

Mark J. VanGessel

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Education

- Ph.D., Weed Science, Crop Science Department, Plant Pathology Minor, North Carolina State University. Spring 1992
- M.Sc., Weed Science, Crop and Soil Sciences Department, Michigan State University. Spring 1989.
- B.A., Political Science, Hope College, Holland, MI. September 1978 to May 1982.

Professional Experiences

- Professor/Extension Specialist (Assistant/Associate Professor). Department of Plant and Soil Science, University of Delaware. Since 1995
- Research Post-Doctoral Associate, Plant Pathology and Weed Science Department, Colorado State University. January 1992 to September 1995.
- U.S. Peace Corps Volunteer, Lesotho, southern Africa. April 1983 to August 1985.

Awards and Honors

- SOAR Award (Service, Outreach, Altruism, and Research) from IR-4 Project. 2024.
- Career Distinguished Service Award. Fruit & Vegetable Growers Association of Delaware. 2023.
- Fellow of the Northeastern Weed Science Society. 2018.
- Outstanding Extension Award. Weed Science Society of America. 2017.
- Outstanding Educator Award. Northeastern Weed Science Society. 2015.

Selected Extension Resources (visit <https://www.udel.edu/academics/colleges/canr/cooperative-extension/sustainable-production/weed-science/>)

Regional Extension Publications

Mid-Atlantic Commercial Vegetable Production Recommendations

<https://www.udel.edu/academics/colleges/canr/cooperative-extension/sustainable-production/commercial-crops/vegetable-crops/midatlantic-vegetable-recommendations/>

Control of Large Palmer Amaranth and Common Ragweed in Soybean or Corn. FS-1192

6pp. <https://extension.umd.edu/resource/control-large-palmer-amaranth-and-common-ragweed-soybean-or-corn-fs-1192>

A Spray Tank's Last Check Chart – Soybean

<https://www.udel.edu/content/dam/udelImages/canr/pdfs/extension/sustainable-agriculture/Big3-LastCheckSoybean.pdf>

Considerations for Herbicide Use in Pastures

<https://www.udel.edu/academics/colleges/canr/cooperative-extension/fact-sheets/Considerations-for-Herbicide-Use-in-Pastures/>

Determining presence of glyphosate-resistant horseweed under field conditions.

<https://www.udel.edu/academics/colleges/canr/cooperative-extension/fact->

[sheets/Determining-the-Presence-of-Glyphosate-Resistant-Horseweed-Under-Field-Conditions/](#)

Invited Speaker for Extension Conferences

- New Jersey Agricultural Conference. Atlantic City, NJ
- Great Lakes Fruit and Vegetable Expo. Grand Rapids, MI
- Crop Protection Network. Online seminar
- Mid-Atlantic Fruit and Vegetable Convention. Hershey, PA
- National Resource Conservation Service. Online seminar
- Southeast Virginia Fruit and Vegetable Conference. Suffolk, VA
- Capital Area Fruit and Vegetable Conference. Richmond, VA
- Wild World of Weeds, North Dakota State University. Fargo, ND
- New England Fruit and Vegetable Conference. Manchester, NH
- Empire Fruit and Vegetable Expo. Syracuse, NY
- Virginia Crop Production Association. Richmond, VA
- Northeastern Integrated Pest Management Conference. Philadelphia, PA

Professional Technical Training Sessions – average 3 per year

These programs often allowed in-depth presentations (1 to 2 hrs) on a specific subject to an audience familiar with the topic area.

Extension Workshops (Presenter) – average 3 per year

Workshops are in-depth trainings (often with “hands-on trainings”) that range in length from 45 minutes to half-day, or longer. Workshops require considerable preparation to ensure plants or scenarios to focus the learning. Presentations are more specialized and targeted audiences have considerable agricultural experience.

Farmer/Grower/Manager Educational Programs – average 13 per year

These presentations range from 15 to 45 minutes to a range of audiences (from growers and crop consultants to high school FFA groups). The information presented often relies on research from my program.

Field Day Presentations – average 4 per year

Field day presentations range from the Annual Weed Science Field Day (a half-day guided tour of the weed research plots) to 15-minute demonstration of field research plots conducted at various county sites. Almost all sites/presentations involve plots or demonstrations that were part of research/extension field trials.

24c Registration – supported 28 state labels or renewals since 2015

These are “state labels” a special label for specific local needs and are valid for up to five years. Both EPA and DE Department of Agriculture must approve these labels.

Newsletter Articles (Weekly Crop Update <https://sites.udel.edu/weeklycropupdate/>)
approximately 25 per year

Web-based Resources

GROW-Integrated Weed Management (GROWiwm was formed to address herbicide-resistance with a greater diversity of weed control strategies to complement chemical

use) www.growiwm.org

- Co-lead for GROW's Outreach and Extension with Dr. Micheal Flessner (Virginia Tech) and Emily Unglesbee (Director of Outreach and Extension)
- GROW is a multi-state research and extension effort funded through an USDA-Area Wide Project and United Soybean Board

UD Weed Science Website (This website was developed as a on-line resource for DE Weed Science topics in 2005)

<https://www.udel.edu/academics/colleges/canr/cooperative-extension/sustainable-production/weed-science/>

Selected Research Publications (100 total)

- Wellman, L. G. Bagley, J. Crawford, H. Darby, N. Doonan, M. Hashemi, I. Krezinski, S. Hirsh, S. Mirsky, V. Moore, B. Scott, A. Siller, H. Tao, **M. VanGessel**, K. Vollmer, D. Votypka, and J. Wallace. 2026. Sowing date and seeding rate influence cereal rye productivity across the Northeastern US. *Agronomy Journal* <https://doi.org/10.1002/agj2.70376>
- Russell, E., K. Bamber, S. Chu, M. Bagavathiannan, S. Mirsky, K. Bejleri, E. Law, W. Crane, B. Scott, **M. VanGessel**, and M. Flessner. 2026. Evaluating seed impact mill efficacy during commercial soybean and wheat harvest. *Crop and Pasture Science* 77:CP25095 <https://doi.org/10.1071/CP25095>
- Santos Moisinho, I., M.M. Williams, **M. VanGessel**, B. Scott, L.M. Sosnoskie, E. Peachey, P. Pavlovic, C. Brunharo. 2025. Sensitivity and resistance survey of common lambsquarters (*Chenopodium album* L.) populations to bentazon across the United States. *Weed Science* 74:e7 <https://doi.org/10.1017/wsc.2025.10079>
- Smith C., C. Brunharo, K. Elkin, M. Flessner, **M. VanGessel**, and J. Wallace. 2025. Herbicide deposition and washoff potential is affected by cover crop management tactics used in planting green systems. *Weed Science* 73:e93 <https://doi.org/10.1017/wsc.2025.10070>
- Huddell A., B. Davis, N. Richards, G. Roth, K. Tully, R. Thapa, M. Hashemi, **M. VanGessel**, J. Miller, Q. Ketterings, C. White, J. Spargo, and S. Mirsky. 2025. Nitrogen fertilizer rate not timing determines no-till corn yield following cereal rye cover crop in northeastern U.S. *Agricultural & Environmental Letters* <https://doi.org/10.1002/ael2.70041>
- Pavlovic, P., J.B. Colquhoun, N.E. Korres, C.A. Landau, R. Liu, C.J. Lowry, N.F. Martin, E. Peachey, B. Scott, L.M. Sosnoskie, **M.J. VanGessel**, and M.M. Williams. 2025. Associations among weed communities, management practices, and environmental factors in U.S. snap bean (*Phaseolus vulgaris*) production PLOS One 23:20(9):e033292e <https://doi.org/10.1371/journal.pone.0332925>
- Meyers, S., L. Sosnoskie, K. Vollmer, S. Chaudhari, **M. VanGessel**, K. Jennings, H. Hatterman-Valenti, D. Lingenfelter, D. Doohan, and T. Besançon. 2025. Response of pumpkin to over-the-top applications of S-metolachlor. *HortTechnology* 35:903-909 <https://doi.org/10.21273/HORTTECH05726-25>
- Takenaka, Y., P. Pavlovic, **M.J. VanGessel**, B. Scott, J.B. Colquhoun, and M.M. Williams. 2025. Field surveys of bush lima bean reveal shortcomings in weed management. *HortScience* 60:1084-1091 <https://doi.org/10.21273/HORTSCI18583-25>
- Sosnoskie, L., T. Besançon, **M. VanGessel**, and D. Lingenfelter. 2025. Snap bean (*Phaseolus vulgaris* L.) response to postemergence herbicides at different growth stages. *Horticultural Technology* 35:521-523 <https://doi.org/10.21273/HORTTECH05669-25>

- Landau, C., K. Bradley, E. Burns, A. Dobbels, A. Essman, M. Flessner, K. Gage, A. Hager, A. Jhala, P. Johnson, W. Johnson, S. Lancaster, D. Lingenfelter, M. Loux, E. Miller, M. Owens, D. Sarangi, P. Sikkema, C. Sprague, **M. VanGessel**, R. Werle, B. Young, M. William. 2024. Searching for consistent postemergence weed control in progressively inconsistent weather. *Weed Science* 73(e3):1-8 <http://dx.doi.org/10.1017/wsc.2024.80>
- Sankula, S., K.L. Everts, J.M. Whalen, and **M.J. VanGessel**. 2024. Influence of weed species and density on lima bean yield, quality, and yield components. *Frontiers in Agriculture* vol. 6:1364232 <http://doi.org/10.3389/fagro.2024.1364232>
- Vollmer, K.M., L.M. Sosnoskie, **M.J. VanGessel**, and T.E. Besançon. 2024. Varietal tolerance of cucurbitaceous crops with s-metolachlor applied postemergence. *HortTechnology* 34:288-295 <http://doi.org/10.21273/horttech05420-24>
- D'Amico, F., T. Besançon, A. Koehler, L. Shergill, M. Ziegler, and **M. VanGessel**. 2024. Common ragweed (*Ambrosia artemisiifolia* L.) accession in the Mid-Atlantic region resistant to ALS-, PPO-, and EPSPS-inhibiting herbicides. *Weed Technology* 38:1-10 doi.org/10.1017/wet.2024.11
- Boniface, H., S. Mirsky, M. Ryan, R. Smith, V. Ackroyd, K.A. Bybee-Finley, H. Darby, S. Duiker, M. Hashemi, S. Hirsh, I. Krezinski, E. Mallory, T. Mazzone, T. Molloy, A. Siller, R. Thapa, **M. VanGessel**, J. Wallace, N. Warren, S. Wayman, K. Tully. 2024. Environmental conditions outweigh seeding rates for cover crop mixture performance across the Northeast US. *Field Crops Research* vol. 318 doi.org/10.1016/j.fcr.2024.109564
- Ficks T.S., **M.J. VanGessel**, and J.M. Wallace. 2022. Cereal rye seeding rate does not affect magnitude of weed suppression when planting green within Mid-Atlantic. *Weed Technology* 36:838–843 <http://doi:10.1017/wet.2022.91>
- Wasacz, M.H., L.M. Sosnoskie, **M.J. VanGessel**, and T. Besançon. 2022. Influence of growth stage and dicamba rate on eggplant, cucumber, and snap bean tolerance and yield response. *Weed Technology* 36:814-820 <http://doi:10.1017/wet.2022.85>
- Miller J, A. Shober, and **M. VanGessel**. 2022. Post-harvest drone flights to measure weed growth and yield associations. *Agriculture and Environmental Letters* 7:e20081 <http://doi:10.1002/ael2.20081>
- Peterson, C.M., S. Mirsky, **M.J. VanGessel**, B. Davis, V. Ackroyd, and K.L. Tully. 2021. Evaluation of interseeding cover crop mixtures in mid-Atlantic double-crop soybean. *Agronomy Journal* 113:3935-3951 doi:10.1002/agj2.20824
- Schwartz-Lazaro, L.M., L.S. Shergill, J.A Evans, M.V. Bagavathiannan, S.C. Beam, M.D. Bish, J.A. Bond, K.W. Bradley, W.S. Curran, A.S. Davis, W.J. Everman, M.L. Flessner, S.C. Harring, N.R. Jordan, N.E. Korres, J.L. Lindquist, J.K. Norsworthy, T.L. Sanders, L.E. Steckel, **M.J. VanGessel**, B. Young, and S.B. Mirsky. 2021. Seed shattering phenology at soybean harvest of economically important weeds in multiple regions of the United States. Part 3: Drivers of seed shatter. *Weed Science* 70:79-86 doi:10.1017/wsc.2021.74
- Wallace, J.M., C.L. Keene, W.S. Curran, S.B. Mirsky, **M.J. VanGessel**, M.R. Ryan, and M.E. Barbercheck. 2021. Cover crop-based, rotational no-till (CCORNT) management tactics influence crop performance in organic transition within the Mid-Atlantic U.S. *Agronomy Journal* 113:5335-5347 doi:10.1002/agj2.20822
- Scruggs, E.B., **M.J. VanGessel**, D.L. Holshouser, and M.L. Flessner. 2020. Palmer amaranth

control, fecundity, and seed viability from soybean herbicides applied at first female inflorescence. *Weed Technology* 35:426-432 doi:10.1017/wet.2020.119

Shergill, L.S., L.M. Schwartz-Lazaro, R. Leon, V.J. Ackroyd, M.L. Flessner, M. Bagavathiannan, W. Everman, J.K. Norsworthy, **M.J. VanGessel**, and S.B. Mirsky. 2020. Current outlook and future research needs for harvest weed seed control in North American cropping systems. *Pest Management Science* 76:3887-3895 doi:10.1002/ps.5986

Vollmer, K.M, T.E Besançon, B.L. Carr, **M.J. VanGessel**, and B.A. Scott. 2019. Spring-seeded cereal rye suppresses weeds in watermelon. *Weed Technology* 34:42-47 doi:10.1017/wet.2019.102

Vollmer, K.M and **M.J. VanGessel**. 2019. The fate of weed seeds in spent mushroom compost following commercial mushroom production. *Weed Technology* 33:823-826 doi:10.1017/wet.2019.57

Schroeder, J., M. Barrett, D.R. Shaw, A.B. Asmus, H. Coble, D. Ervin, R.A. Jussaume, M.D.K. Owen, I. Burke, C.F. Creech, A.S. Culpepper, W.S. Curran, D.M. Dodds, T.A. Gaines, J.L. Gunsolus, B.D. Hanson, P. Jha, A.E. Klodd, A.R. Kniss, R.G. Leon, S. McDonald, D.W. Morishita, B.J. Schutte, C.L. Sprague, P.W. Stahlman, L.E. Steckel, and **M.J. VanGessel**. 2018. Managing wicked herbicide-resistance: lessons from the field. *Weed Technology* 32:475-488 doi:10.1017/wet.2018.49

Soltani, N., J.A. Dille, I.C. Burke, W.J. Everman, **M.J. VanGessel**, V.M. Davis, and P.H. Sikkema. 2017. Perspectives on potential soybean yield losses from weeds in North America. *Weed Technology* 31:148-154 doi:10.1017/wet.2016.2

Hill, E.C., K.A. Renner, **M.J. VanGessel**, R.R. Bellinder, and B.A. Scott. 2015. Late-season weed management to stop viable weed seed production. *Weed Science* 64:12-118 doi:10.1614/ws-D-15-00096.1

Book Chapter

Gonçalves Netto, A., P.J. Christoffoleti, **M. VanGessel**, S.J.P. Carvalho, M. Nicolai, and C. Brunharo. 2022. Seed production, dissemination, and weed seed banks. In *Persistence Strategies of Weeds*. Editors: Anil Shrestha, David Clements, and Mahesh Upadhyaya Wiley-Blackwell

Professional Service

Associate Editor, *Weed Technology*, 2013-2021
Mid-Atlantic Certified Crop Advisor
Northeastern Weed Science Society
Northeast Cover Crop Council
Weed Science Society of America
Noxious Weed Committee, State of Delaware's Department of Agriculture
Weed Science Society of America and Environmental Protection Agency Liaison