

# CURRICULUM VITA

## **WHITNEY S. CRANSHAW**

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### **Education**

- B.A. (1976) Hampshire College, Amherst, Massachusetts  
M.S. (1979) University of Minnesota (Entomology)  
Thesis title - "Contributions to potato pest management in the Red River Valley"  
Ph.D. (1981) University of Minnesota (Entomology; minors in Horticulture, Plant Pathology)  
Dissertation title - "Integrated control of insect contaminants of processed peas"

### **Employment**

- August 1, 2020-present: Emeritus Professor, Colorado State University  
1995-2020 Professor and Extension Specialist, Colorado State University  
1989-1995 Associate Professor and Extension Specialist, Colorado State University  
1983-1989 Assistant Professor and Extension Specialist, Colorado State University  
1982-83 Extension Specialist-Entomology, University of Minnesota  
1981 Instructor, University of Minnesota  
1977-80, 1981 Research Assistant-Teaching Assistant, University of Minnesota  
1974-75, 1975-76 Technician, Insect Ecology Lab, University of Massachusetts  
1973-75 Student Director, Environmental Studies Program, Hampshire College  
1975 Fieldman, Biological Field Service Company, Visalia, California

### **Colorado State University Job Description**

Extension/Research/Teaching position with responsibilities in developing applied pest management programs for insect pests of horticultural crops in Colorado including vegetables, shade trees and shrubs, turf, fruit, and greenhouse crops. Shared Extension responsibilities for insect diagnostics, household insects, medical pests, beekeeping and 4-H entomology Extension needs of state. Teaching of undergraduate and graduate classes related to general entomology, horticultural entomology, and diagnostics.

### **On-campus Teaching and Instructional Experience**

Courses taught most frequently at Colorado State University

**BSPM 102 *Insects, Science and Society*** (Assumed course responsibility in 2002.

Taught fall and spring semesters through 2005; last taught Fall 2019)

**BSPM 303B (1-3) *Horticultural Entomology Lab*** (1984-present, 3 sections taught Fall 2019er)

Online courses

Horticultural Entomology, a series of three 1-credit courses. This course has been taught from 2016-present, most often in Fall Semester. In 2020, this was taught in Spring Semester, Summer Session, and Fall Semester, taught Spring Semester)

***BSPM356A Introduction to Horticultural Entomology***

**BSPM356B Horticultural Entomology-Food Crops**

**BSPM356C Horticultural Entomology-Turf and Ornamental Crops**

Additional courses with regularly invited lectures at Colorado State University

**BSPM302 General and Applied Entomology** - (guest lecturer since 2010, two lectures related to pesticides, Fall semester)

**BSPM303A Agronomic Entomology Lab** (guest lecture for two periods on vegetable insects, alternate Fall semesters)

**BSPM 365 Integrated Forest Health Management** (guest lecturer since 2003, 6-8 lectures/Fall semester)

**BSPM530 Scientific Writing (one lecture on writing for public, Spring semester)**

Courses previously taught at Colorado State University

**BSPM 510 Insect-Plant Disease Relationships** (1984-2004, co-taught with plant pathologist, alternate fall semesters. Course discontinued with retirement of co-instructor.)

Courses taught as Instructor at University of Minnesota (St. Paul Campus, 1981-1983)

*Economic Entomology*

*Insects in Relation to Plant Disease*

Teaching Assistant at University of Minnesota

*Economic Entomology*

*Introduction to Entomology*

Teaching Associate, Hampshire College

*The Bee Dance Language Controversy*

*Beekeeping*

*The Living Insect*

### **Honors, Awards, Recognitions**

2020 *Cynthia Westcott Scientific Writing Award*. GardenComm/Garden Communicators International. Introduced in 2017, the Cynthia Westcott Scientific Writing Award recognizes individuals with PhDs who communicate new ideas, concepts or scientific findings related to horticulture and gardening in terms that are easily understood by laypersons.

2020 *F.A. Anderson Distinguished Service Award*, Colorado State University Extension. "This award recognizes an individual for their outstanding commitment and contributions to Colorado State University Extension." May 2020

2020 *Golden Gun Award*. Colorado Arborists and Lawn Care Professionals (CALCP), "Colorado's Foremost Insects and Disease Expert.... Still", March 2020

2019 *Distinguished Service Award*. Rocky Mountain Regional Turfgrass Association. December 11, 2019

2019 *Lee Sommers Distinguished Career Award*. College of Agricultural Sciences, Colorado State University. May 2019.

2013 *Distinguished Achievement Award in Horticultural Entomology*. Entomological Society of America. Presented at Annual Meeting, Austin TX

2009 *Recognition Award for Urban Entomology*. Entomological Foundation/SC Johnson. Presented at the Annual Meeting of the Entomological Society of America. Indianapolis, IN.

2007 *Distinguished Alumni Award*, Department of Entomology, University of Minnesota

2006 Featured in "One on One" column of *The American Gardener*, March/April 2006 Edition, reviewing work on garden IPM

2006 Had an insect honorarily named after me, *Perlesta cranshawi*, a stonefly native to Virginia

2006 *Waterpik Excellence in Education Award* (presented at BYU-CSU Football Game)

2006 *Best Teacher*, Colorado State University Alumni Association

2005 *BCE Entomological Project Award*, NCB-ESA. This was given for the book *Garden Insects of North America*.

2005 Garden Writers of America, 2005 Bronze Award/Technical Book Writing

2005 Finalist, 2004 Colorado Book Awards (Educational Non-fiction)

2004 *MVP Award*, Colorado Association of Lawn Care Professionals. For "a dedicated time commitment beyond the call of duty and outstanding effort in the betterment of the professionalism and goals of CALCP"

2003 *Golden Gun Award*. Colorado Association of Lawn Care Professionals (CALCP), "Colorado's Foremost Insects and Disease Expert", March 2003

2002 Featured "Gardening Guru" for August, National Gardening Association (<http://www.nationalgardening.com/bgcnews/Aug02/index.htm>)

2001 Received very favorable review of *Pests of the West* in the Winter 2001 *American Entomologist*.

2001 Received very favorable review of *Insects and Diseases of Woody Plants in the Central Rockies* (*Ann. Entomol. Soc. Am.* 94(6): 959-960.)

2000 Featured in a full-length article of the front page of Section F of the July 22 *Denver Post*, entitled "A Passion for Pests".

1998 Featured as one of three of "The New Entomologists" in the June/July issue of *Organic Gardening* magazine.

1999 *Distinguished Achievement Award in Extension, North Central Branch, Entomological Society of America*. This is in recognition for achievements in Extension, particularly emphasizing efforts of regional value.

1999 *Distinguished Achievement Award in Extension, Entomological Society of America*

1996 *Turf Professional of the Year*, Rocky Mountain Regional Turfgrass Association  
This award is given annually, during the annual December conference, to recognize an individual who has contributed to the turfgrass industries of the Rocky Mountain States.

1995 *NACTA/Shepardson Meritorious Teaching Award*, College of Agriculture  
This award is given annually to a faculty member in the College of Agriculture who has a sustained career of teaching in a manner that has shown innovation and excellence.

1995 Co-authored book *Bagging Big Bugs* was given an Award of Excellence by the Young Entomologist's Society as being one of the "World's Best Books on Minibeasts"

1992 *Person of the Year*, Green Industries of Colorado. This award is given each year in recognition of an individual who has made outstanding contributions to the Green Industries of Colorado and is presented at the Colorado Garden and Home Show.

1990 *F.A. Anderson Award for Distinguished Service*, Colorado Cooperative Extension.  
This award is given each year to an Extension Specialist "in recognition of superior service to the people of Colorado through Extension Education"

1989 *Award for Arboriculture Research*, International Society of Arboriculture Award presented at the Annual Conference (St. Charles, IL) "In recognition of research significant to the improvement of the profession and continued dedication to scientifically based tree care."  
Award given to one individual a year.

1988 Featured in an article in *Organic Gardening* magazine (September), entitled "An Insect Einstein". This was rather a light-hearted feature article that emphasized some of my work on

"alternative" pest controls. **Note:** This article later led to several radio interviews (including Scott Simon of Weekend Edition/National Public Radio), newspaper, and magazine articles. It also was the impetus to my being asked by Fulcrum Publishing to write *Pests of the West*. 1979 *Graduate Student Teaching Award*, North Central Branch, Entomological Society of America

### **Miscellaneous Assignments Related to Profession**

Entomological Society of America Common Names Committee (1999-2001, 2008-2015, 2016-present; chairman 2011, 2014-2015, 2019-2020)  
Board of Advisors, Entomological Foundation (2007-2011)  
Chairman, NCR-98 (Woody Plants) (1987), Host (1991)/NCR-196 Co-host 2007  
Department of Entomology Advisory Committee (1986-87, 1990-91)  
Department of Bioagricultural Sciences and Pest Management Executive Committee (1999-2001, 2008-2011)  
Board of Directors, Colorado Association of Lawn Care Professionals (1987-1993)  
SubCommittee Chairman (Vegetables, Sugarbeets), NAPIAP Benefits Assessment Review of Aldicarb Use in Agriculture (1988-90)  
IR-4 advisory committee member, vegetables (1989), ornamentals (1990)  
Committee member, Organic Potato Pest Management Strategic Plan, Western Region IPM project for USDA Office of Pest Management Policy (2008)  
CSRS Review Panel Member, Washington State University, Department of Entomology (1993)  
Contracted to write report on use of biologically derived technologies for managing pests in urban and suburban environments, US Congress Office of Technology Assessment, August 1994

### **Graduate Students with Completed Program, Primary Advisor/Co-advisor**

#### **Students with Dissertation/Thesis Program (Plan A)**

**Al-Akeel, Rasha.** 2020. Investigation into potential non-target effects from the use of emamectin benzoate trunk injections for the management of emerald ash borer (Coleoptera: Buprestidae). Ph.D Dissertation 87 pp.

**Schreiner, Melissa.** 2019. A survey of the arthropod fauna associated with hemp (*Cannabis sativa* L.) grown in Eastern Colorado. M.S. Thesis 90 pp.

**Longtine, Zach.** 2018. Evaluation of factors that contribute to the expansion and control of brassica insect pests in northern Colorado. M.S. Thesis. 48 pp.

**Sitz, Rachael.** (co-advisor with Jane Stewart) 2017. Information on emergent insect associated tree diseases including epidemiological studies of drippy blight disease of oak and thousand cankers disease of walnut. Ph.D. Dissertation.

**Ewals-Strain, Brandon.** 2017. Studies on the management of the swallow bug, *Oeciacus vicarius* Horvath (Hemiptera: Cimicidae) and survival off its avian host. M.S. Thesis.

**Sitz, Rachael.** 2013. Management options for the walnut twig beetle, *Pityophthorus juglandis* Blackman, vector of the fungal canker pathogen *Geosmithia morbida*. M.S. Thesis.

**Utley, Curtis** (co-advisor with Ned Tisserat). 2013. The biology of *Geosmithia morbida* and susceptibility of walnut and hickory species to thousand cankers disease. M.S. Thesis.

**Peachey, Emily** (co-advisor with Ned Tisserat). 2012. Studies on the walnut twig beetle (WTB) *Pityophthorus juglandis* in relation to its association with *Geosmithia morbida*, its survival in felled logs, and its sensitivity to temperature extremes. M.S. Thesis.

**McEwen, Crystal.** 2011. Two entomological studies: 1. The potential of methyl jasmonate

applications as a pest management method on cruciferous crops; 2. Contributions to the biology of *Disholcaspis quercusmamma* (Walsh) (Hymenoptera: Cynipidae). M.S. Thesis.

**Camper, Matt.** 2007. Individual potato cultivar response to natural infestations of *Bactericera cockerelli* (Sulc) including studies on yield fluctuations produced by differing treatment schedules. M.S. Thesis.

**Colvin, Bennett.** 2007. Developing methods for managing two introduced insects affecting vegetable and garden crops in eastern Colorado: European earwig, *Forficula auricularia* L. (Dermaptera: Auricularidae) and Red Lettuce Aphid, *Nasonovia ribes-nigri* (Mosley) (Hemiptera: Aphididae). M.S. Thesis.

**Owens, Jeff.** 2007. Striped cucumber beetle, *Acalymma vittatum* (F.) (Coleoptera: Chrysomelidae) in Northern Colorado: Trapping and monitoring methods M.S. Thesis.

**Mahaffey, Linda.** 2006. Diversity, seasonal biology and IPM of onion-infesting thrips in Colorado. M.S. Thesis, Colorado State University. 61 pp.

**Walker, Gregory.** 2006. Developing improved baiting systems to manage the pavement ant, *Tetramorium caespitum* (L.) M.S. Thesis, Colorado State University. 75 pp.

**Sever, Andrea.** 2005. Shade tree insect pest management studies: I. Evaluation of non-target effects of pesticides on arthropods; II. Biology of two emergent insect pests of oak. M.S. Thesis, Colorado State University. 57 pp.

**Sally McElwey.** 2004. Investigations into possible causes of overwintering mortality of Colorado honey bees. M.S. Thesis, Colorado State University.

**Demirel, Nihat.** 2003. Integrated Pest Management Studies of the insects affecting oilseed Brassicas in Colorado. Ph.D. Dissertation, Colorado State University. 266 pp.

**Mannix, Loretta.** 2001. Evaluation of green lacewing (Neuroptera: Chrysopidae) for control of woody plant pests. M.S. Thesis, Colorado State University. 75 pp.

**Wilson, Karen Kramer.** 2001. Seasonal biology and control of clover mite, *Bryobia praetiosa* Koch, in Colorado turfgrass. M.S. Thesis, Colorado State University. 67 pp.

**Al-Doghairi, Mohammed A.** 2000. Pest management tactics for the western cabbage flea beetle (*Phyllotreta pusilla* Horn) on brassica crops. Ph.D. Dissertation, Colorado State University. 166 pp.

**Al-Jabr, Ahmed.** 1999. Integrated pest management of tomato/potato psyllid, *Paratrioza cockerelli* (Sulc) (Homoptera: Psyllidae) with emphasis on its importance to greenhouse tomatoes. Ph.D. Dissertation, Colorado State University. 93 pp.

**Gerace, Daniel.** 1998. Studies in Integrated Pest Management of some Colorado bedding plants. M.S. Thesis, Colorado State University. 79 pp.

**Bishop, R. Jason.** 1998. Seasonal flight phenology and trapping methodology studies of the dusky sap beetle, *Carpophilus lugubris* Murray (Coleoptera: Nitidulidae), in western Colorado sweet corn, *Zea mays* L. M.S. Thesis, Colorado State University. 74 pp.

**Demirel, Nihat.** 1998. Studies in development of pest management practices for some insects affecting garden plants in Larimer County, Colorado. M.S. Thesis, Colorado State University. 69 pp.

**Sclar, Casey Daniel.** 1997. Ph.D. Dissertation, Colorado State University. The spider mites of Colorado: Biology and management on landscape plants. 96 pp.

**Cooper, Dayna D.** 1995. M.S. Thesis. Urban conifer scale pests of Colorado's northeastern Front Range. 101 pp.

**Al-dosari, Saleh.** 1995. Ph.D. Dissertation. Development of an IPM system for onion thrips (*Thrips tabaci* Lindeman) as a pest of bulb onions. 124 pp.

**Al-Doghairi, Mohammed.** 1995. M.S. Thesis. Status on the use of supplemental food sources to increase natural enemy activity against Colorado pests. 112 pp.

**Sclar, Casey Daniel.** 1995. M.S. Thesis. A re-evaluation of systemic insecticides for the control of woody plant arthropod pests. 152 pp.

**Eckberg, Thomas B.** 1993. M.S. Thesis. Observations on the biology and management of four landscape pests of the Front Range of Colorado.

**Zimmerman, Rick J.** 1991. Ph.D. Dissertation. Contributions toward an integrated pest management system for the elm leaf beetle, *Xanthogaleruca luteola* (Muller) (Coleoptera: Chrysomelidae).

**Abernathy, Rella L.** 1991. M.S. Thesis. Investigations into the nature of the potato psyllid toxin.

**Shean, Blair.** 1989. M.S. Thesis. Evaluation of two hymenopteran parasitoids for integrated control of *Myzus persicae* in greenhouses.

**Hammon, Robert W.** 1989. M.S. Thesis. Suppression of *Myzus persicae* in the San Luis Valley.

**Zimmerman, Rick J.** 1988. M.S. Thesis. Entomogenous nematodes for use in turf IPM systems.

**Liewehr, David J.** 1988. M.S. Thesis. Cultural practices of potatoes: Effects on alate aphids and other arthropods.

#### Students without Thesis Program (Plan B)

**Zana Jevremovic** (1999)

#### Students in 4+1 Program

**Miller, Andrew.** 2020. Evaluation of elevated carbon dioxide as a means to disinfest hemp plants of hemp russet mite *Aculops cannibicola* (Farkas)

#### Advising (other)

Faculty Advisor for CSU students (12) in a Study Abroad semester at Lincoln University, New Zealand (February-June, 2012)

#### Invited Extension Presentations

Invited Extension Programs are presented to about 30-50 different audiences annually, both in-state and outstate. These are a mixture of groups that typically include commercial vegetable growers, turf and landscape plant care professionals, Master Gardeners, biology teachers, nurseries, various horticultural-related societies, and others with interest in entomology. Since 2017 many invited presentations have involved the subject of insect pest management in hemp.

#### Listserv Bulletin Boards Established and Maintained

**PestTalk** - a discussion group focusing on insect, disease and cultural problems in lawns and gardens of Colorado and adjacent states. Started in 1997, there are presently approximately 325 participants.

**OrnaEnt** (established with Mike Merchant, Texas A&M) - a national discussion group focusing on insect and mite problems affecting ornamental (broad sense) plants. Started in 2000, there are presently approximately 240 participants.

**ThousandCankers** – a discussion group to exchange information on thousand cankers disease of walnut. Started in 2012, there were 90 participants in the 2nd year. This listserv has been discontinued.

## **Websites Established and Maintained**

### **Colorado Insect information Website**

<http://bspm.agsci.colostate.edu/outreach-button/insect-information/>

### **Hemp Insect Website**

<http://hempinsects.agsci.colostate.edu/>

## **Books**

### ***Books, Privately Printed***

- Cranshaw, W.S. 1992. *Pests of the West*. Fulcrum Publishing. Golden, CO. 275 pp.
- Cranshaw, W.S. and B.C. Kondratieff. 1995. *Bagging Big Bugs*. Fulcrum Publishing. Golden, CO. 324 pp.
- Cranshaw, W.S. 1998. *Pests of the West, Revised*. Fulcrum Publishing. Golden, CO. 248 pp.
- Cranshaw, W. 2004. *Garden Insects of North America*. Princeton University Press. Princeton, NJ. 656 pp.
- Cranshaw, W.S. and B.C. Kondratieff. 2006. *Guide to Colorado Insects*. Westcliffe Publishing. Englewood, CO. 232 pp.
- Cranshaw, W. and R. Redak. 2013. *Bugs Rule! An Introduction to the World of Insects*. Princeton University Press. Princeton, N.J. 480 pp.
- Cranshaw, W. and D. Shetlar. 2017. *Garden Insects of North America, 2<sup>nd</sup> Edition*. Princeton University Press. Princeton, N.J. 704 pp.

### ***Books, Government Printing***

Kondratieff, B. and W. Cranshaw. 2007. *Common Insects, Spiders, Ticks, and Scorpions of Fort Sill, Oklahoma*. United States Government Printing Office 653-331. 85 pp.

### ***Colorado State Extension Bulletins***

- Cranshaw, W., W. Jacobi, D. Leatherman, and N. Tisserat. 2014. *Insects and Diseases of Woody Plants in Colorado*. Colorado State University Extension Bulletin 506A. 322 pp. (This was the fifth revision co-authored since 1986.)
- Cranshaw, W.S. and C.R. Ward. 1996. Turfgrass Insects in Colorado and Northern New Mexico. *Colorado State Cooperative Extension Publ. 560A*. 38 pp.
- Cranshaw, W.S., S. Armbrust, M. Brewer, and S. Lejeunesse. 1994. Household Insects of the Rocky Mountain States. *Colorado State University Extension Bulletin 557A*. 90 pp.

### **Publications in Professional/Refereed Journals (2010-present publication)**

- Cranshaw, W. and M. Camper. 2010. Pest Control Industry: An assessment of current concerns and needs in Colorado and Wyoming. Colorado Agricultural Experiment Station Bulletin TB-10-1 5 pp.
- Cranshaw, W. and N. Tisserat. 2010. Thousand Cankers Disease: A Recently Recognized Threat to North American Black Walnut. *Arborist News* 19 (1): 52-56.
- Colvin, B. & Cranshaw, W. (2010) Comparison of over-the-counter insecticides for managing the European earwig, *Forficula auricularia* L. (Dermaptera: Forficulidae). *Southwestern Entomologist*, 35, 69–74.
- Tisserat, N., Cranshaw, W., Putnam, M. L., Pscheidt, J., Leslie, C. A., Murray, M., Hoffman, J., Barkley, Y., Alexander, K., and Seybold, S. J. 2011. Thousand cankers disease is widespread in black walnut in the western United States. *Plant Health Progress* doi: 10.1094/PHP-2011-0630-01-BR

Cranshaw, W.S., H.J. Larsen, Jr. and R.J. Zimmerman. 2011. Notes on fruit damage by the European paper wasp, *Polistes dominula* (Christ) (Hymenoptera: Vespidae). *Southwestern Entomologist* 36(1): 103-105. doi: <http://dx.doi.org/10.3958/059.036.0110>

Cranshaw, W. 2011. Recently recognized range extensions of the walnut twig beetle, *Pityophthorus juglandis* Blackman (Coleoptera: Curculionidae: Scolytinae), in the western United States. *The Coleopterist's Bulletin* 65(1) 48-49. doi: <http://dx.doi.org/10.1649/0010-065X-65.1.48>

Cranshaw, W. 2011. A Review of Nuisance Invader Household Pests of the United States. *American Entomologist* 57(3): 165-169.

Sever, A., W. Cranshaw and R. Brudenell. 2012. *Agrilus quercicola* (Fisher) (Coleoptera: Buprestidae), the Gambel Oak Borer, as a Pest of *Quercus* spp. *Southwestern Entomologist* 37(2):147- 150. doi: <http://dx.doi.org/10.3958/059.037.0207>

Looney, C., L. M. Humble and W. Cranshaw. 2012. *Orchestes alni* (L.) (Coleoptera: Curculionidae): New Records from Western North America with Notes on Parasitoids. *The Coleopterist's Bulletin* 66(1):63-66. doi: <http://dx.doi.org/10.1649/072.066.0115>

Utley, C., Nguyen, T., Roubtsova, T., Coggeshall, M., Ford, T. M., Grauke, L. J., Graves, A. D., Leslie, C. A., McKenna, J., Woeste, K., Yaghmour, M. A., Cranshaw, W., Seybold, S. J., Bostock, R. M., and Tisserat, N. 2013. Susceptibility of walnut and hickory species to *Geosmithia morbida*. *Plant Dis.* 97: 601–607. <http://dx.doi.org/10.1094/PDIS-07-12-0636-RE>

Luna, E.K., R.A. Sitz, W.S. Cranshaw, and N.A. Tisserat. 2013. The effect of temperature on survival of *Pityophthorus juglandis* (Coleoptera: Curculionidae). *Environ. Entomol.* 42(5): 1085–1091. <http://dx.doi.org/10.1603/EN13151>

Luna, E., W. Cranshaw, and N. Tisserat. 2014. Attraction of walnut twig beetle *Pityophthorus juglandis* (Coleoptera: Curculionidae) to the fungus *Geosmithia morbida*. *Plant Health Progress* 01/2014; DOI: 10.1094/PHP-RS-14-0001

Marcelo M. Zerillo, Jorge Ibarra Caballero, Keith Woeste, Andrew D. Graves, Colleen Hartel, Jay W. Pscheidt, Jadelys Tonos, Kirk Broders, Whitney Cranshaw, Steven J. Seybold, Ned Tisserat. 2014. Population Structure of *Geosmithia morbida*, the Causal Agent of Thousand Cankers Disease of Walnut Trees in the United States. *PLoS One* Published: November 13, 2014. DOI: 10.1371/journal.pone.0112847

McEwen, C, S. Digweed, J.A. Nicholls and W. Cranshaw. 2014. Description and biology of the sexual generation of *Disholcaspis quercusmamma* (Walsh and Riley) (Hymenoptera: Cynipidae), with notes on associated parasitoids. *Proceedings of the Entomological Society of Washington* 116(3):294-310. doi: <http://dx.doi.org/10.4289/0013-8797.116.3.294>

Schwartz, H.F., D. H. Gent, S. M. Fichtner, K. Otto, C. O. Boateng, S. Szostek, W. S. Cranshaw, and L. A. Mahaffey. 2014. *Thrips tabaci* (Thysanoptera: Thripidae) and Iris yellow spot virus Associated with Onion Transplants, Onion Volunteers, and Weeds in Colorado. *Southwestern Entomologist* Vol. 39, Issue 4, pg(s) 691-704 doi: 10.3958/059.039.0401

Sitz, R.A., Luna, E.K., Tisserat, N.A., and W.S. Cranshaw. 2015. An annotated bibliography of thousand cankers disease. Including general reports related to this disease, information on the walnut twig beetle *Pityophthorus juglandis* Coleoptera: Curculionidae (Scolytinae), and the associated fungus *Geosmithia morbida*. CSU AES TB 15-1.

Sitz, R.A., Utley, C., Hall, A., Tisserat, N., and W.S. Cranshaw. 2017. Trapping the walnut twig beetle to determine flight patterns in Colorado. *Southwestern Entomologist* 42(2): 347-356. <https://doi.org/10.3958/059.042.0204>

Sitz, R.A., Luna, E.K., Tisserat, N.A., Caballero, J.I., Cranshaw, W.S. and J.E. Stewart. 2017.



Virulence of genetically distinct *Geosmithia morbida* isolates to black walnut and their response to co-inoculation with *Fusarium solani*. *Plant Dis.* 101(1):116-120.

<https://doi.org/10.1094/PDIS-04-16-0535-RE>

Cranshaw, W. S., S. E. Halbert, C. Favret, K. E. Britt, and G. L. Miller. 2018. *Phorodon cannabis* Passerini (Hemiptera: Aphididae), a newly recognized pest in North America found on industrial hemp. *Insecta Mundi* 0662: 1-12.

Cranshaw, W.S. and K. Due. 2018. A Survey of the Cluster Flies Found in Buildings in Colorado. *Southwestern Entomologist*, 43(1):263-265 <https://doi.org/10.3958/059.043.0117>

Sitz, R.A., and W.S. Cranshaw. 2018. Life history of *Allokermes galliformis* (Hemiptera: Kermesidae) in Colorado. *Annals Entomol. Soc. Am.* 111(5): 265-270.

Sitz, R. A., Zerillo, M. M., Snelling, J. W., Caballero, J. I., Alexander, K., Nash, K., Tisserat, N. A., Cranshaw, W. S., Stewart, J. E. 2018. Drippy Blight, a disease of red oaks in Colorado, U.S., Produced from the combined effect of the scale insect *Allokermes galliformis* and the bacterium *Lonsdalea quercina* subsp. *quercina*. *Arboriculture and Urban Forestry*, 44(3), 146-152. (Published: January (1st Quarter/Winter) 2018)

Cranshaw, W., M. Schreiner, K. Britt, T. P. Kuhar, J. McPartland, and J. Grant. 2019. Developing Insect Pest Management Systems for Hemp in the United States: A Work in Progress. *Journal of Integrated Pest Management*. Volume 10, Issue 1, 2019, 26,

<https://doi.org/10.1093/jipm/pmz023> Published 28 August, 2019.

Sitz, R.A., V.M. Aquino, N.A. Tisserat, W.S. Cranshaw, and J.E. Stewart. 2019. Insects Visiting Drippy Blight Diseased Red Oak Trees Are Contaminated with the Pathogenic Bacterium *Lonsdalea quercina*. *Plant Disease* 103:1940-1946. <https://doi.org/10.1094/PDIS-12-18-2248-RE>

Krutil, K.D., A.L. Hall, W.S. Cranshaw, B.C. Kondratieff and R.A. Sitz. 2019. First Description of the Adult Male of the Gall-Like Scale Insect *Allokermes galliformis* (Riley) (Hemiptera: Coccothraupidae: Kermesidae). *Insects* 10(8): 250 <https://doi.org/10.3390/insects10080250>

Cranshaw, W. 2019. Note on predation of elm leaf beetle by a noctuid larva, *Caradrina montana* (Bremer). *Southwestern Entomologist* 44(1): 343-344.

<https://doi.org/10.3958/059.044.0140>

Cranshaw, W., P. Forrence, and B. Kondratieff. 2019. Observations on development of *Diogmites angustipennis* Loew (Diptera: Asilidae) in a cultivated field. *J. Kansas Entomol. Soc.* 92(1): 412-414.

O'Brien, C., A. Seshadri, and W. Cranshaw. 2019. Hanf als bedeutende Pollenquelle für Bienen in den Westlichen Vereinigten Staaten. (A Note on the Use of Hemp as a Significant Pollen Source for Bees in the Western United States) *Letzebuerger Beien-Zeitung* 3:103-107.

Giladi, Y., L. Hadad, N. Luria, W. Cranshaw, O. Lachman, and A. Dombrovsky. 2019. First Report of Beet Curly Top Virus Infecting *Cannabis sativa* L., in Western Colorado. *Plant Disease* Published Online:11 Nov 2019 <https://doi.org/10.1094/PDIS-08-19-1656-PDN>

Reynolds, J.W., W.K. Reeves, O.P. Olayemi, S.J. Fonte, M. M. Miller and W.S. Cranshaw. 2020. A new look at Earthworms (Oligochaeta: Lumbricidae) in Colorado, USA, as hosts of the cluster fly *Pollenia rudis* F. (Diptera: Calliphoridae). *Megadrilogica* 25(8): 107-112.

Cranshaw, W. and S. Wainwright-Evans. 2020. *Cannabis sativa* (L.) as a host of rice root aphid in North America. *J. Integrated Pest Management* 11(1), 15

<https://doi.org/10.1093/jipm/pmaa008>

Schreiner, M. and W. Cranshaw. 2020. A Survey of the Arthropod Fauna Associated with Hemp (*Cannabis sativa* L.) Grown in Eastern Colorado. *J. Kansas Entomol. Soc.* 93(2): in press

### **Photographs Featured in Publication**

A photograph of a trans-genus pairing of *Lygaeus kalmii* and *Oncopeltus fasciatus* was featured “What is This?” photograph in the Winter 2009 issue of *American Entomologist*

A series of photographs documenting the eclosion of the robber fly *Diogmites augustipennis* was published in the Spring 2007 issue of *American Entomologist*

### **Book Chapters (Post-2000)**

Cranshaw, W.S. 2001. Psyllid Yellows. pp. 73-74 in *Compendium of Potato Diseases and Pests, Second Edition*. eds. W.R. Stevenson, R. Loria, G.D. Franc, D.P. weingartner. The American Phytopathological Society. St. Paul, MN. 106 pp.

Cranshaw, W.S., W.D. Hutchison and E.B. Radcliffe. 2001. Insect Pests of Pea. pp. 40-47 in *Compendium of Pea Diseases and Pests, Second Edition*. eds. J.M. Kraft and F.L. Pflieger. The American Phytopathological Society. St. Paul, MN. 67 pp.

Cranshaw, W.S. 2004. Entries on: Crawler, Frass, Honeydew, Leafroller, Phytotoxemia, Shade Tree Arthropods and Their Management. in *Encyclopedia of Entomology*. ed. J.L. Capinera. Kluwer Academic Publishers. Dordrecht, Netherlands. 2580 pp.

Cranshaw, W.S. 2004. Chapter 9. Classes of Pesticides Used in Landscape/Nursery Pest Management pp. 42-44. in *IPM (Integrated Pest Management) of Midwest Landscapes*. eds. V. Krischik and J. Davidson. Minnesota Agricultural Experiment Station SB-07465. 316 pp.

Cranshaw, W.S. 2004. Chapter 10. Relative Hazards of Turf and Ornamental Pesticides to Non-target Species. pp. 45-48. in *IPM (Integrated Pest Management) of Midwest Landscapes*. eds. V. Krischik and J. Davidson. Minnesota Agricultural Experiment Station SB-07645. 316 pp.

Cranshaw, W., E. Grafius, T-X Liu, B. Nault, and D. Riley. 2005. Chapter 11. Onions in *Vegetable Insect Management*. ed. R. Foster and B. Flood. Meister Publishing Co. Willoughby, Ohio. 264 pp.

Cranshaw, W.S. 2008. II. Pests. in *Compendium of Onion and Garlic Diseases and Pests, 2<sup>nd</sup> Edition*. Ed. H.F. Schwartz and S.K. Mohan. APS Press. St. Paul, MN. 127 pp.

### **Presentations/Posters at Professional Meetings (2014-present)**

Cranshaw, W., A. Miller, C. Hayes, M. Schreiner, P. Nachappa. 2020. Hemp russet mite: What we know and what we need to know. 68<sup>th</sup> Annual Meeting, Entomological Society of America. November 17, 2020

Cranshaw, W., A. Miller and M. Schreiner. 2019. Pest management information regarding arthropods devolves to the internet – A glimpse into a world without entomologists! 67<sup>th</sup> Annual Meeting, Entomological Society of America, St. Louis, MO.

Schreiner, M., E. Peirce, and W. Cranshaw. 2019. Life history and natural enemies of cannabis aphid, an insect newly recognized in North America. 67<sup>th</sup> Annual Meeting, Entomological Society of America, St. Louis, MO.

AlAkeel, R. and W. Cranshaw. 2019. Investigation of leaf decomposition following use of trunk injected insecticides to control emerald ash borer. 67<sup>th</sup> Annual Meeting, Entomological Society of America, St. Louis, MO.

Sitz, R., M. Schreiner, A. Miller, B. Kondratieff, and W. Cranshaw. 2019. Characterizing the arthropods with Gambel oak shrub lands on the Palmer Divide. 67<sup>th</sup> Annual Meeting, Entomological Society of America, St. Louis, MO.

Cranshaw, W. 2019. Defining insect pest management needs in hemp. Invited symposium

speaker. Annual Meeting, Western Branch, American Phytopathological Society. June 25. Fort Collins, CO.

Cranshaw, W. 2019. Defining and responding to the insect pest management needs of a “new” crop: Industrial hemp. Invited symposium speaker. Annual Meeting, Western Branch, Entomological Society of America-Pacific Branch. April 3. San Diego, CA.

Cranshaw, W. 2018. Defining the insect pest management needs of a “new” crop: Industrial hemp. Invited symposium speaker. Annual Meeting, Entomological Society of America. Vancouver, B.C.

Schreiner, M. and W. Cranshaw. 2018. Insects affecting hemp in the High Plains/Rocky Mountain region. Annual Meeting, Entomological Society of America. Vancouver, B.C.

Sitz, R. and W. Cranshaw. 2018. Life history of *Allokermes galliformis* sheds light on its commensal relationship with the drippy blight pathogen. Annual Meeting, Entomological Society of America. Vancouver, B.C.

Cranshaw, W. 2017. Hemp insect pest management: Needs and challenges. Invited symposium speaker. Annual Meeting, Entomological Society of America, Denver, CO.

Peirce, E., R. Sitz, M. Schreiner, W. Burns, and W. Cranshaw. 2017. The natural enemy complex associated with European elm scale in Colorado, with emphasis on associated parasitoids.

Poster. 65<sup>th</sup> Annual Meeting, Entomological Society of America, Denver, CO.

Schreiner, M., Wendlin Burns, Erika Peirce, Larry Hurd, and W. Cranshaw. 2017. Identifying rose cultivars for the post-Japanese beetle landscape. Poster. 65<sup>th</sup> Annual Meeting, Entomological Society of America, Denver, CO.

Longtine, Z., W. Cranshaw, B. Kondratieff, M. Uchanski, M. Schreiner, W. Burns. 2017. Insect Faunal Survey of Three Non-Native Mustards as Overwintering Habitat for Cruciferous Insects. Poster. 65<sup>th</sup> Annual Meeting, Entomological Society of America, Denver, CO.

Al-Akeel, R. and W. Cranshaw. 2017. Investigations into some potential risks to non-target species from emerald ash borer applied insecticides. Poster. 65<sup>th</sup> Annual Meeting, Entomological Society of America, Denver, CO.

Sitz, R., J. Stewart, and W. Cranshaw. 2017. An Overview of Drippy Blight: An Emergent Insect Associated Disease of Red Oaks. Poster. 65<sup>th</sup> Annual Meeting, Entomological Society of America, Denver, CO.

Cranshaw, W. 2017. Cannabis pest management: A perspective from Colorado. Invited symposium speaker. Annual Meeting, American Phytopathological Society. August 5-9. San Antonio, TX.

Cranshaw, W. 2016. Insect management considerations in hemp production. Invited symposium speaker. Soil and Crop Society, Industrial Hemp Conference. July 23, 2016. Denver, CO

Cranshaw, W. 2014. Evaluation of trapping for use in managing western yellowjacket and other pest vespids in northern Colorado. 62nd Annual Meeting, Entomological Society of America. Portland, OR.

Sitz, R., P. Forrence and W. Cranshaw. 2014. Evaluating the efficacy of several insecticides on the neonicotinoid-resistant European elm scale. 62nd Annual Meeting, Entomological Society of America. Portland, OR.

### **Webinars**

Present Situation with Emerald Ash Borer in Colorado. November 1, 2019. Colorado State Master Gardener Program. <https://youtu.be/E1vhOisuv2k>

Industrial Hemp IPM. May 16, 2019. Northeastern IPM Center.

<https://www.northeastipm.org/ipm-in-action/the-ipm-toolbox/industrial-hemp-ipm/>

Invasive Insects Affecting Woody Plants – A 30-year Perspective. May 1, 2018. International Society of Arboriculture.

<https://learn.extension.org/webmail/view/b135917728b5b1c1ce622b0dcccffb5c2aa480aa2>

### **Book Review**

Cranshaw, W.S. 2004. *A Color Atlas of Pests of Ornamental Trees, Shrubs, and Flowers*. *American Entomologist* 49(2): 122

### **Photographs Submitted and Posted at BugWood/IPM Images**

Submitted 5910 images (November 2019) to BugWood/IPM Images. These are regularly used in publications and in educational materials around the world.

### **Extension, Popular Press Publications (2000-present)**

Cranshaw, W., D. Leatherman, W. Jacobi and L. Mannix (coordinators). 2000. Insects and Diseases of Woody Plants of the Central Rockies. *Cooperative Extension Bulletin* 506A. 283 pp.

Cranshaw, W. 2001. Lady Beetles. *Colorado State University Fact Sheet* 5.594. 4 pp.

Cranshaw, W. 2002. Mantids of Colorado. *Colorado State University Fact Sheet* 5.510. 4 pp.

Cranshaw, W. 2002. Hornworms and Hummingbird Moths. *Colorado State University Fact Sheet* 5.517. 4 pp.

Peairs, F.B., W.S. Cranshaw and P.E. Cushing. 2002. Spiders in the Home. *Colorado State University Fact Sheet* 5.512. 6 pp. *Colorado State University Fact Sheet* 5.512. 6 pp.

Leatherman, D. and W. Cranshaw. 2003. Ips Beetles. *Colorado State University Fact Sheet* 5.558. 3 pp.

Cranshaw, W. 2003. Managing Houseplant Pests. *Colorado State University Fact Sheet* 5.595. 8 pp.

Cranshaw, W. 2003. Miller Moths. *Colorado State University Fact Sheet* 5.596. 4 pp.

Cranshaw, W. 2003. Indian Meal Moth. *Colorado State University Fact Sheet* 5.597. 3 pp.

Cranshaw, W. 2003. Clothes Moth: Identification and Control in the Home. *Colorado State University Fact Sheet* 5.597. 4 pp.

Cranshaw, W. and R. Wilson. 2004. Fleas and Plague. *Colorado State University Fact Sheet* 5.600. 3 pp.

Cranshaw, W. 2004. Landscape and Nursery Insect Management Recommendation Guide. *Colorado State Extension Bulletin* XCM-38. 88 pp.

Cranshaw, W., D. Leatherman, W. Jacobi and L. Mannix (coordinators). 2004 (revision). Insects and Diseases of Woody Plants of the Central Rockies. *Cooperative Extension Bulletin* 506A. 292 pp.

Cranshaw, W. 2005. Poplar twig gall fly affects aspen. *American Nurseryman* 201 (Feb 15): 8

Cranshaw, W. 2007. Japanese Beetle. *Colorado State University Extension Fact Sheet* 5.601. 4 pp.

Cranshaw, W. 2007. Springtails. *Colorado State University Extension Fact Sheet* 5.602. 2 pp.

Cranshaw, W. 2007. False Chinch Bugs. *Colorado State University Extension Fact Sheet* 5.603. 2 pp.

Cranshaw, W. 2007. Pigeon Tremex and the Giant Ichneumon Wasp. *Colorado State University Extension Fact Sheet* 5.604. 2 pp.

Cranshaw, W. 2007. Western Widow. *Colorado State University Extension Fact Sheet 5.605*. 4 pp.

Cranshaw, W. 2007. White Pine Weevil. *Colorado State University Extension Fact Sheet 5.606*. 4 pp.

Cranshaw, W. and R. Hammon. 2008. Grasshopper Control in Gardens and Small Acreages. *Colorado State University Extension Fact Sheet 5.536*. 4 pp.

Cranshaw, W. 2008. Brown Recluse Spiders in Colorado: Recognition and Spiders of Similar Appearance. *Colorado State University Extension Fact Sheet 5.607*. 4 pp.

Cranshaw, W. 2008. Leafhoppers on Lawns. *Colorado State University Extension Fact Sheet 5.608*. 2 pp.

Cranshaw, W. 2008. Weird Worms: Horsehair worms and the grasshopper nematode. *Colorado State University Fact Sheet 5.609*

Cranshaw, W. 2008. Squash Bugs: Management in home gardens. *Colorado State University Fact Sheet 5.609*

Cranshaw, W. 2008. European Paper Wasp. *Colorado State University Fact Sheet 5.611*.

Cranshaw, W. and N.A. Tisserat. 2008. Walnut beetle and the 1000 cankers disease. Northern Nutgrowers Association. <http://www.nutgrowing.org/feature1.htm>

Cranshaw, W. And R. A. Cloyd. 2009. Fungus Gnats as Houseplant and Indoor Pests. *Colorado State University Extension Fact Sheet 5.584*.

Peairs, F. and W. Cranshaw. 2009. *Bug Mugs*. Project of the Colorado State Extension Entomology Program. <http://bspm.agsci.colostate.edu/files/2013/03/Bug-Mugs-Binder.pdf>

Cranshaw, W. and J. Hardin. 2009. Invasive Species Teacher's Guide. Ag in the Classroom/Colorado Reader. September 2009.

Cranshaw, W. and B. Hammon. 2013. Codling Moth: Control in Home Plantings. Colorado State Extension Fact Sheet 5.613 <http://www.ext.colostate.edu/pubs/insect/05613.html>

Cranshaw, W., W. Jacobi, D. Leatherman, and N. Tisserat. 2014. *Insects and Diseases of Woody Plants in Colorado*. Colorado State University Extension Bulletin 506A. 322 pp.

Cranshaw, W. 2014. Lilac/Ash Borer: A common wood borer on Colorado's street trees. Colorado State University Extension Fact Sheet 5.614 <http://extension.colostate.edu/docs/pubs/insect/05614.pdf>

Cranshaw, W.S. 2017. Indian Meal Moth. Colorado State Extension Fact Sheet 5.598 (revised). <https://extension.colostate.edu/topic-areas/insects/indian-meal-moth-5-598/>

Cranshaw, W. 2017. Spotted-wing Drosophila: Management in Home Plantings. Colorado State Extension Fact Sheet 5.596. <https://extension.colostate.edu/topic-areas/insects/5-596-spotted-wing-drosophila-management-home-plantings/>

Cranshaw, W.S. and F.B. Peairs. 2017. Flies in the Home. Colorado State Extension Fact Sheet 5.502 (revised). <https://extension.colostate.edu/topic-areas/insects/flies-in-the-home-5-502/>

Cranshaw, W.S. 2017. Ants in the Home. Colorado State Extension Fact Sheet 5.518 (revised). <https://extension.colostate.edu/topic-areas/insects/ants-in-the-home-5-518/>

Cranshaw, W.S., P. Cushing, J. Brookhart. 2017. Windscorpions (Sunspiders) of Colorado. Colorado State Extension Fact Sheet 5.589. <https://extension.colostate.edu/topic-areas/insects/sunspiders-windscorpions-5-589/>

Cranshaw, W. 2018. Japanese Beetle. Colorado State Extension Fact Sheet 5.601. <http://www.ext.colostate.edu/pubs/insect/05601.html>

Cranshaw, W. 2018. Harlequin Bug. Colorado State Extension Fact Sheet 5.617. <https://extension.colostate.edu/harlequin-bug-5-617/>

Cranshaw, W. 2018. Cluster Flies and other “Winter Flies”. Colorado State Extension Fact Sheet 5.618. <https://extension.colostate.edu/topic-areas/insects/cluster-flies-and-other-winter-flies-5-618/>

Cranshaw, W. 2018. Dermestid Beetles (Carpet Beetles). Colorado State Extension Fact Sheet 5.549 (revised). <https://extension.colostate.edu/topic-areas/insects/carpet-beetles-5-549/>

Cranshaw, W. 2018. Elm Leaf Beetles. Colorado State Extension Fact Sheet 5.521 (revised). <https://extension.colostate.edu/topic-areas/insects/elm-leaf-beetles-5-521-2/>

Cranshaw, W. 2019. Potato/Tomato Psyllids. Colorado State Extension Fact Sheet 5.540 (revised) <https://extension.colostate.edu/topic-areas/insects/potato-or-tomato-psyllids-5-540/>

Cranshaw, W. 2019. Aphids on Shade Trees and Ornamentals. Colorado State Extension Fact Sheet 5.511 (revised) <https://extension.colostate.edu/topic-areas/insects/aphids-on-shade-trees-and-ornamentals-5-511/>

Cranshaw, W.S. 2019. Root Weevils. Colorado State Extension Fact Sheet 5.551 (revised) <https://extension.colostate.edu/topic-areas/insects/root-weevils-5-551/>

Cranshaw, W.S. 2019. Flea Beetles. Colorado State Extension Fact Sheet 5.592 (revised) <https://extension.colostate.edu/topic-areas/insects/flea-beetles-5-592/>

Cranshaw, W. 2019. Mantids of Colorado. Colorado State Extension Fact Sheet 5.510 (revised). <https://extension.colostate.edu/topic-areas/insects/mantids-of-colorado-5-510/>

Cranshaw, W. and B. Kondratieff. 2019. Cicadas. Colorado State Extension Fact Sheet 5.590 (revised). <https://extension.colostate.edu/topic-areas/insects/cicadas-5-590/>

Cranshaw, W. 2019. Shade Tree Borers. Colorado State Extension Fact Sheet 5.530 (revised). <https://extension.colostate.edu/topic-areas/insects/shade-tree-borers-5-530/>

Cranshaw, W.S., F.B. Peairs, and B.C. Kondratieff. 2019. Colorado Ticks and Tick-borne Diseases. Colorado State Extension Fact Sheet 5.593 <https://extension.colostate.edu/topic-areas/insects/colorado-ticks-and-tick-borne-diseases-5-593/>

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Cranshaw, W. 2019. Recognizing Wood Boring Insects of Ash Trees in Colorado. Colorado State Extension Fact Sheet 5.620. <https://extension.colostate.edu/topic-areas/insects/recognizing-wood-boring-insects-of-ash-trees-in-colorado-5-620/>

Hermes D.A., D.G. McCullough, C.S. Sadof, D.R. Smitley, F.D. Miller, and W. Cranshaw. 2019. Insecticide options for protecting ash trees from emerald ash borer. North Central IPM Center Bulletin. 3rd Edition. 16 pp.

## **OLDER ACTIVITIES**

### **Publications in Professional/Refereed Journals (prior to 2010 publication)**

Barbosa, P., E.A. Frongillo and W.S. Cranshaw. 1979. Orientation of field populations of *Brachymeria intermedia* (Hymenoptera: Chalcidae) to host and host habitat cues. Entomophaga 23: 63-7.

Barbosa, P., J. Greenblatt, W. Withers, W. Cranshaw and E.A. Harrington. 1979. Host-plant preferences and their induction in larvae of gypsy moth, *Lymantria dispar*. Ent. Exp. Appl. 25: 180-8.

Cranshaw, W.S. and E.B. Radcliffe. 1980. Effect of defoliation on yield of potatoes. J. Econ. Entomol. 73: 131-4.

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polymorphic dispersal behaviors in the gypsy moth, *Lymantria dispar*. Can. J. Zool. 59: 293-6.

Zalom, F.G. and W.S. Cranshaw. 1981. Effects of an aluminum foil mulch on parasitism and fecundity of apterous *Myzus persicae* (Homoptera: Aphididae). Great Lakes Entomologist 14: 171-6.

Radcliffe, E.B., R.E. Cancelado and W.S. Cranshaw. 1981. Establishing action thresholds for insect pests. Chap. 31, Integrated plant protection for potatoes. Proc. IXth Int. Congr. Plant Protection. II: 477-80.

Cranshaw, W.S. 1984. Effect of a hay mulch and of a companionate planting on cabbage pest populations. Great Lakes Entomol. 17: 9-12.

Cranshaw, W.S. and E.B. Radcliffe. 1984. The influence of cultivar and host plant age on European corn borer (Lepidoptera: Pyralidae) infestation in snap beans. J. Econ. Entomol. 77: 37 4-6.

Cranshaw, W.S. and E.B. Radcliffe. 1984. Insect Contaminants of Minnesota Processed Peas. Univ. Minn. Tech. Bull. AD-TB-2211.

Cranshaw, W. S. and R. J. Dufault. 1985. Effect of artificial defoliation on broccoli yield. Great Lakes Entomol. 18: 55-7

Cranshaw, W.S. 1985. Clover root curculio injury and abundance in Minnesota alfalfa of different stand age. Great Lakes Entomol. 18: 93-5.

Capinera, J.L., W.S. Cranshaw and H.G. Hughes. 1986. Suppression of raspberry crown borer, *Pennisetia marginata* (Harris) (Lepidoptera: Sesiidae) with soil applications of *Steinernema feltiae* (Rhabditida: Steinernematidae). J. Invert. Pathol. 48: 257-8.

Krysan, J.L., D.E. Foster, T.F. Branson, K.R. Ostlie and W.S. Cranshaw. 1986. Two years before the hatch: Rootworms adapt to crop rotation. Bull. Entomol. Soc. Am. 32: 250-53.

Frankie, G.W., J.W. Brewer, W. Cranshaw, and J.F. Barthell. 1987. Abundance and natural enemies of the spindle gall midge, *Pinyonia edulicola* Gagne, in natural and urban stands of Pinyon pine in Colorado. J. Kansas Entomol. Soc. 60: 133-44.

Meyer, W.L., W.S. Cranshaw, and T.D. Eichlin. 1988. Flight patterns of clearwing borers in Colorado based on pheromone trap captures. Southwestern Entomologist 13: 39-46.

Cranshaw, W.S. and M.K. Thornton. 1988. Effects of soil systemic insecticides on potato growth and their interaction with metribuzin. Am. Potato J. 65: 535-541.

Cranshaw, W.S., S.J. Day, T. Gritzmacher, and R.J. Zimmerman. 1989. Field and laboratory evaluations of *Bacillus thuringiensis* strains for elm leaf beetle control. J. Arboriculture 15 (2): 31-4.

Zimmerman, R.J. and W.S. Cranshaw. 1990. Compatibility of three entomogenous nematodes (Rhabditida) in aqueous solutions of pesticides used in turfgrass maintenance. J. Econ. Entomol. 83 (1): 97-100.

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Cranshaw, W.S. 1989. Patterns of galling by the Cooley spruce gall adelgid, *Adelges colleyi*, on Colorado blue spruce. J. Arboriculture 15: 277-280.

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Liewehr, D.J. and W.S. Cranshaw. 1991. Effects of background color and background patterns on landing rates of aphids. Southwestern Entomologist 16: 13-18.

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Cranshaw, W.S. 1993. An annotated bibliography of the potato/tomato psyllid, *Paratrioza cockerelli* (Sulc). *Colorado Agric. Expt. Stn. Bull.* TB93-5. 51 pp.

Meyer, W.L. and W.S. Cranshaw. 1994. Capture of clearwing borers (Lepidoptera: Sesiidae) with three synthetic attractants in Colorado. *Southwestern Entomol.* 19(1): 71-76.

Kondratieff, B.C. and W.S. Cranshaw. 1994. Insect and mite pests associated with West Slope wine grapes. *Colo. Agric. Expt. Stn. Tech. Rpt* TR94-1. 12 pp.

Eckberg, T.B. and W.S. Cranshaw. 1994. Larval biology and control of the rabbitbrush beetle, *Trirhabda nitidicollis* (LeConte) (Coleoptera: Chrysomelidae). *Southwestern Entomol.* 19(3): 249-256.

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Eckberg, T.B. and W.S. Cranshaw. 1995. Notes on the biology and control of the poplar twig gall fly, *Hexomyza schineri* (Giraud) (Diptera: Agromyzidae), an emerging pest of aspen in Colorado. *J. Kansas Entomol Soc.* 68(2): 127-132.

Zimmerman, R.J., D.C. Sclar, T. Randolph and W.S. Cranshaw. 1995. Toxicity of neem-derived insecticides to various life stages of the elm leaf beetle. *J. Arboric.* 21: 181-186.

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Cranshaw, W. S., Sclar, D.C. and D. Cooper. 1996. A review of pricing and associated literature of suppliers providing organisms for biological control of arthropods in 1994. *Biological Control: Theories and Applications in Pest Management.* 6: 291-296.

Al-dosari, S.A., W.S. Cranshaw and F.C. Schweissing. 1996. Effects on control of onion thrips from co-application of onion pesticides. *Southwestern Entomol.* 21(1): 49-54.

McIntyre, J.A., D.A. Hopper and W.S. Cranshaw. 1996. Aluminized fabric deters thrips from entering greenhouses. *Southwestern Entomol.* 21(2): 135-40.

Cranshaw, W.S. 1997. Attractiveness of beer and fermentation products to the gray garden slug, *Agriolimax reticulatum* (Muller) (Mollusca: Limacidae). *Colorado State Agricultural Experiment Station Technical Bulletin* TB97-1. 7 pp.

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### **Special Curriculum Development**

(1996, with Gayla Horvath, Nancy Zuschlag) Developed a Colorado Reader/Ag in the Classroom *Insects and Spiders Helping Humans*. Distributed to 75,000 elementary students statewide. Assisted with accompanying teachers guide.

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*Rocky Mountain Gardener*

*National Gardening*

*Organic Gardening*

Brooklyn Botanic Garden

Office of Technology Assessment

### **Miscellaneous**

Coordinator/Co-Coordinator of winning entry in Colorado State Homecoming Parade-Novelty Division (1990, 1993, 1998, 1999, 2000, 2001)

Developed Gillette Entomology Club Slide Collection (1987-89); Revised Gillette Entomology Slide Collection (1993-94)

Advisor, Gillette Entomology Club (1998-present)

Contributed 2380 insect images to BugWood/IPM Images, making me the largest single entomology contributor to this nationwide image project (2003-present); arranged for 134 images to be included from the estate of Howard Ensign Evans

Successfully proposed over 10 common names for insects through the Entomological Society of America Common Names committee process

Annually contribute produce from field plots to the Food Bank for Larimer County (1998-present)

Participant in Ag Days (1996, 1998-2006)

Coordinator Insect/Plant Horror Film Series (1998-2002)

Captain, Dung Rollers Bowling Team, CSU Recreational League (2002-2007)

4-H Judge, Colorado State Fair (Entomology projects)

Odyssey of the Mind, Poudre School District (Judge 2004-2006, Problem Captain 2006-present)



2006 Larimer County Fair - Won 4 blue ribbons, one red and one white for vegetables and herbs  
2008 Larimer County Fair - Won 8 blue ribbons, 2 red and 3 white for vegetables and herbs