Bhandari, R.P. Udawatta, D.W. Sweeney, M.J. Helmers, M.W. Van Liew, A.P. Mallarino, and C.S. Wortmann. 2017. Multisite evaluation of APEX for water quality: II. Regional parameterization. *J. Environ. Qual.* 46:1349-1356.
- Walker, Z.T., J.A. Coulter, M.P. Russelle, R.T. Venterea, A.P. Mallarino, J.G. Lauer, and M.A. Yost. 2017. Do soil tests help forecast nitrogen response in first-year corn following alfalfa on fine-textured soils? *Soil Sci. Soc. Am. J.* 81:1640-1651.
- Enderson, J.T.\*, A.P. Mallarino, and M.U. Haq\*. 2015. Soybean yield response to foliar-applied micronutrients and relationships among soil and tissue tests. *Agron. J.* 107:2143-2161.
- Woli, K.P., D.A. Ruiz-Diaz, D.E. Kaiser\*, A.P. Mallarino, and J.E. Sawyer. 2015. Field-scale evaluation of poultry manure as a combined nutrient resource for corn production. *Agron. J.* 107:1789-1800.
- Pagani, A.\*, and A.P. Mallarino. 2015. On-farm evaluation of corn and soybean grain yield and soil pH responses to liming. *Agron. J.* 107:71-82.
- Oltmans, R.R.\*, and A.P. Mallarino. 2015. Potassium uptake by corn and soybean, recycling to soil, and impact on soil test potassium. *Soil Sci. Soc. Am. J.* 79:314-327.
- Dagna, N.E.\*, and A.P. Mallarino. 2014. Beef cattle manure survey and assessment of crop availability of

- phosphorus by soil testing. *Soil Sci. Soc. Am. J.* 78:1035-1050.
- Arnall, D.B., A.P. Mallarino, M.D. Ruark, G.E. Varvel, J.B. Solie, M.L. Stone, J.L. Mullock, R.K. Taylor, and W.R. Raun. 2013. Relationship between grain crop yield potential and nitrogen response. *Agron. J.* 105:1335-1344.
- Barbagelata, P.A.\*, and A.P. Mallarino. 2013. Field correlation of potassium soil test methods based on dried and field-moist soil samples for corn and soybean. *Soil Sci. Soc. Am. J.* 77:318-327.
- Clover, M.W.\*, and A.P. Mallarino. 2013. Corn and soybean tissue potassium content responses to potassium fertilization and relationships with grain yield. *Soil Sci. Soc. Am. J.* 77:630-642.
- Krueger, K., A.S. Goggi, A.P. Mallarino, and R.E. Mullen. 2013. Phosphorus and potassium fertilization effects on soybean seed quality and composition. *Crop Sci.* 53:602-610.
- Al-Kaisi, M.H., R.W. Elmore, J.G. Guzman, H.M. Hanna, C.E. Hart, M.J. Helmers, E.W. Hodgson, A.W. Lenssen, A.P. Mallarino, A.E. Robertson, and J.E. Sawyer. 2013. Drought impact on crop production and the soil environment: 2012 experiences from Iowa. *J. Soil Water Cons.* 68:19A-24A.
- Allen, B.L.\*, A.P. Mallarino, J.F. Lore, J.L. Baker, and M.U. Haq. 2012. Phosphorus lateral movement through subsoil to subsurface tile drains. *Soil Sci. Soc. Am. J.* 76:710-717.
- Beltrán, M, E. Rivero, G. Cruzate, T. Bosco, and A.P. Mallarino. 2012. Effect of phosphorus level on the availability of some micronutrients in Vertic Argiudoll soil under no-tillage system in Argentina. *J. Env. Sci. Eng.* 1(2A):202-208.
- Krueger, K., A.S. Goggi, R.E. Mullen, and A.P. Mallarino. 2012. Phosphorus and potassium fertilization do not affect soybean storability. *Agron. J.* 104:405-414.
- Pagani, A.\*, and A.P. Mallarino. 2012. Soil pH and crop grain yield as affected by the source and rate of lime. *Soil Sci. Soc. Am. J.* 76:1877-1886.
- Pagani, A.\*, and A.P. Mallarino. 2012. Comparison of methods to determine crop lime requirement under field conditions. *Soil Sci. Soc. Am. J.* 76:1855-1866.
- Rivero, E., G. Cruzate, M. Beltran, S. Russo, and A.P. Mallarino. 2012. Spatial variability of phosphorus and its relationship with some properties of soils in Argentina Republic. *J. Env. Sci. Eng.* 1(6A):797-801.
- Mallarino, A.P., N. Bergmann\*, and D.E. Kaiser\*. 2011. Corn responses to in-furrow phosphorus and potassium starter fertilizer applications. *Agron. J.* 103:685-694.
- Ruiz Diaz, D.A., J.E. Sawyer, and A.P. Mallarino. 2011. On-farm evaluation of poultry manure as a nitrogen source for corn. *Soil Sci. Soc. Am. J.* 75:729-737.
- Kaiser, D.E.\*, A.P. Mallarino, and J. E. Sawyer. 2010. Utilization of poultry manure phosphorus for corn production. *Soil Sci. Soc. Am. J.* 74: 2211-2222.
- Mallarino, A.P., and D.J. Wittry\*. 2010. Crop yield and soil phosphorus as affected by liquid swine manure phosphorus application using variable-rate technology. *Soil Sci. Soc. Am. J.* 74:2230-2238.
- Pedersen, P., G.L. Tylka, A.P. Mallarino, A.E. Macguidwin, N.C. Koval, and C.R. Grau. 2010. Correlation between soil pH, *Heterodera glycines* population densities, and soybean yield. *Crop Sci.* 50:1458-1464.
- Ruiz Diaz, D.A., J.E. Sawyer, D.W. Barker and A.P. Mallarino. 2010. Runoff nitrogen loss with simulated rainfall immediately following poultry manure application for corn production. *Soil Sci. Soc. Am. J.* 74:221-230.
- Bakhsh, A., R.S. Kanwar, J.L. Baker, J. Sawyer, and A.P. Mallarino. 2009. Annual swine manure applications to soybean under corn-soybean rotation. *Trans. Am. Soc. Agric. Biol. Eng.* 52 (3): 751-757.
- Barbazán, M.M.\*, A. P. Mallarino, and J. E. Sawyer. 2009. Liquid swine manure phosphorus utilization for corn and soybean production. *Soil Sci. Soc. Am. J.* 73:654-662.
- Kaiser, D.E.\*, A.P. Mallarino, M.U. Haq\*, and B.L. Allen\*. 2009. Runoff phosphorus loss immediately after poultry manure application as influenced by the application rate and tillage. *J. Environ.*

- Qual. 38:299-308.
- Mallarino, A.P., and S.L. Higashi. 2009. Assessment of potassium supply for corn by analysis of plant parts. *Soil Sci. Soc. Am. J.* 73:2177-2183.
- Mallarino, A.P., S.R. Barcos\*, J.R. Prater\*, and D.J. Wittry\*. 2009. Timing of broadcast phosphorus fertilization for no-till corn and soybean. *Soil Sci. Soc. Am. J.* 73:2143-2150.
- Allen, B.L.\* , and A.P. Mallarino. 2008. Effect of liquid swine manure rate, incorporation, and timing of rainfall on phosphorus loss with surface runoff. *J. Environ. Qual.* 37:125-137.
- Ruiz Diaz, D.A., J.E. Sawyer, and A.P. Mallarino. 2008. Poultry manure supply of potentially available nitrogen with soil incubation. *Agron. J.* 100:1310-1317.
- Sawchik, J.\* , and A.P. Mallarino. 2008. Variability of soil properties, early phosphorus and potassium uptake, and incidence of pests and weeds in relation to soybean grain yield. *Agron. J.* 100:1450-1462.
- Bermudez, M.\* , and A.P. Mallarino. 2007. Impacts of variable-rate phosphorus fertilization based on dense grid soil sampling on soil-test phosphorus and grain yield of corn and soybean. *Agron. J.* 99:822-832.
- Rogovska, N.P.\* , A.M. Blackmer, and A.P. Mallarino. 2007. Relationships between soybean yield, soil pH, and soil carbonate concentration. *Soil Sci. Soc. Am. J.* 71:1251-1256.
- Sawchik, J.\* , and A.P. Mallarino. 2007. Evaluation of zone soil sampling approaches for phosphorus and potassium based on corn and soybean response to fertilization. *Agron. J.* 99:1564-1578.
- Allen, B.L.\* , and A.P. Mallarino. 2006. Relationships between extractable soil phosphorus and phosphorus saturation after long-term fertilizer or manure application. *Soil Sci. Soc. Am. J.* 70:454-463.
- Allen, B.L.\* , A.P. Mallarino, J.G. Klatt\*, J.L. Baker, and M. Camara. 2006. Soil and surface runoff phosphorus relationships for five typical USA Midwest soils. *J. Env. Qual.* 35:599-610.
- Karlen, D.L., E.G. Hurley, S.S. Andrews, C.A. Cambardella, D.W. Meek, M.D. Duffy, and A.P. Mallarino. 2006. Crop rotation effects on soil quality at three northern corn/soybean belt locations. *Agron. J.* 98: 484-495.
- Mallarino, A.P., and R. Borges\*. 2006. Phosphorus and potassium distribution in soil following long-term deep-band fertilization in different tillage systems. *Soil Sci. Soc. Am. J.* 70:702-707.
- Russell, A.E., D.A. Laird, and A. P. Mallarino. 2006. Nitrogen fertilization and cropping system impacts on soil quality in Midwestern Mollisols. *Soil Sci. Soc. Am. J.* 70:249-255.
- Dodd, J.R.\* , and A.P. Mallarino. 2005. Soil-test phosphorus and crop grain yield responses to long-term phosphorus fertilization strategies for corn-soybean rotations. *Soil Sci. Soc. Am. J.* 69:1118-1128.
- Haq, M.U.\* , and A.P. Mallarino. 2005. Soybean grain oil and protein concentrations response to foliar and soil fertilization. *Agron. J.* 97:910-918.
- Kaiser, D.E.\* , A.P. Mallarino, and M. Bermudez\*. 2005. Corn grain yield, early growth, and early nutrient uptake as affected by broadcast and in-furrow starter fertilization. *Agron. J.* 97:620-626.
- Mallarino, A.P., and A.M. Atia\*. 2005. Correlation of a resin membrane soil phosphorus test with corn yield and routine soil tests. *Soil Sci. Soc. Am. J.* 69: 266-272.
- Russell, A.E., D.A. Laird, T.B. Parkin, and A.P. Mallarino. 2005. Impact of nitrogen fertilization and cropping system on carbon sequestration in Midwestern Mollisols. *Soil Sci. Soc. Am. J.* 69:413-422.
- Bermudez, M.\* , and A.P. Mallarino. 2004. Corn response to starter fertilizer and tillage across and within fields having no-till management histories. *Agron. J.* 96:776-785.
- Hansen, D.J., A.M. Blackmer, A.P. Mallarino, and M.A. Wuebker. 2004. Performance-based evaluations of guidelines for nitrogen fertilizer application after animal manure. *Agron. J.* 96:34-41.
- Mallarino, A.P., and D.J. Wittry\*. 2004. Efficacy of grid and zone soil sampling approaches for site-specific assessment of phosphorus, potassium, pH, and organic matter. *Precision Agric.* 5:131-144.
- Wittry, D.J.\* , and A.P. Mallarino. 2004. Comparison of uniform- and variable-rate phosphorus

- fertilization for corn-soybean rotations. *Agron. J.* 96:26-33.
- Balkcom, K.S., A.M. Blackmer, D.J. Hansen, T.F. Morris, and A.P. Mallarino. 2003. Testing soils and cornstalks to evaluate nitrogen management on the watershed scale. *J. Env. Qual.* 32:1015-1024.
- Borges, R. \*, and A.P. Mallarino. 2003. Broadcast and deep-band placement of phosphorus and potassium for soybean managed with ridge tillage. *Soil Sci. Soc. Am. J.* 67:1920-1927.
- Klatt, J.G. \*, A.P. Mallarino, J.A. Downing, J.A. Kopaska, and D.J. Wittry\*. 2003. Soil phosphorus, management practices, and their relationship to phosphorus delivery in the Iowa Clear Lake agricultural watershed. *J. Env. Qual.* 32: 2140-2149.
- Mallarino, A.P. 2003. Field calibration for corn of the Mehlich-3 soil phosphorus test with colorimetric and inductively-coupled plasma emission spectroscopy determination methods. *Soil Sci. Soc. Am. J.* 67:1928-1934.
- Atia, A.M. \*, and A.P. Mallarino. 2002. Agronomic and environmental phosphorus testing for soils receiving swine manure. *Soil Sci. Soc. Am. J.* 66:1696-1705.
- Bermudez, M. \*, and A.P. Mallarino. 2002. Yield and early growth responses to starter fertilizer in no-till corn. *Agron. J.* 94:1024-1033.
- Bianchini, A.A. \*, and A.P. Mallarino. 2002. Soil sampling alternatives and variable-rate liming for a soybean-corn rotation. *Agron. J.* 94:1355-1366.
- Mallarino, A.P., B.M. Stewart, J.L. Baker, J.A. Downing, and J.E. Sawyer. 2002. Phosphorus indexing for cropland: Overview and basic concepts of the Iowa phosphorus index. *J. Soil Water Conserv.* 57:440-447.
- Borges, R. \*, and A.P. Mallarino. 2001. Deep banding phosphorus and potassium fertilizers for corn produced under ridge tillage. *Soil Sci. Soc. Am. J.* 65:376-384.
- Mallarino, A.P., M. U. Haq\*, D.J. Wittry\*, and M. Bermudez\*. 2001. Variation in soybean response to early-season foliar fertilization among and within fields. *Agron. J.* 93:1220-1226.
- Borges, R. \*, and A.P. Mallarino. 2000. Grain yield, early growth, and nutrient uptake of no-till soybean as affected by the phosphorus and potassium placement. *Agron. J.* 92:380-388.
- Haq, M.U. \*, and A.P. Mallarino. 2000. Soybean yield and nutrient composition as affected by early season foliar fertilization. *Agron. J.* 92:16-24.
- Mallarino, A.P., J.M. Bordoli\*, and R. Borges\*. 1999. Phosphorus and potassium placement effects on early growth and nutrient uptake of no-till corn and relationships with grain yield. *Agron. J.* 91:37-45.
- Mallarino, A.P., E.S. Oyarzabal, and P.N. Hinz. 1999. Interpreting within-field relationships between crop yields and soil and plant variables using factor analysis. *Precision Agric.* 1:15-26.
- Bordoli, J.M. \*, and A.P. Mallarino. 1998. Deep and shallow banding of phosphorus and potassium as alternatives to broadcast fertilization for no-till corn. *Agron. J.* 90:27-33.
- Borges, R. \*, and A.P. Mallarino. 1998. Significance of spatially variable soil phosphorus and potassium for early growth and nutrient content of no-till corn and soybean. *Communic. Soil Sci. Plant Anal.* 29:2589-2605.
- Haq, M.U. \*, and A.P. Mallarino. 1998. Foliar fertilization of soybean at early vegetative stages. *Agron. J.* 90:763-769.
- Borges, R. \*, and A.P. Mallarino. 1997. Field-scale variability of phosphorus and potassium uptake by corn and soybean. *Soil Sci. Soc. Am. J.* 61:846-853.
- Mallarino, A.P. 1997. Interpretation of soil phosphorus tests for corn in soils with varying pH and calcium carbonate content. *J. Prod. Agric.* 10:163-167.
- Mallarino, A.P. and M.U. Haq\*. 1997. Topsoil and subsoil potassium as affected by long-term potassium fertilization of corn-soybean rotations. *Communic. Soil Sci. Plant Anal.* 28:1537-1547.
- Mallarino, A.P. 1996. Evaluation of optimum and above-optimum phosphorus supply for corn by analysis of young plants, leaves, stalks, and grain. *Agron. J.* 88:376-380.
- Mallarino, A.P. 1996. Spatial variability patterns of phosphorus and potassium in no-tilled soils for two sampling scales. *Soil Sci. Soc. Am. J.* 60:1473-1481.

- Mallarino, A.P. 1995. Evaluation of excess soil phosphorus supply for corn by the ear-leaf test. *Agron. J.* 87:687-691.
- Mallarino, A.P., and J.R. Webb. 1995. Long-term evaluation of phosphorus and zinc interactions in corn. *J. Prod. Agric.* 8:52-55.
- Mallarino, A.P., and A.M. Blackmer. 1994. Profit-maximizing critical values of soil-test potassium for corn. *J. Prod. Agric.* 7:261-268.
- Mallarino, A.P., and A.M. Blackmer. 1992. Comparison of methods for determining critical concentrations of soil test phosphorus for corn. *Agron. J.* 84:850-856.
- Webb, J.R., A.P. Mallarino, and A.M. Blackmer. 1992. Effects of residual and annually applied phosphorus on soil test values and yields of corn and soybean. *J. Prod. Agric.* 5:148-152.
- Farnham, D.E., A.P. Mallarino, W.F. Wedin, and I.T. Carlson. 1991. Comparison of dinitrogen fixation and nitrogen transfer potentials of four red clover cultivars. *J. Iowa Acad. Sci.* 98:162-166.
- Mallarino, A.P., J.R. Webb, and A.M. Blackmer. 1991. Corn and soybean yields during 11 years of phosphorus and potassium fertilization on a high-testing soil. *J. Prod. Agric.* 4:312-317.
- Mallarino, A.P., J.R. Webb, and A.M. Blackmer. 1991. Soil test values and grain yields during 14 years of potassium fertilization of corn and soybean. *J. Prod. Agric.* 4:560-566.
- Mallarino, A.P., and W.F. Wedin. 1990. Effects of species and proportion of legume on herbage yield and nitrogen concentration of legume-grass mixtures. *Grass Forage Sci.* 45:393-402.
- Mallarino, A.P., and W.F. Wedin. 1990. Nitrogen fertilization effects on dinitrogen fixation as influenced by legume species and proportion in legume-grass mixtures in Uruguay. *Plant Soil* 124:127-135.
- Mallarino, A.P., and W.F. Wedin. 1990. Seasonal distribution of topsoil ammonium and nitrate under legume-grass and grass swards. *Plant Soil* 124:137-140.
- Mallarino, A.P., W.F. Wedin, R.S. Goyenola, C.H. Perdomo, and C.P. West. 1990. Legume species and proportion effects on dinitrogen fixation of legume-grass mixtures. *Agron. J.* 82:785-789.
- Mallarino, A.P., W.F. Wedin, C.H. Perdomo, R.S. Goyenola, and C.P. West. 1990. Nitrogen transfer from white clover, red clover, and birdsfoot trefoil to associated grass. *Agron. J.* 82:790-795.
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b. Peer-reviewed book chapters and position papers (14).

- Gelderman, R.H. and A.P. Mallarino. 2012. Soil Sample Preparation. Chapter 1, Revised October 2012. p. 1.1-1.4 In: Recommended chemical soil test procedures for the North Central region. North Central Regional Publ. No. 221 (Rev.). Missouri Exp. Stn. Publ. SB 1001. Univ. of Missouri. Columbia. Published online <http://extension.missouri.edu/explorepdf/specialb/sb1001.pdf>.
- Bundy, L. G., A. P. Mallarino, and L. W. Good. 2008. Field-Scale tools for reducing nutrient losses to water resources. Chapter 12, p. 159-170. *In* Final Report: Gulf Hypoxia and Local Water Quality Concerns Workshop. 26-28 Sept. 2005. ASABE. St. Joseph, MI.
- Mallarino, A.P., and L.G. Bundy. 2008. Agronomic and environmental implications of phosphorus management practices. Chapter 7, p. 87-104. *In* Final Report: Gulf Hypoxia and Local Water Quality Concerns Workshop. 26-28 Sept. 2005. ASABE. St. Joseph, MI.
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