

# D. Chad Cummings

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## Profile

- Subject matter expert in numerous forms of herbicide, and pesticide efficacy research and demonstration trials for range and pasture, industrial vegetation management, crops, and cereals.
- Passionate about the use of weed science to assist in sustainable ecosystem management, invasive species management, maintaining biodiversity, and modifying grazing utilization for increased quality pollinator and wildlife habitat.
- Subject matter expert in label revision, technical transfer, CEU trainings, and product support for pesticide applicators, farmers, ranchers.
- Excellent verbal and written presentation skills to technical, academic, and general public audiences.
- Leader and member of numerous group projects, committees, collaborations - locally, nationally, and internationally (highly skilled team player)
- Subject matter expert in prescribed fire use and fire suppression techniques on rangelands and forest ecosystems.
- Experienced in a wide range of data collection techniques for coarse and fine scale ecological studies with fire, livestock, vegetation, and wildlife emphases.
- Experienced with data collection techniques for coarse and fine scale weed science projects.

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## Education

- 2007 Ph.D., Conservation Science – Fire & Invasive Species Ecology Oklahoma State University
- 2000 M.S., Forage Weed Science Oklahoma State University
- 1997 B.S., Agronomy – Crop Science Oklahoma State University

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## Experience

2007 to 2021 Corteva Agriscience Bonham, TX/ Indianapolis, IN

### **Integrated Field Scientist (Research Specialist), Pasture and Land Management Southern US Region**

- In 2016, Dow Agrosiences and DuPont Crop Protection merged to become Corteva Agriscience – employed at same company for 14 years
- Worked in AR, LA, MS, OK, NM, and TX for the varied disciplines
- Initiated, established and performed field studies on native rangelands and cross timbers habitats with a wide range of herbicides and techniques.
- Collected data on internal studies, and coordinated external trials with university Cooperators and private contractors
- Gave oral and written presentations of the research results, extensive list of presentations and publications for CEU trainings and tech transfer
- Worked closely with university research and extension personnel across the US
- Worked in cooperation with sales representatives on demonstration projects, and provided technical support for label issues and complaints/concerns.
- 10001879 Mesquite concept (Sendero: Aminopyralid + Clopyralid), lead field R&D biologist and label steward

- Lead Principle Biologist for MezaVue herbicide (pricklypear and brush control), and TerraVue herbicide (sustainable land management)
- Lead Principal Biologist, and label steward for PowerFlex HL (pyroxsulam) in winter wheat, and Quelex (Arylex + florasulam) in winter wheat

2016 to 2018 Dow AgroSciences LLC Bonham, TX/Indianapolis, IN

**North American Biological Information Systems Specialist**

- Mentor and train NA field scientists in data management programs and best management practices (OASIS, Statmart, ARM2017, DSP, SAGE)
- Trouble shoot and problem solve issues with data management programs
- Work with global BIMS network to streamline and trouble shoot problems that arise in the programs, work on improvements in the technology

2011 (Jan-April) Dow AgroSciences LLC Sao Paulo, SP-BR

**Sabbatical Field Scientist (Research Specialist), Crop Protection R&D, Cereals, and Crops Sorriso, Mato Grosso State, Brazil**

- Initiated, established and performed field studies on soybeans, corn, and rice with a wide range of pesticides and sampling techniques (14 trials in 3 months).
- Collected data on internal studies and coordinate external trials with field station cooperators and private contractors who only spoke Portuguese.
- Gave oral and written presentations of the research results in Portuguese.
- Worked in cooperation with sales representatives on demonstration projects, and provided technical support and training for sales staff.

2002 – 2007 Oklahoma State University Stillwater, OK

**Senior Agriculturist, Graduate Research Assistant, and Fire Instructor– Rangeland Ecology and Management**

- Initiate, establish and perform field studies on native rangelands and cross timbers habitats.
- Collect data on each study, harvest the forage samples and coordinate undergraduate assistants to efficiently conduct the research.
- Assisted in data collection and treatment implementation on various projects around rangeland management, wildlife habitat development, and wildlife ecology (small mammal, avian, insect/pollinator)
- Give oral and written presentation of the research results.
- Work in cooperation with Agronomy Research Station Personnel, Industry Representatives, Administrators and Producers to collect data, and present results to the appropriate venues.
- Teach different aspects of prescribed fire to private, state and federal government personnel.

1998 - 2007 Oklahoma State University Stillwater, OK

**OSU Range Research Station Prescribed Burning Fire Crew**

- Assist in the planning, initiating and mopping up of prescribed burns on bermudagrass, native grass prairie and cross timbers forest.
- Took courses in prescribed burning techniques, dangers and benefits, and wildland fire suppression techniques.

1999 – 2002 Oklahoma State University Stillwater, OK

**Senior Agriculturist and Graduate Research Assistant– Forage Weed Science Project**

- Initiate, establish and perform field studies on alfalfa, native pasture, cool-season and warm-season forages, bermudagrass and non-cropland areas to test the effects of grazing, pesticide management, burning and cropping systems on the productivity and profitability of the crop.
- Assisted in tests concerning the effects of grazing, herbicide use, and burning on sericea lespedeza in native and improved pastures.
- Collected and analyzed data on each study, harvest the crops, and coordinate undergraduate assistants to efficiently conduct the research.
- Give oral and written presentation of the research results.
- Work in cooperation with Agronomy Research Station Personnel, Industry Representatives, Administrators and Producers to collect data, and present results to the appropriate venues.

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**Licenses and Memberships**

- Certified Pesticide Applicator (OK, TX 2007 to 2020)
- Certified International Fire Service Accreditation Congress - Fire Fighter I (2002)
- Certified Hazardous Materials Specialist - Awareness Level (2002)
- Certified National Wildfire Coordinating Group - Firefighter II (2001)
- Society for Range Management (2004 – Present)
- Oklahoma Society of Range Management (2002 - Present)
- Western Society of Weed Science (2007 – Present)
- Texas and Southwest Cattle Raisers Association (2015 to Present)
- National Cattleman's Beef Association (2015 to Present)

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**Publications and Presentations**

- Cummings, DC. 2021. Pasture Management Impacts on Long-term Weed Shifts in the SW USA. Oklahoma Ag Expo CEU Invited Speaker, Norman, OK.
- Cummings, DC. 2021. Pasture Management in North Texas – Plant ID, Treatment Recommendations, and Best Management Practices. Fannin County Texas AgriLife Extension CEU Meeting. Bonham, TX.
- Cummings, DC. 2021. Managing Herbicide Off-Target Movement. University

of Arkansas Pasture Field Tour and CEU Meeting, Fayetteville, AR.

- Cummings, DC, BB Sleugh, WL Hatler. 2020. Desirable Forb Tolerance to Applications of Rinskor Containing Herbicides in Range and Pasture. WSWWS/WSSA Joint Annual Meeting. Maui, HI.
- Cummings, DC and JM Alred. 2019. Forage Weed Control in Mississippi. Alcorn State University Summer Field Day and CEU Meeting. Alcorn, MS.
- Cummings, DC, R Gast, R Haygood, L Walton. 2015. Halauxifen methyl + Florasulam: a New Multi-Mode of Action Herbicide for Broadleaf Weed Control in Cereal Crops. Texas Plant Protection Association Annual Meeting, Bryan, TX.
- Cummings, DC. 2015. Why don't bare ground applications work like they used to and what will get it done? Bareground and Right of Way CEU Training, Norman, OK.
- Cummings, DC, R Gast, R Haygood, L Walton. 2015. Halauxifen methyl + Florasulam: a New Multi-Mode of Action Herbicide for Broadleaf Weed Control in Cereal Crops. Western Society of Weed Science, Portland, OR.
- Cummings, DC, R Gast, P Schmitzer. 2014. Quelex herbicide with Arylex Active Technical Information for Southern Plains Winter Wheat. Presentation at the Quelex Pre-Launch Tours in Kingfisher, OK, Larned, KS, and Manhattan, KS.
- Cummings, DC. 2013. Transform insecticide and Stinger herbicide product overviews. OK Ag Expo Annual CEU Meeting, Midwest City, OK.
- Masters, RA, MB Halstvedt, LA Brinkworth, DC Cummings\*. 2013. Factors affecting herbicide selection and use in rangeland restoration community programs. Western Society of Weed Science Annual Meeting, San Diego, CA.
- Cummings, DC, VB Langston, CR Hart, LA Brinkworth. 2013. Aminopyralid plus clopyralid for mesquite control: second year research and individual plant treatment update. Western Society of Weed Science Annual Meeting, San Diego, CA.
- Cummings, DC. 2013. Careful planning can minimize wheat growers' drought pains. *High Plains Journal*. 22.April.2013
- Cummings, DC, CR Hart\*, VB Langston, LA Brinkworth, and RA Masters. 2013. Sendero™ herbicide for honey mesquite (*Prosopis glandulosa*) control. Society for Range Management Annual Meeting, Oklahoma City, OK.
- Cummings, DC, K Steffey, K Treadway, B Haygood, B Miller. 2012. Transform™ WG Insecticide Product Overview: US Canola. Oklahoma State University Canola College, Enid, OK.
- Cummings, DC, VB Langston, PL Burch, VF Peterson. 2012. GF-2791, a new herbicide containing aminopyralid and clopyralid, for honey mesquite (*Prosopis glandulosa*) control in southwestern rangelands. Western Society of Weed Science Annual Meeting, Reno, NV.
- Cummings, DC, VB Langston, PL Burch. 2012. GF-2791, a new herbicide

containing aminopyralid and clopyralid, for honey mesquite (*Prosopis glandulosa*) control in southwestern rangelands. Soc. for Range Management Annual Meeting, Spokane, WA.

- Cummings, DC, R Neves, P Ribeiro. 2011. Safra e Safrinha Pesquisa em Soja, Milho, e Algodao. Invited Speaker, Mogi Mirim Field Station, Sao Paolo, Brazil (Sabbatical Presentation in Portuguese).
- Cummings, DC, BB Sleugh, MB Halstvedt, WN Kline. 2011. Dow AgroSciences Research and Options for Brush Management. Meade County Conservation District Meeting. Lake Meade, KS.
- Vasquez, E, J James, T Monaco, DC Cummings. 2010. Invasive plants on rangelands: a global threat. *Rangelands* 32: 3-6.
- Cummings, DC and KW Duncan. 2010. Cholla and prickly pear with picloram + fluroxypyr in New Mexico rangelands. Society for Range Management (Denver, CO, Feb. 2010) Annual Meeting presentation.
- Cummings, DC, VB Langston, RA Masters. 2010. Tebuthiuron use for fire installation and maintenance. Society for Range Management Annual Meeting, Denver, CO.
- Cummings, DC, GA Finn, JM Ellis. 2010. Pyroxsulam efficacy on tough-to-control bromes in central plains winter wheat. Western Society of Weed Science Annual Meeting, Kona, HI.
- Cummings, DC, SD Fuhlendorf, DM Engle. 2009. Is altering grazing selectivity of invasive forage species with patch-burning more effective than herbicide treatments. *Rangeland Ecology and Management* 60: 253-260
- Fuhlendorf, SD, DM Engle, JR Weir, DC Cummings. 2009. Does herbicide weed control increase livestock production on non-equilibrium rangeland? *Agriculture, Ecosystems and the Environment* 132: 1-6.
- Cummings, DC, MB Halstvedt, S Enloe, G Beck. 2009. Houndstongue control with aminopyralid and metsulfuron. Western Society of Weed Science Annual Meeting, Albuquerque, NM.
- Cummings, DC, SD Fuhlendorf, DM Engle, TG Bidwell, DM Lalman. 2007. Effects of Fire and Grazing on Sericea Lespedeza Management in Tallgrass Prairies. PhD Dissertation. Oklahoma State University.
- Cummings, DC, TG Bidwell, CR Medlin, SD Fuhlendorf, RD Elmore, JR Weir. 2007. Ecology and management of sericea lespedeza. Oklahoma State University Cooperative Extension Service Fact Sheet NREM-2874.
- Weir, JR, SD Fuhlendorf, DM Engle, TG Bidwell, DC Cummings, D Elmore. 2007. Patch burning: integrating fire and grazing to promote heterogeneity. Oklahoma State University Cooperative Extension Service Circular E-998.
- Cummings, DC, SD Fuhlendorf, and DM Engle. 2005. Effects of the fire grazing on sericea lespedeza invasion in the tallgrass prairie. Poster presentation; 34<sup>th</sup> Annual Society for Range Management Meetings; Ft. Worth, TX.
- Cummings, DC, RC Berberet, JF Stritzke, and JL Caddel. 2004. Sod-seeding and grazing effects on alfalfa weevils, weeds, and forage yields in established

alfalfa. *Agron. Jour.* 96: 1216-1221.

- Koger, CH, JF Stritzke, and DC Cummings. 2002. Control of sericea lespedeza with triclopyr, fluroxypyr, and metsulfuron. *Weed Tech.* 16: 893-900.
  - Cummings, DC 2000. Improving forage production and profitability in thinning alfalfa stands with integrated management and livestock grazing. Master's Thesis. Oklahoma State University.
  - Cummings, DC 2000. 'Comparison of Haying and Grazing Harvest Methods on Established Alfalfa: Eastern Oklahoma Agronomy Research Station'. Regional Alfalfa Meetings, Tulsa, OK.
  - Cummings, DC, JF Stritzke, and RC Berberet. 1999. Extending alfalfa stand longevity with over-seeding and integrated pest management. NCWSS Proceedings.
  - Cummings, DC, JF Stritzke, RC Berberet, and WR Raun. 1999. Alfalfa production and stand longevity as influenced by weeds and fertility. *SWSPBE* 52:39.
  - Cummings, DC 1999. 'Forage Management in Thinning Alfalfa Stands.' Alfalfa Hay Day, Chickasha, OK.
  - Cummings, DC 1999. 'Alfalfa Production and Stand Longevity as Influenced By Weeds and Fertility.' Ann. OK Alfalfa Hay and Seed CEU Meetings, Norman, OK.
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## **Honors and Awards**

- Finance Committee Member, Boyd Church, Bonham, TX (2021 to Present)
- Rangeland Invasive Species Com. Chair, Soc for Range Mgt (2019 to 2022)
- Constitution & Operating Guide Rep, Western Soc of Weed Sci (2020 to present)
- Invasive Species Committee Co-Chair (WSWS, SRM, WGA – 2019 to present)
- Secretary and BOD Member, Western Society of Weed Science (2015 to 2020)
- Dow AgroSciences Biology Discipline Recruitment Team (2014 to 2021)
- Dow AgroSciences Field Science Safety Team Member (2013 to 2016)
- Board of Directors Member – Oklahoma Invasive Plant Council (2013 to 2016)
- Dow AgroSciences Weed Management Action Team (2012 to 2021)
- Chair - Project 1, Weeds in Range and Natural Areas, Western Society of Weed Science (2012-14)
- Host Chair – Society for Range Management Annual Meeting (OKC) 2013
- Above and Beyond Award for the Southwest District, Dow AgroSciences (2010)
- Graduate Faculty Member, Oklahoma State University (2010 to present)
- Chair – Rangeland Invasive Species Committee, Society for Range Management

(2009-10)

- Outstanding M.S. Student in the Department of Plant and Soil Sciences (2000)
  - President of the Plant and Soil Sciences Graduate Student Organization (1998-9)
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**Additional Language Skills**

- Conversational Spanish
- Conversational Portuguese (BR)

**References**

- Josh Temple, Commercial Unit Leader, Corteva Agriscience, immediate supervisor (941) 724-6905 [joshua.h.temple@corteva.com](mailto:joshua.h.temple@corteva.com)
- Byron Sleugh, Global Biology Leader - Herbicides, Corteva Agriscience, career long work colleague (317) 439-9148 [byron.sleugh@corteva.com](mailto:byron.sleugh@corteva.com)
- Cody Maxwell, Fannin County, Texas AgriLife Extension Service, colleague (903) 227-2606 [Cody.Maxwell@ag.tamu.edu](mailto:Cody.Maxwell@ag.tamu.edu)
- Brian Pugh, OK Coop Extension Service SE Area Agronomist, colleague (918) 448-5797 [brian.pugh@okstate.edu](mailto:brian.pugh@okstate.edu)
- Brian Mealor, University of Wyoming, colleague (307) 673-2647 [bamealor@uwyo.edu](mailto:bamealor@uwyo.edu)