

## Curriculum Vitae

Megha N. Parajulee  
Professor and Faculty Fellow/Cotton Entomology Project Leader  
Texas A&M AgriLife Research and Extension Center  
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### I. Education

**Associate Degree in Agriculture.** Institute of Agriculture and Animal Sciences, Kathmandu, Nepal (1979-1982). Ranked No. 1 among 300 graduating students.

**B.Sc. (Distinguished) in Agriculture (Agricultural Economics Track).** Himachal Pradesh Agriculture University, Solan, India (1983-1987). Ranked No. 1 (gold medalist) in both the Agricultural Economics Track and at the University among 150 graduating students.

**M.S. Entomology,** University of Wisconsin-Madison (1990-1991). Thesis title: Developing a fecundity model and methods for low-input rearing systems for use in mass production of *Acheta domesticus* as food and feed (Major Professor: Gene R. DeFoliart).

**Ph.D. Entomology,** University of Wisconsin-Madison (1991-1994). Dissertation title: Life history, predatory biology, and population ecology of *Lyctocoris campestris* (Hemiptera: Anthocoridae) in stored grain (Major Professor: Thomas W. Phillips).

### II. Professional Experience

#### *Current Position*

- Sep 2010-current Professor and Faculty Fellow/Cotton Entomology Project Leader (Texas AgriLife Research 75%, Texas Tech Univ. teaching 25%), Lubbock.
- Jan 2004-current Adjunct Faculty, TTU Department of Biological Sciences, Lubbock, TX.  
Member of the Graduate Faculty, Texas Tech University (October 2001-current) and Texas A&M University (February 2002-current).

#### *Past Positions and Experiences*

- Jul 87 - Jan 90 Assistant Lecturer-Entomology, Institute of Agriculture, Rampur, Nepal.
- Jan 90 - May 94 Research Assistant, Department of Entomology, UW-Madison, WI.
- Jun 94 - Jun 96 Postdoctoral Research Associate, Department of Entomology, Texas A&M University, College Station, TX.
- Jul 96 - Jan 00 Research Associate, Texas Agricultural Experiment Station, Vernon, TX.
- Feb 00 - Aug 01 Research Scientist, Texas Agricultural Experiment Station, Vernon, TX.
- Sep 01 - Aug 06 Assistant Professor/Cotton Entomology Project Leader (research 75%), Texas Agricultural Experiment Station (now Texas AgriLife Research). Joint appointment with Texas Tech University (teaching appointment 25%) in the Department of Plant and Soil Science, Lubbock, TX.
- Sep 2006-Aug 10 Associate Professor/Cotton Entomology Project Leader (Texas AgriLife Research/Texas Tech University), Lubbock.

***Current Position Description:***

**FUNCTION:** Cotton Entomologist, Individual will develop and implement a strong research program in cotton entomology that attracts extramural funding. It will include ecology and management of cotton pests to support timely IPM research to ensure continued profitable cotton production in the Texas High Plains. Individual will collaborate and coordinate with scientists affiliated with the TTU and Texas AgriLife Research cotton programs, Texas AgriLife Extension, USDA-ARS, and scientists at TAMU College Station on aspects of entomology and associated production of cotton. Individual will also be expected to guide graduate student research, teach a course at TTU and participate in professional activities at international, national, regional, and local levels.

**SCOPE:** Research will mainly focus on field experiments designed to understand biology and behavior of cotton arthropods in the Texas High Plains. This program will interact with other scientists to provide a framework for cropping systems sequences and strategies related to arthropod management. Research will be based at the Texas AgriLife Research and Extension Center at Lubbock, Texas.

**DUTIES AND RESPONSIBILITIES:** Responsibilities include project leadership in the development of integrated approaches of arthropod management in cotton, with laboratory and field experimentations. The researcher will conduct research independently and as part of a multidisciplinary team, publish results of work, procure contract and grant funding, develop and sustain a strong graduate training program, communicate effectively with producers, agribusiness, industry, students, government agency personnel, and academic audiences through writing and public speaking.

**SUPERVISION:** The incumbent is administratively and operationally under the direction of the Resident Director of Research, Lubbock, and will receive specific research, administration, and general mission support. The individual will have a disciplinary affiliation with the Department of Entomology. Incumbent, with consent of Resident Director, hires and supervises technicians, research assistants, and other support personnel in the operation of his research program. He is responsible for maintenance of research facilities and equipment under his assignment and care, and for the expenditure of research funds, whether public or private.

**III. Teaching**

***Program Statement, Teaching Philosophy, and Accomplishment***

Dr. Parajulee has a joint appointment of research (75% Texas AgriLife Research) and teaching (25% Texas Tech University Plant and Soil Science Department). He is expected to teach one course per year as part of his 25% teaching appointment with TTU. Because he teaches two courses (Advanced Insect Ecology and Economic Entomology), both graduate level courses, he offers these courses in alternate years, typically Economic Entomology (which is an Advanced Integrated Pest Management course at TTU) in the odd-numbered years and Advanced Insect Ecology in the even-numbered years. In addition, he taught a piggyback undergraduate course, Integrated Pest Management, simultaneously with Economic Entomology, until 2008. He also offers special topic courses on insect morphometry, molecular entomology, and cotton IPM field research every year.

Because Dr. Parajulee's teaching appointment is with Texas Tech University, which is about 10 miles from the Lubbock Center, this portion of his appointment requires extra effort and careful planning to balance research and teaching efforts at two institutions. Nevertheless, his passion for

teaching has made this joint task very rewarding. His commitment to this activity has been reflected on his teaching evaluations. Dr. Parajulee has received an overall student evaluation rating of 4.84 (out of 5.00) during the past 6 years of teaching (Fig. 1). This level of rating puts him at or near the top amongst the departmental faculty (total of 23). The primary objectives of Dr. Parajulee's teaching program are to educate students about ecological concepts applicable to integrating pest management strategies, with a broad objective of reducing unilateral reliance on chemical control and advancing the use of biological and cultural methods. He places a high premium on students learning the concepts and the processes as to 'how' and 'why' rather than 'what,' to motivate students to be able to learn on their own without being intimidated by complexity. Nine students have earned M.S. degrees through his program during the last seven years. Currently, there are two Ph.D. and five M.S. students working under his direction, and in addition, he serves on two other student committees. Texas Tech University does not have a Ph.D. program in Entomology, so his two Ph.D. students work through the Texas A&M Entomology Department (435 miles from Lubbock) or the TTU Biological Sciences Department. He has high expectations of his graduate students, but he also takes a high degree of responsibility to ensure their proper training and marketability after graduation.

Dr. Parajulee is extremely proud of the professional growth and academic achievements of students in his laboratory. Every student for whom he served as Major Professor received one or more scholarship/fellowship awards during their graduate work in his program. He places a high priority on training graduate students to think critically, conduct quality research and disseminate the research findings to target clientele, engage in professional services, and to develop strong ethical standards in public discourse. The various scholarships and fellowships bestowed upon them, as well as their presentations of research outcomes at local producer meetings, Entomological Society of America meetings, Beltwide Cotton Conferences, and International Conferences reflect success in fulfilling that priority.

**Formal Courses Taught**

1. Undergraduate Courses Taught (both fixed and variable credit):

Course Title (Number)	Credit Hrs.	No. of Students Enrolled	Student Evaluation Average Score (out of 5.00)	When Taught	
				Semester	Years
Integrated Pest Management (PSS 4305)	3	10	4.50	Spring	2004
Integrated Pest Management	3	10	4.76	Spring	2006
Integrated Pest Management	3	2	4.50	Spring	2008

2. Graduate Courses Taught (both fixed and variable credit)

Course Title (Number)	Credit Hrs.	Average No. of Students Enrolled	Student Evaluation Score (out of 5.00)	When Taught	
				Semester	Years
Insect Ecology (PSS 5310)	3	9	4.82	Spring	2003
Economic Entomology (PSS 5304)	3	5	4.80	Spring	2004
Insect Ecology (PSS 5310)	3	4	--	Spring	2005
Economic Entomology (PSS 5304)	3	4	4.63	Spring	2006
Insect Ecology (PSS 5310)	3	5	5.00	Spring	2007

Economic Entomology (PSS 5304)	3	8	4.90	Spring	2008
Insect Ecology (PSS 5310)	3	6	4.80	Spring	2009
Precision Agriculture (PSS 5329)	3	5	--	Summer	03, 06, 08
Selected Topic (PSS 6001)	1-6	2.1	--	Every	2003-2009
Graduate Research (PSS 7000/BIOL 7000)	1-9	1.8	--	Every	2002-2009
Master's Thesis (PSS 6000)	1-6	1.8	--	Every	2003-2009
Doctoral Dissertation (BIOL 8000)	1-6	1	--	Every	2008-2009

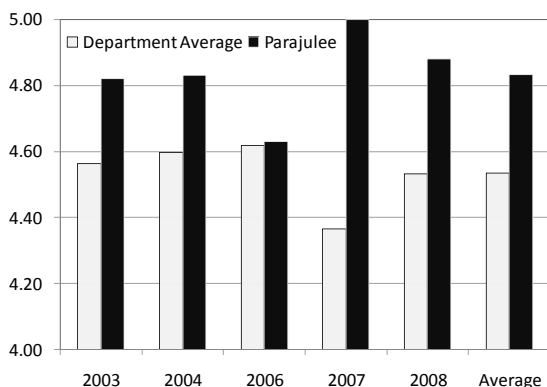


Fig. 1. Student evaluation rating (out of 5.00; graduate level courses) of Dr. Parajulee in comparison with Plant and Soil Science Department faculty average evaluation rating (n=23 faculty), 2003-2008.

### ***Creativity in Teaching and Students' Qualitative Evaluation of Teaching Performance***

Dr. Parajulee expects high teaching-learning standards in his class (see *Teaching Philosophy* above), which sometimes creates a false sense among students (in the beginning, at least) that he is a “difficult” and “uncompromising” professor. Students are partly correct in their perception, because they are expected to engage fully in the class rather than simply taking the class for the purpose of obtaining a grade. Both courses taught require significant project assignments, multiple in-class and take-home exams, a class presentation, and a lecture. Each student must prepare a lecture on a pre-determined topic (assigned at the beginning of the semester) in consultation with the instructor, and then must actually deliver said lecture with all audio-visual preparations. Students are required to provide an in-depth report on their project assignments and exams are to be evaluated based on critical thinking and “reasoning” of the answers they provide as opposed to simple, straightforward answers. While few students complain that it is too much for a 3-h course, the instructor receives very positive comments at the completion of the courses. One student from the Biology Department said “*I greatly appreciate your efforts in shaping up this course in a new and different style. It is something different, but I liked it.*” Yet another student wrote on his/her instruction evaluation sheet, “*Out of all my instructors, from undergraduate on up through graduate school, none of them have taught me as much as Megha. He is an exceptional instructor. I would highly recommend him to anyone thinking of taking a class from him. I really enjoyed his class and look forward to having him for another class.*” However, not all students in the class gave this type of review. Another student wrote, “*It was an extremely interesting and worthwhile course, but a bit too involved for the credit hours earned.*” These statements exemplify the quality and rigor of Dr. Parajulee’s teaching program.

### ***Teaching Seminar and Guest Lectures***

- Co-taught a graduate seminar class (Spring, 2005) at Texas Tech University, with special emphasis on preparation of effective oral and poster presentations. Used several posters and slide presentations from research program (former and current graduate students' presentations) to highlight examples of effective and less-than-effective presentations.
- Invited speaker in Plant and Soil Science Seminar Class, April 24, 2004. Title: *Practical comments on experimental design and analysis of field research data*.
- Invited speaker in Plant and Soil Science Seminar Class, February 14, 2005. Title: *Entomology and human life: An amazing relationship*.
- Invited speaker in Plant and Soil Science for a 3-hour guest lecture on Turf Insect Pest Management, February 13, 2007. Title: *Integrated pest management in turf ecosystems*.

### ***Direction of Graduate Students***

1. Currently as: Major Advisor/Co-Advisor

Committee Member

M.S. Degree:

Angela J. Fernando (May 2012)  
Raymondbo J. Kesity (May 2013)

Ph.D. Degree:

Apurba K. Barman (May 2012)  
Dylan Wann (May 2015)

Stephanie Lockwood (December 2011)  
Saranya Ganapathy (May 2013)  
Justin Fiene (December 2012)

2. Graduate Council Representative on Doctoral Advisory Committees:

- Eric Raymond Paul, Ph.D., Department of Biological Sciences (May 2006).
- Sujatha Venkataramani, Ph.D., Department of Biological Sciences (Dec. 2006).
- Nilesh Chitnis, Ph.D., Department of Biological Sciences (December 2007).
- Vijaykumar Veerappan, Ph.D., Department of Biological Sciences (May 2008).
- Justin A. Weinheimer, Ph.D., Department of Agricultural and Applied Economics (December 2008).
- Binod Maharjan, Ph.D., Department of Industrial Engineering (December 2010).
- Nicholas N. Denwar, Ph.D., Department of Plant and Soil Science (December 2010).
- Shyam Adhikari, Ph.D., Department of Agricultural and Applied Economics (May 2011).

3. Graduate Students Receiving Degrees for Which Faculty Member Served as Major Advisor:

- **Bryan Edgar Henson, M.S.**, Development and survivorship of the cotton aphid, *Aphis gossypii* Glover, on selected cotton race stocks, May 2004. Employed by Bayer CropScience, Lubbock, TX.
- **Padma Latha Bommireddy, M.S.**, Effect of irrigation regimes on crop phenology and arthropod populations in Texas, August 2004. Ph.D. from Louisiana State University. Currently a Field Crop Entomologist with Monsanto, St. Louis, MO.
- **Andy Marshal Cranmer, M.S.**, Influence of planting date and cotton cultivar on *Lygus* and fleahopper abundance in the Texas High Plains and the relationship between boll age and *Lygus hesperus* damage, August 2004. Currently a Farm Manager at Texas AgriLife Research farm, Halfway, TX.
- **Ram Babu Shrestha, M.S.**, Ecology of arthropods in Texas High Plains cotton and development of sampling plans for selected cotton pests, August 2004. Also obtained a Ph.D. (Biology) with Dr. Parajulee (see below).
- **Anand Prasad Sapkota, M.S.**, Population dynamics of *Aphis gossypii* in cotton: Laboratory studies and field validation, December 2004. Returned to his home country and is a Managing Director of a Private Consulting Firm.
- **Apurba K. Barman, M.S.**, *Lygus hesperus* Knight in the Texas High Plains: Cotton compensation after fruit damage and host plant selection with implications for cotton IPM, December 2006. Currently a PhD student with Drs. Raul Medina and Megha Parajulee at Texas A&M University in College Station.
- **Walter A. Albeldaño, M.S.**, Influence of irrigation and tillage system on cotton fleahopper (*Pseudatomoscelis seriatus*) activity in the Texas Rolling Plains, December 2007. Currently a Field Crop Research Scientist with Valent Company, Stoneville, MS.
- **Ebenezer Ato Ewusie, M.S.**, Potentials and prospects of strip cropping in the management of cassava whitefly (*Bemisia tabaci*) in peri-urban agroecosystems, August 2008. Currently a Research Scientist with Ghana Atomic Energy Commission, Accra, Ghana.
- **Chen Chen, M.S.**, Life history parameters and population dynamics behavior of *Lygus hesperus* in selected hosts, June 2009. Continued PhD at Texas Tech University in Agricultural and Applied Economics.
- **Teresa M. Cross, M.S.**, Non-thesis option, August 2010. Current professional status unknown.
- **Mahendra B. Adhikari, M.S.**, Non-thesis option, May 2010. Currently managing a hotel enterprise in Lubbock, TX.
- **Abhilash Balachandran, M.S.**, Residual toxicity and sublethal effects of insecticides on oviposition behavior of *Lygus hesperus* in cotton, May 2010. Currently a Biologist II-Discovery Biology, Dow AgroSciences, Indianapolis, IN.

- **Diwash Neupane, M.S.**, The impacts of water and nitrogen use on cotton lint yield and quality: An econometric analysis, May 2010. Currently a PhD student at University of Florida, Gainesville, FL.
- **Anup Bastola, M.S.**, Arthropod community structures and convergent lady beetle intercrop movement behavior in adjacent cotton and alfalfa, May 2011.
- **Ram Babu Shrestha, Ph.D.**, Ontogenic morphometry and genetic diversity of *Lygus hesperus* (Hemiptera: Miridae), May 2011. Currently a Research Associate at Texas A&M AgriLife Research and Extension Center.

4. Graduate Students Receiving Degrees for Which Faculty Member Served as Committee Member:

- **Manoj Banjara, M.S.**, Expression of the *AtNHX1* gene in peanut to increase salt tolerance in peanut plants, August 2010. Currently a doctoral student at Texas Tech University Health Science Center, Amarillo, TX.
- **N. Ravi Kumar, Ph.D.**, Motion tracking of insects in image sequence, December 2008, National Institute of Technology, Tamilnadu, India.
- **K. Rajkumar, Ph.D.**, Study on polyphagous membracids in Thiruvallur district in Tamil Nadu, May 2010, University of Madras, Chennai, India.
- **Samuel Tennyson, Ph.D.**, Studies on the mosquitocidal activity of *Ageratum houstonianum* Mill. (Asteraceae) against vector mosquitoes, December 2010, University of Madras, Chennai, India.

**Cumulative summary of graduate student advising (career total)**

Degree	Served as	
	Chair or Co-Chair	Committee Member
M.S.	16	1
Ph.D.	3	6
Total	19	7

5. Visiting Scientists Supervised:

- **Dr. Fajun Chen**, Associate Professor, Nanjing Agricultural University, Nanjing, China (January 2011-January 2012).
- **Dr. Feng Ge**, Professor and Director of Institute of Zoology, Chinese Academy of Sciences, Beijing, China, Visiting Scholar (January-February, 2003; July-October, 2003).

***Role in Obtaining Internal/External Funds in Support of Teaching and Graduate Training***

Dr. Parajulee's teaching assignment at Texas Tech University accompanies his minority appointment and as such, he does not have a tenure-track, on-campus teaching responsibility.

Also, his students office at Texas AgriLife Cotton Entomology Program Laboratory; thus, Dr. Parajulee is solely responsible for providing space, resources, and opportunities for them to succeed. Neither TTU nor Texas AgriLife Research provides research assistantships for his graduate training program. However, he strives to acquire grant funding for teaching and research instrumentation, as well as for laboratory improvements to provide the best possible opportunity for his graduate students to receive hands-on field entomology training. His graduate students (currently 4 in his program) receiving paid research assistantships do so through grants and contracts generated by him through various external/internal sources. Dr. Parajulee truly integrates students in teaching and research programs by providing them the opportunity to get involved in teaching (as unofficial TAs). Also, while each graduate student will have his/her specific topic of research, his graduate students are compelled to engage and participate, at least partially, in other research projects within the Program to facilitate broad training and to enable exposure to the multidisciplinary research environment. Dr. Parajulee has a unique graduate student training model in which the laboratory employs one Associate Research Scientist and one Research Associate who are charged with overseeing graduate students' needs for laboratory logistics and scientific research. The Program employs two other technicians to assist graduate students with research activities as needed. It is truly a team approach to research, where students working in basic (fundamental) research and applied (problem-solving) research interact and overlap in their activities.

### ***Recognition of Teaching Activities***

- Selected to serve on a Panel of the Delphi study (coordinated by Iowa State University, Ames, IA) to evaluate the success of the Higher Education Challenge Grant of the Cooperative State Research, Extension, and Education Services (CSREES), USDA., November 2005 to April 2006.
- *Scholarly mentoring of graduate students resulted in the following scholarships/fellowships bestowed upon them:*
  - Chancellor's Scholarship (\$3,000) for P. Latha Bommireddy, 2002.
  - Harold and Mary Dregne Scholarship (\$500) for P. Latha Bommireddy, 2003.
  - Donald Ashdown Endowed Scholarship (\$500) for P. Latha Bommireddy, 2003.
  - West Texas Ag Chem Institute Scholarship (\$1,000) for P. Latha Bommireddy, 2003.
  - Harold and Mary Dregne Scholarship (\$500) for Ram B. Shrestha, 2003.
  - Donald Ashdown Endowed Scholarship (\$500) for Ram B. Shrestha, 2003.
  - West Texas Ag Chem Institute Scholarship (\$1,000) for Ram B. Shrestha, 2003.
  - West Texas Ag Chem Institute Scholarship (\$750) for Andy M. Cranmer, 2003.
  - West Texas Ag Chem Institute Scholarship (\$750) for Bryan E. Henson, 2003.
  - Harold and Mary Dregne Scholarship (\$400) for Anand P. Sapkota, 2004.
  - Donald Ashdown Endowed Scholarship (\$400) for Anand P. Sapkota, 2004.
  - West Texas Ag Chem Institute Scholarship (\$1,500) for Anand P. Sapkota, 2004.
  - P. Latha Bommireddy received 3<sup>rd</sup> place award for student paper oral competition at the Entomological Society of America Southwestern Branch Meeting, Lubbock, TX, 2004.
  - Graduate School Travel Award (\$450) for Apurba K. Barman, 2005.
  - West Texas Ag Chem Institute Scholarship (\$1,250) for Apurba K. Barman, 2005.
  - Graduate School Travel Grant (\$700) for R. B. Shrestha, 2006.
  - Apurba Barman received 2<sup>nd</sup> place award for student paper oral competition at the Beltwide Cotton Conference, San Antonio, TX, 2006.
  - Graduate School Travel Grant (\$700) for R. B. Shrestha, 2007.
  - Walter Albeldaño received \$4,000 per year American Mexican Friendship –Waterman Scholarship, 2006-2007.
  - Chen Chen and Abhilash Balachandran each received \$500 departmental scholarship, 2007.
  - Abhilash Balachandran received \$1,000 departmental scholarship awards, 2008.
  - Ram B. Shrestha received Graduate School and Departmental Travel Grants (\$1,000), 2008.

- Mahendra Adhikari received Departmental Travel Grant (\$700) and Leland Chandler Fellowship (\$500), 2008.
- Teresa Cross, David Koeppel Scholarship (\$650), 2008.
- Ram B. Shrestha received 3<sup>rd</sup> place award for student paper oral competition at the ESA Branch meeting, Stillwater, OK, 2009.
- Ram B. Shrestha received Graduate School and Departmental Travel Grants (\$1,000), 2009.
- Mahendra Adhikari received Departmental Travel Grant (\$800) and TTU Departmental Merit Scholarship (\$400), 2009.
- Anup Bastola received Departmental Travel Grant (\$650) and Texas Association of Agricultural Consultants Scholarship (\$900), 2009.
- Abhilash Balachandran received Departmental Travel Grant (\$650) and Leland Chandler Fellowship (\$600), 2009.
- Ram B. Shrestha received Graduate School Travel Grants (\$1,200), 2010.
- Apurba Barman received travel grant from the Graduate School, Texas A&M University to attend Entomological Society of America Annual Meeting (\$500), 2010.
- Apurba Barman received Lechner Scientific Presentation Travel Grants from College of Agriculture and Life Sciences, Texas A&M University to attend Ecological Society of America Annual meeting held in Pittsburgh, Pennsylvania (\$500), 2010.
- Apurba Barman received Gary A. Herzog Ph.D. Student Award (2nd place) in Cotton Insect Research and Control Conferences at Beltwide Cotton Conferences held in Atlanta, Georgia (\$250), 2011.
- Apurba Barman received Patricia Nemecek Scholarship from College of Agriculture and Life Sciences, Texas A&M University (\$500), 2011.

### ***Interaction of Teaching Program with Research, Extension, and Service***

Dr. Parajulee's graduate student training is fully coupled with research and service programs. Graduate students help coordinate the daily operations of research and Extension projects. One student, Abhilash Balachandran, is working with Extension cotton entomologist (Dr. David Kerns), to oversee his insecticide resistance screening program as part of his thesis research. A doctoral student, Apurba Barman, works collaboratively with Dr. Christopher Sansone (Extension Program Leader, San Angelo, TX), Dr. Raul Medina (TAMU-College Station), and Dr. Charles Suh (USDA ARS, College Station) to compliment our multi-agency, statewide fleahopper ecology study. Dr. Parajulee provides the opportunity for, and harbors the expectation that his graduate students engage with Entomological Society of America and other regional and local society activities. One doctoral student, Ram B. Shrestha, served on the ESA national and ESA-Southwestern Branch Student Affairs Committees (2006-2009). Students also compete for best oral/poster presentations at various meetings and they frequently receive professional society awards. Students also serve in other local leadership roles such as leading grower visits in the laboratory, participating in field days, and representing the Project Leader at local producer meetings.

## **IV. Research**

### ***Program Statement***

The mission of Texas AgriLife Research is "to conduct basic and applied research programs for the benefit of the consumers and agricultural industry; maintain and enhance the environment and natural resources; insure a safe, wholesome and affordable supply of agricultural products; and contribute to the state's economic viability, especially in the rural areas." Texas AgriLife Research-Lubbock is the largest of the 13 Experiment Stations of the Texas A&M University System, and was established in 1909 to serve the people of the Texas High Plains. Dr. Parajulee has been fortunate for the past eight years at the Lubbock Center to help maintain and enhance a strong and effective program in cotton entomology that contributes to the Texas AgriLife

Research mission. He is dedicated to the goal of transcending clientele expectations and serving science and society through the tripartite mission of the land-grant university system.

Cotton is a major agricultural crop in the Texas High Plains, producing over 3,000,000 bales of cotton valued at over \$1,000,000,000 per year. This represents an average of 30% of U.S. cotton and approximately 5% of world cotton; the primary reason for choosing Lubbock as the venue for the *Fourth World Cotton Research Conference* in 2007, for which Dr. Parajulee served as the Program Chair for the Cotton Arthropod section. Also, the Texas High Plains constitutes the most concentrated area of cotton production in the world. Because of the enormity of the cotton enterprise in the Texas High Plains, major allied agricultural industries (ginning, seed, fertilizer, and chemical companies) also reside in this area. Thus, even a small percentage of crop loss in the Texas High Plains due to insects and/or other pests renders a substantial economic impact on the entire cotton industry. The Texas High Plains annual loss attributable to arthropod pests ranged from 1 to 21%, causing an average loss of \$101 million per year in the last 10 years.

Over the past three decades, much of the cotton insect pest management research done in Texas emphasized the ecology and management of the boll weevil. Now that the boll weevil has been largely removed as an economic pest from the system (except in the Lower Rio Grande Valley), the focus of arthropod management research has changed significantly. A potential shift in the insect pest complex has resulted from contributions from boll weevil eradication, new crop technologies (transgenic and high fiber yielding cultivars), safer pesticide chemistries, high-input cropping systems, and highly efficient irrigation systems (low energy precision application and sub-surface drip irrigation). Adoption of transgenic cotton cultivars conferring resistance to lepidopteran pests has increased from 5% in 2001 to 60% in 2009, reducing the insecticide load in cotton insect management even further. In addition, increased public concern for environmental safety and questions regarding sustainability of present crop protection practices has placed a premium on the development of integrated approaches to pest management. Often, the integration of these approaches has been hindered due to lack of understanding of the biology and ecology of target pests and a heavy reliance on insecticides. The Texas AgriLife Research Cotton Entomology Program emphasizes the need for a greater understanding of the factors that enable the integration of different pest management approaches, with a broad objective of reducing unilateral reliance on chemical control and advancing the use of ecological methods. Thus, the scope of this research program is reflected in Dr. Parajulee's Hatch Project "*Developing Biologically and Ecologically Intensive Arthropod Management Strategies for Texas High Plains Cotton.*"

### ***Research Philosophy and Outcome***

Dr. Parajulee's research philosophy in the off-campus Experiment Station setting is that a strong research-extension partnership is vital. Based on this philosophy, he has forged a strong research-outreach partnership with his extension counterpart throughout his time in this position. The two programs (Research-Dr. Parajulee and Extension-Dr. Kerns) are thus operationally merged into what is called **Cotton Entomology Program** to enhance the research-Extension partnership and provide a synergism to both mission-oriented paradigms. This arrangement has allowed resource sharing (space, manpower, equipment, graduate students, research funds, and faculty time) to increase work efficiency, reduce redundancy, and help secure extramural funds. The joint program has allowed a smooth transition from more basic problem-solving research to grower adoption of translational research. Dr. Parajulee strongly believes in stakeholder participation while formulating translational research projects, especially in the Experiment Station setting, to ensure the stakeholder "buy-in" of the research outcome.

During the last 10 years, the Cotton Entomology Program has invested significant effort in elucidating the ecology and behavior of cotton arthropods with the aim of developing a systems

approach to pest management. Recent progress toward this effort includes 1) a forecasting model to predict bollworm and tobacco budworm moth population dynamics based on long-term trap data (Parajulee et al. 2004), 2) cotton aphid population dynamics in cotton (Parajulee 2007), 3) the effect of cotton cultivar on cotton aphid growth and reproduction (Du et al. 2004), 4) Boll weevil survivorship during lint storage, module transport, and ginning (Sappington et al. 2004a,b,c,d; Sappington et al. 2006), 5) growth and development parameters for *Lygus elisus* in the laboratory (Bommireddy et al. 2004), 6) tri-trophic relationships in cotton, cotton aphid, and cotton aphid parasitoid (Chen et al. 2005), 7) sequential sampling plans for thrips and cotton fleahoppers (Parajulee et al. 2006a), 8) functional response models for selected arthropod predators from Texas cotton (Parajulee et al. 2006b), 9) effect of planting date, tillage, and cultivar on thrips and cotton fleahopper abundance (Parajulee et al. 2006c), 10) site-specific nitrogen and irrigation management approach in cotton production (Bronson et al. 2006), 11) *Lygus* species complex in relation to cotton and non-cotton host habitats in the Texas Plains (Slosser et al. 2006, Parajulee 2008), 12) characterization of microsatellite loci for *L. hesperus* (Shrestha et al. 2007), 13) cotton compensation ability after plant bug induced fruit loss (Parajulee and Barman 2008), and 14) host-plant influence on *Lygus* population growth and *Lygus* host preference (Chen and Parajulee 2010, Barman et al. 2010).

### ***Discovery Milestones and Impact of Research***

While significant contributions to the science of entomology/cotton entomology have been made through research publication and presentation, the following are some of the research projects during the last 10 years that have resulted in translational outcomes that Texas High Plains cotton producers have used in their production decision making (significant impact):

a) *Understanding Lygus population dynamics across the cropping landscape to elucidate the Lygus movement between cotton and non-cotton hosts.* While this is a long-term ongoing project, our producers now have a much better understanding of which alternate weed hosts can support *Lygus* and what triggers their movement to adjacent cotton. We have found that *Lygus* prefers roadside weed vegetation over adjacent cotton until cotton enters the peak flowering stage. Thus, insecticide intervention for early season *Lygus* management is unnecessary. Coupled with this *Lygus* behavioral attribute of early season cotton “avoidance” is the ability of cotton to tolerate/compensate for up to 30% of *Lygus*-induced early fruit loss. Our growers have already used this information and managed their cotton based upon our recommendations (per our producer survey, March 2009). Our survey indicated that 70% of farmers surveyed would not use insecticides to manage early season *Lygus* populations, with 18% saying they would rarely do so. The shift from complete reliance upon chemical insecticides irrespective of crop phenology, as recently as four to five years ago, to conscientious grower behavior and perceptions is a tremendous leap forward for integrated pest management and ecological sustainability. Dr. Parajulee takes the greatest pride in this technological adoption by our area growers. Overall insecticide use frequency for cotton insect management in the High Plains has declined by 71% during the last 5-6 years from that seen during the period 7-8 years prior to Dr. Parajulee’s leading the Cotton Entomology Program. While Dr. Parajulee does not assume full credit for this decline, or for other technological changes which occurred during this period, the impacts of the Cotton Entomology Program research on area cotton producers cannot be underestimated.

b) *Biological information is now available to area IPM agents and crop consultants to design Lygus management plans.* Cotton Entomology Program has developed host-plant sequencing describing the ecological succession of Texas High Plains *Lygus* development, which allows accurate prediction of a *Lygus* infestation in relation to a specific boll maturity threshold. This provides suitable insecticide application timing for *Lygus* control, and provides a specific time when termination of said application is recommended. Our producers now terminate late-season

insecticide applications for *Lygus* management when the crop matures to 350 degree-days (>60 °F) beyond 5 nodes above white flower, in accordance with our recommendation. One farmer in our 2009 ‘grower feedback survey’ wrote “*I think Megha is doing an excellent job researching cycles and habits of Lygus. His information helps make spraying decisions and helps know when to scout.*”

c) *Economic evaluation of the merits of sub-threshold effects of Bollgard technology on bollworm management economics.* The Texas High Plains grower adoption rate of Bollgard cotton was 5% in 2001 when boll weevil eradication program had nearly eliminated the weevil as a pest from the system. In addition to the agronomic benefit of Bollgard technology, which, at the sub-threshold level, justifies its adoption in irrigated production systems, research has demonstrated increases in profitability exceeding \$100.00/acre in Bollgard systems. The adoption rate now exceeds 60%.

d) *Utilization of the integrated pest management approach in cotton has been enhanced through the availability of biological and ecological parameters of arthropod pests and natural enemies.* All potential predatory arthropods from Texas High Plains cotton have been studied for their predation potential and their temperature range for effective predation have been described. Similarly, cotton aphid population dynamics has been studied in the laboratory in relation to temperature and crop phenology, and has been validated in the field.

e) *Post-harvest dispersal of boll weevil has been extensively studied as part of a cooperative project between USDA-ARS and Texas AgriLife Research in light of the eradication program.* Results of this study have been used by the Texas Department of Agriculture and the Texas Boll Weevil Eradication Foundation in addressing quarantine regulations designed to prevent re-infesting areas where the weevil has previously been eliminated.

### **Current Research Projects**

The following list provides the diversity of research projects that are being conducted in the Cotton Entomology Program. Please note the diversity in disciplinary/programmatic areas as marked in **bold** text.

1. Quantifying the effect of soil applied nitrogen on cotton arthropod population dynamics in a drip irrigation system. **Cropping system; system integration.**
2. Ecology and behavior of *Lygus* species. **Landscape ecology; cropping system; system integration.**
  - a) Development of landscape-level pest management guidelines to reduce *Lygus* in cotton.
  - b) Influence of non-cotton hosts on life history characteristics of *Lygus hesperus*.
  - c) Varietal difference in COTMAN compensation capacity value in drip-irrigated cotton using *Lygus*-induced fruit damage.
  - d) Boll susceptibility window for *L. hesperus* in Texas cotton.
3. Quantify the movement behavior of cotton fleahoppers in pre-flower cotton. **Insect movement; immunological and behavior studies.**
4. Effect of cotton fleahopper on pre-flower fruit loss and plant biomass in cotton. **Population dynamics modeling.**
5. Molecular characterization of *Lygus* species of the Texas High Plains. **Molecular ecology; genetic marker development.**
6. Developing a treatment threshold for western flower thrips in cotton and characterize the compensatory potential of cotton after thrips injury. **Crop management.**
7. Investigations into the movement and management of cotton fleahopper. **Molecular ecology; regional landscape level project.**

8. Seasonal abundance patterns of bollworm, tobacco budworm, and beet armyworm moths in the Texas High Plains. **Pheromone trap; monitoring, pest forecasting.**

**Major Research Accomplishment** (see Section-X for specific evidence of accomplishment)

**Contributions to cotton entomology discipline**

Research Program has successfully balanced several multidisciplinary research projects simultaneously within the theme of ecologically intensive pest management program (see current research projects above). Research productivity is evidenced in all disciplinary areas of field crop entomology with numerous peer-reviewed papers, invited and submitted proceeding papers, and presentations at local, regional, national, and international level. Please refer to publication/presentation list below.

- Laboratory rearing/biology- This Program is the first to document temperature-dependent population dynamics behavior of cotton aphids in nutritionally standardized cotton plants. A successful life table analysis and population dynamics has also been published.
- Field population survey- Extensive survey program is ongoing in the Texas High Plains to characterize *Lygus hesperus* inter-crop movement behavior. A significant portion of the project effort is now invested in *Lygus* survey work. Several graduate students have earned degrees and have produced publications through this project.
- Sampling and threshold development- Sampling and threshold development is a cornerstone of the Cotton Entomology Program. Dispersion patterns, within-plant distribution behavior, and sequential sampling plans have been characterized for thrips and cotton fleahoppers. Continuing effort is underway to develop treatment thresholds for thrips and cotton fleahoppers.
- Pest manipulation- Compensation ability of cotton after *Lygus*-induced fruit loss has been extensively examined by manipulating pest population densities at different production scenarios. Several publications and Extension reports are made available for growers to use in making their *Lygus* management decisions.
- Host habitat manipulation- A successful optimization of internal, external and field marking of *Lygus* with protein markers and their detection by ELISA has been achieved. This technique has been used to study field ecology and behavior of *Lygus* in the Texas High Plains for the last four years. The intercrop movement behavior of *Lygus* has revealed that roadside alfalfa can serve as both source and sink for *Lygus* depending on the crop phenology. A significant accomplishment of this project to date is the identification of the major *Lygus* intercrop movement direction and window. We have demonstrated that *Lygus* bugs do not infest or cause significant damage to cotton until after active flowering. This knowledge has been useful in minimizing the *Lygus* population in cotton by proper management of adjacent alfalfa.
- Predator-prey population dynamics- Dr. Parajulee has a strong background in biological control through habitat diversification and natural enemy conservation. His Program focuses on enhancing the role of natural enemies by delaying or avoiding early insecticide application. He has published several papers on natural enemy conservation in biological control and most recently had a graduate student that completed an M.S. degree in utilizing biofuel crop (*Jatropha*) and cotton as sink for whitefly in cassava and source for natural enemies, particularly the parasitoids.
- Insecticide chemistry- One graduate student is fully involved in developing LC<sub>50</sub> values of available chemistries for *Lygus hesperus*. He is also characterizing the effect of

sublethal doses on insect behavior, reproduction, and population dynamics. Quantification of baseline resistance level in *Lygus* and bollworm from the High Plains is also underway. Lubbock Cotton Entomology Program is collaborating with Mississippi State University and several USDA laboratories and Cotton Incorporated to continue bollworm resistance monitoring program.

- Cropping systems management- Several projects have been completed and some are continuing to characterize the relationship between arthropod population dynamics and input use patterns, production practices, irrigation regime, fertility levels, and so on. Effect of planting date window, tillage, and cultivar on population dynamics of thrips and cotton fleahoppers has been already published. Variable nitrogen, nitrogen fertility rate, and cultivar x water level influence on cotton arthropods and crop growth are being investigated.
- Morphometry/taxonomy in pest management- A sophisticated morphometric approach has been developed to identify closely related species of *Lygus* adults and immature found in the Texas High Plains. This approach allows for an easy identification of the *Lygus* species with little knowledge of the insect taxonomy. The morphometric data are useful in development of the computer based automated species identification system. The morphometric information will be the baseline reference for morphometric phylogenetics and eco-morphometry research in future. Dr. Parajulee's laboratory is the first one to publish comparative ontogenetic morphometry data on two species of *Lygus*.
- Ecological genetics/molecular ecology in pest management- A microsatellite molecular marker system has been developed that is suitable for the population genetic study of *Lygus*. *Lygus hesperus* populations were found to be genetically differentiated within the Texas High Plains which has triggered research interests on biology and behavior of *Lygus* populations with different genetic structures. The Lubbock Cotton Entomology Program was the first to characterize and publish 11 microsatellite markers for *L. hesperus*. The regional level biogeography study of *L. hesperus* has been initiated and the information generated in this project will be useful in regional level *Lygus* management strategies.

#### ***Contributions to industry or society***

Dr. Parajulee's research program has served its constituencies well at all levels as evidenced by his publication record, grantsmanship (see below on Grants and Contract section), graduate training, and invitation to public and professional speaking roles. Selected examples are listed below:

- Dr. Parajulee's Cotton Entomology Program has earned a worldwide reputation in the areas of ecological approaches to pest management, particularly in *Lygus hesperus* and other plant bug management.
- At local level: Invited to serve High Plains Association of Crop Consultants (HPACC) on their annual program committee (2006-2008) and to lead the *Lygus*/plant bug issues in a roundtable forum and/or give invited talks in their annual conferences (2002-current).
- At regional level: Invited to Entomological Society of America Pacific Branch symposium to deliver a keynote speech on "Compensation to *Lygus*-induced fruit loss in cotton: Effect of plant phenological stage" (March 28-April 2, 2008, Napa, CA).
- At national level: Invited speaker in the Entomological Society of America Program Symposia (2007, 2008).
- At international level: Invited to deliver a keynote speech at the International Conference of Plant Protection, Dokki-Giza, Egypt, on "Ecologically intensive pest management in

cotton: *Lygus hesperus* as a model system” (November 9-12, 2008). Also, invited as a plenary speaker at the International Congress of Global Warming on “Biodiversity of Insects: Management and Conservation”, Coimbatore, India (February 9-12, 2009).

***Involvement in associations, committees, and research efforts that show development of reputation beyond TAMUS and Texas***

- Elected Vice Chair (2007) and Chair (2008) of the International Affairs Committee of the Entomological Society of America. Secured ESA Program Enhancement Fund and organized a Program Symposium (competitive) in 2007; first time in the ESA history, Dr. Parajulee’s leadership (along with Rob Hollingsworth, USDA-ARS, Hawaii) brought South African scientists to present symposium talks via web. As a chair in 2008, he also secured a Program Symposium (with Program Enhancement Funds) along with Dr. James Harwood of University of Kentucky. Being selected for two Program Symposia, back-to-back, at the ESA national level should serve as a strong testament for Dr. Parajulee’s research program excellence and professional leadership.
- Established International Entomology Network as part of the ESA network and currently serves as a founding chair.
- Served on U.S. Organizing Committee of the World Cotton Research Conference that was held in Lubbock, Texas (2007); Program Chair for Arthropod Section.
- Selected to serve on Entomological Society of America Southwestern Branch Site Selection Committee (2007-2009) and Local Arrangement Chair/Meeting Organizer for the ESA Southwestern Branch annual meeting in Cancun, Mexico (2009-2010).
- Provided technical advice to Ghana Atomic Energy Commission’s Agriculture Program on whitefly management in cotton and cassava. USAID fellow, Mr. Ebenezer Ato Ewusie, worked in Dr. Parajulee’s laboratory as part of this *pro bono* consultancy service. June 2006-August 2008.
- Visited the Ghana Atomic Energy Commission’s Biotechnology and Nuclear Agriculture Research Institute and advised on integrated pest management of cotton and cassava. May 29-June 5, 2007.
- Visited East Malling Research Laboratory in Kent, UK (Dr. Jerry Cross) and University of Kent in Canterbury, UK (Dr. David Hall) to discuss *Lygus* ecology research partnerships. June 7-12, 2007.
- Hosted a 6-member cotton research and extension delegation from Israel that visited Texas to learn cotton IPM practices. Also, held a roundtable conference of the delegates with TCE Cotton Entomologist David Kerns for a 3-h session. September 3 and 6, 2007.
- Hosted a 4-member cotton research team from India that visited Dr. Parajulee’s Program to learn ecological approaches to cotton pest management. September 17-18, 2007.
- Hosted a 3-member cotton seed company team (Rasi Seeds India Ltd.) from India that visited Dr. Parajulee’s Program to learn US cotton systems. September 25, 2009.

**V. Extension**

Dr. Parajulee does not have a formal Extension appointment. However, the off-campus research faculty positions come with a certain level of Extension role or expectations from its constituencies by its nature. Also, Dr. Parajulee’s program philosophy (i.e., strong research-Extension partnership to serve the clientele as one Texas AgriLife unit rather

than the service coming from AgriLife Research and AgriLife Extension separately) dictates that a visible outreach role becomes a part of his overall Program portfolio. Much of his Extension role is to support his counterpart (Dr. Kerns) in providing timely information to target clientele.

### ***Evidence of Extension accomplishment***

- *Outstanding Service Award* for volunteer extension services to the Indian rural community of Himachal Pradesh, July 1987, Y. S. Parmar University of Horticulture and Forestry, Solan, India. Extension services included training rural peasants on agricultural resource utilization, woman and infant health, and women involvement in household decision-making.
- Letter of appreciation from Ms. Elner Pettiet, Secretary of Texas Women Involved in Farm Economics (Texas WIFE), for Dr. Parajulee's presentation at their annual meeting on pest management and farm economics, July 10, 2003.
- Letter of recognition from Dr. Thomas W. Fuchs, Texas Extension IPM Coordinator (now retired), for Dr. Parajulee's clientele-oriented IPM research program that has provided a significant help to growers with pest management decisions, September 29, 2004.
- Elected to *Board of Directors* of West Texas Agricultural Chemicals Institute, 2002-2006. Also, elected to serve as Chairman of the Scholarship Committee (2004-2006) that disbursed \$8,000.00 per year on scholarships to students pursuing agricultural degrees in west Texas.

### ***Extension presentations***

- Parajulee, M. N. 2001. *Overview of cotton entomology research in Lubbock*. Entomology Science Conference/Insect Management Guide Revision, Texas A&M University, October 30, College Station, TX.
- Parajulee, M. N. 2002. *Cotton entomology research program at the Lubbock Center*. High Plains Association of Crop Consultants Annual Meeting, March 5, Lubbock, TX.
- Parajulee, M. N. 2002. *Lygus and other plant bugs: An emerging issue in the Texas High Plains*. West Texas Cotton IPM Conference Organized by West Texas Extension Agents-IPM, Texas Cooperative Extension, March 6, Lubbock, TX.
- Parajulee, M. N. 2003. *High Plains cotton entomology: Issues and answers*. West Texas Agricultural Chemicals Institute Annual Conference, September 16, Lubbock, TX.
- Parajulee, M. N. 2004. Ecological differences in *Lygus* bugs and management challenges for the Texas High Plains. High Plains Association of Crop Consultants Meeting, February 24, Lubbock, TX.
- Parajulee, M. N. 2005. *Lygus hesperus*: Host-plant sequencing and preference. Entomology Science Conference/Insect Management Guide Revision, Texas A&M University, October 26, College Station, TX. Moderated the Cotton Session.
- Parajulee, M. N. 2006. Compensation of *Lygus*-induced fruit loss in cotton. High Plains Association of Crop Consultants Meeting, March 7, Lubbock, TX.
- Parajulee, M. N. 2007. How much early fruit loss can cotton tolerate? High Plains Association of Crop Consultants Meeting, March 6, Lubbock, TX.
- Parajulee, M. N. 2008. Cotton compensation of *Lygus* induced fruit loss. High Plains Association of Crop Consultants (HPACC) Meeting, March 4, Lubbock, TX.

- Parajulee, M. N. and S. C. Carroll. 2008. Pyrethroid resistance monitoring in bollworms in the Texas High Plains. HPACC Meeting, March 4, Lubbock, TX.
- Parajulee, M. N. 2009. *Lygus* bugs: Their alternate host plants and cotton boll susceptibility. HPACC Meeting, March 3, Lubbock, TX.
- Parajulee, M. N. 2011. Management of *Lygus* bugs in the Texas High Plains. HPACC annual meeting, March 1-2, Lubbock, TX.

### ***Field day presentations***

- Economic evaluation of arthropod management in conservation tillage system in cotton. Annual Field Day at the Agricultural Complex for Advanced Research and Extension System farm, Lamesa, TX. Gave 30-minute presentation to the participating cotton producers (50 attended); graduate student (R. B. Shrestha) and research scientist (Stanley Carroll) participated in the presentation. September 10, 2003.
- Economic evaluation of Bollgard technology for the Texas High Plains. Monsanto Field Day at the Helms Farm, Halfway, TX. Gave a 30-minute presentation to the participating cotton producers (100 attended). August 3, 2004.
- Attended Monsanto Extensive Cotton Experience Tour with producers and industry representatives and participated in grower discussion of pest management issues, Lubbock, TX, September 27, 2006.
- Four 10-minute field talks to the World Cotton Research Conference attendees at the TAES Helms farm tour on "Role of nitrogen fertility on arthropod management in drip irrigated cotton," September 14, 2007.
- Cotton cropping system research: Insect management component. Ag-Cares Field Day and Grower Appreciation Meeting, August 12, 2009, Lamesa, TX. (10-minute field research demonstration talk).
- Nitrogen fertility and cotton pest management: A cropping systems approach. Subsurface Irrigation Technology Field Day, August 25, 2009, Halfway, TX. (10-minute field research demonstration talk).
- Three 10-minute field talks to the Lubbock Center Centennial Field Day participants at the Texas AgriLife farm tour on "100 years of insect research in the High Plains and a system approach to cotton production," September 17, 2009.
- Cotton cropping system research: Insect management component. Ag-Cares Field Day and Grower Appreciation Meeting, August 26, 2010, Lamesa, TX. (10-minute field research demonstration talk).
- Texas Organic Cotton Field Day, October 7, 2010, Lubbock, Hockley, Hale and Parmer counties, TX (all-day field tour of organic cotton production farms and discussion of pest management issues in organic production systems).

### ***Other Extension activities***

- Provided an interview on a radio call-in show, "The AgEd Show," KRFE AM 580, Lubbock, TX. Discussion topic-cotton insect management. June 4, 2003.

- Demonstration and lectures to public visiting the “Buggology” program at Science Spectrum, Lubbock, TX, throughout the day (500 people in attendance). Also, involved 4 graduate students to help the entomology-awareness public outreach program. March 6, 2004.
- Displayed a 3-day “Insect Booth” at the Lubbock Science Spectrum “Critterfest 2007” and gave live demonstration and lectures on insect feeding, growth and development, and insect management in field crops (5,700 people in attendance). Also, involved 6 graduate students to help the entomology-awareness public outreach program. June 15-17, 2007.
- Displayed a 3-day “Insect Booth” at the Lubbock Science Spectrum “Critterfest 2008” and gave live demonstration and lectures on insect feeding, growth and development, and insect management in field crops (6,000 people in attendance). Also, involved 6 graduate students to help the entomology-awareness public outreach program. June 27-29, 2008 (Invited for the re-run of the 2007 show).
- Displayed a 4-day “Insect Booth” at the Lubbock Science Spectrum “Critterfest 2009” and gave live demonstration and lectures on insect feeding, growth and development, and insect management in field crops (8,000 people in attendance). Also, involved 8 graduate students to help the entomology-awareness public outreach program. June 18-21, 2009 (Specially invited for the show).

## **VI. Service/Engagement**

### ***Program Support Activities within the TAMU System:***

1. Committee Assignments within the Department or Research & Extension Center:
  - a. As Chairperson:
    - Entomology Science Conference Annual Program Committee, 2003.
    - Center Awards Committee, Texas AgriLife Research- Lubbock, 2004-current.
    - Search Advisory Committee for the District 2 Extension Cotton Entomologist position, 2006-2007.
    - Search Advisory Committee for the Lubbock Center Cotton Breeder position, 2007-2008.
    - Search Advisory Committee for the Corpus Christi Field Crop Entomologist position, 2008-2009.
    - Chair, Departmental Promotion and Tenure Subcommittee for Texas AgriLife Research, 2011.
  - b. As Member:
    - Center Coordinating Committee, TAES Vernon, January-August, 2001.
    - IPM Committee, TTU Plant and Soil Science (PSS) Department, 2001-current.
    - Faculty Advisory Committee (Elected), TAMU Department of Entomology, 2003-2008.
    - Visioning Committee (Elected), TTU PSS Department, 2004-2006.
    - Recruitment and Retention Committee, TTU PSS Department, 2005-2006.

- Search Advisory Committee for the Professor & Charles Parencia Chair in Cotton Entomology position, May 2005-2006.
  - Curriculum Development Committee, TTU PSS Department, 2006-2008.
  - Strategic Planning Committee, TTU PSS Department, 2007-2008.
  - Scholarship and Awards Committee, TTU PSS Department, 2008-2009.
  - Graduate Admission Committee, TAMU Entomology, 2007-current.
2. Committee Assignments within the College of Agriculture & Life Sciences (COALS):
- As Member:
- College of Agricultural Sciences and Natural Resources Committee on International Activities, Texas Tech University (2003-2007).
  - Search Advisory Committee for the Professor & Charles Parencia Chair in Cotton Entomology position. Served on this 4-member advisory team appointed by the Dean's Office, 2006-2008.
3. Committee Assignments within the Texas AgriLife Research:
- As Member:
- Reduction in Force (RIF) Appeal Panel, 2003. It was an Experiment Station wide 3-member panel that was charged with the responsibility of conducting full hearings and providing recommendations related to appeals by TAES employees who were terminated due to RIF process.
4. Committee Assignments within the Texas AgriLife Extension Service:
- As Member:
- Cotton Research Strategic Planning Committee, 2005. One-day workshop held in Lubbock on February 19; a strategic plan developed for the State.
5. Special Appointment at the University Level:
- Texas Tech International Student Association Advisor (2006-current).

***Program Support Activities outside the TAMU System***

1. International Assignments:
- Lead Organizer, International Symposium on Climatic Data Based Pest Management, International Congress of Plant Protection, Beijing, China (May 2004).
  - Lead Organizer, International Symposium on Cotton IPM, International Congress of Entomology, Brisbane, Australia (August 2004).
  - Member, World Cotton Research Conference Organizing Committee (2005-2007). Also, Program Chair for the Cotton Arthropod Section.
  - Elected to the International Affairs Committee of the Entomological Society of America (2006-2012); Secretary (2006), Vice Chair (2007), and Chair (2008).

- Lead Organizer, International Symposium on Cotton IPM, International Congress of Entomology, Durban, South Africa (July 2008).
- Scientific Committee Member, International Congress of Global Warming on Biodiversity of Insects: Management and Conservation, India (2008-2009).
- Organizer, International Symposium on Landscape Level management of Crop Pests, International IPM Symposium, Portland, OR (March 24-26, 2009).
- Organizer, Ecology Symposium, 6<sup>th</sup> Asia-Pacific Congress of Entomology, Beijing, China (October 18-21, 2009).
- Program Co-Chair, 7<sup>th</sup> International IPM Symposium, Memphis, TN (2009-2012).

## 2. National Assignments:

### a. Professional/Scientific Societies:

- ESA National Meeting Moderator for Section Cd, Baltimore, MD (December 16, 1992).
- ESA Annual Meeting Moderator for the Student paper Competition, Ft. Lauderdale, FL (November 18, 2002).
- ESA Annual Meeting Student Paper Competition Head Judge, Cincinnati, OH (October 27, 2003).
- ESA Annual Meeting Student Paper Competition Head Judge, Salt Lake City, UT (November 15, 2004).
- ESA Annual Meeting Student Paper Competition Head Judge, Ft. Lauderdale, FL (December 15, 2005).
- Coordinator, Beltwide Cotton Conference Student Paper Competition, San Antonio, TX (January 5, 2006).
- ESA Annual Meeting Student Paper Competition presiding officer and moderator, Indianapolis, IN (December 11, 2006).
- Beltwide Cotton Conference Student Paper Competition Judge, New Orleans, LA (January 11, 2007).
- Symposium Organizer, National Integrated Pest Management Symposium, St. Louis, MO (April 4-6, 2006).
- Symposium Organizer, Southern Extension and Research Activities Information Exchange Group (SERA-IEG 23) Annual Symposium, Memphis, TN (October 31, 2006).
- Program Symposium Co-Organizer, ESA National Meeting, San Diego, CA (December 9-12, 2007).
- Program Symposium Co-Organizer, ESA National Meeting, Reno, NV (November 16-19, 2008).

- Program Symposium Co-organizer/Member Symposium Organizer, ESA National Meeting, San Diego, CA (December 12-16, 2010).

b. Governmental:

- Member, USDA CSREES Grants Peer Review Panel, Washington, D.C. (April 23-24, 2002).
- Member, USDA CSREES Grants Peer Review Panel, Washington, D.C. (April 15-16, 2003).
- Member, Review of USDA-CSREES Higher Education Challenge Grants Program (November 2005-May 2006).
- Member, USDA-CSREES Grants Peer Review Panel, Washington, D.C. (April 24-26, 2007).
- Member, USDA-CSREES Grants Review Panel, Washington, D.C. (May 1, 2008).
- Member, USDA-CSREES Grants Review Panel, Washington, D.C. (June 1, 2009).
- Member, USDA-CSREES Grants Review Panel, Washington, D.C. (March 3, 2011).

3. Regional/State Level Assignments:

a. Professional/Scientific Societies:

- ESA-SWB Annual Meeting Moderator, Corpus Christi, TX (February 11, 1998).
- ESA-SWB Annual Meeting Moderator, Las Cruces, NM (February 24, 1999).
- ESA-SWB Annual Meeting Judge for the Student Paper/Poster Competition, Fort Worth, TX (February 9, 2000).
- ESA-SWB Annual Meeting Judge for the Student Paper/Poster Competition, Guanajuato, Mexico (February 26, 2002).
- ESA-SWB Annual Meeting Judge for the Student Paper/Poster Competition, Lubbock, TX (February 23-26, 2004).
- ESA-SWB Annual Meeting Symposium Organizer/Moderator, Lubbock, TX (February 23-26, 2004).
- ESA-SWB Annual Meeting Symposium Organizer/Moderator, Austin, TX (February 27-March 2, 2006).
- ESA-SWB Annual Meeting Judge for Student Paper Competition, Corpus Christi, TX (February 20, 2007).
- Invited Speaker, Texas Cooperative Extension Specialist Retreat, New Braunfels, TX (March 22-26, 2007).
- ESA-SWB Annual Meeting Judge for Student Poster Competition, Ft. Worth, TX (February 23-26, 2008).

- ESA-SWB Annual Meeting Judge for Student Poster Competition, Stillwater, OK (February 23-26, 2009).
- Co-Organizer/Invited Speaker, Plant Bug Workshop, Texas AgriLife Research and Extension Center, Corpus Christi, TX (February 21-22, 2011).

4. Local Level Assignments:

a. Professional/Scientific Societies:

- Member, Program Committee, High Plains Association of Crop Consultants, Lubbock, TX (2004, 2007, 2008).

b. Other:

- Chair, Scholarship Committee, West Texas Agricultural Chemicals Institute, Lubbock, TX (2002-2005).
- Plains Cotton Advisory Group, Cotton Entomology Expert (2001-current).

***Consulting Activities/Professional Expert Service Rendered***

1. International Level

- Hosted a ministerial level Pakistani delegation that visited CA, NM, and TX to learn about the cotton ginning and storage processes. Presented a seminar to the delegation on “Effect of temperature on boll weevil survival in cotton module.” May 23, 2002.
- Whitefly management in cotton in Senegal. Group of agricultural scientists and government officials from Senegal visited Dr. Parajulee’s laboratory and he provided an overview of overall cotton IPM, including whitefly management. Summer, 2002.
- Cotton aphid research in controlled environment using clip cages, Chinese Academy of Sciences (CAS), Beijing, China. Visited CAS and helped a Ph.D. student Fajun Chen to set up his cotton aphid experiments. May 2004.
- Hosted a visiting Research Entomologist, Ms. Nora Jimenez, from Centro de Investigación Turipana, Colombia, for consultation and scientific exchange of ideas on cotton IPM research, with particular emphasis on cotton aphids and whitefly management. May 23, 2005.
- Provided technical advice to Ghana Atomic Energy Commission’s Agriculture Program on whitefly management in cotton and cassava. USAID fellow Mr. Ebenezer Ato Ewusie worked in Dr. Parajulee’s laboratory as part of this *pro bono* consultancy service. June 2006-August 2008.
- Visited the Ghana Atomic Energy Commission’s Biotechnology and Nuclear Agriculture Research Institute and advised on integrated pest management of cotton and cassava. May 29-June 5, 2007.
- Hosted a 6-member cotton research and extension delegation from Israel that visited Texas to learn cotton IPM practices. Also, held a roundtable conference of the delegates with TCE Cotton Entomologist David Kerns for a 3-h session. September 3 and 6, 2007.
- Hosted a 4-member cotton research team from India that visited the Cotton Entomology Program to learn ecological approaches to cotton pest management. September 17-18, 2007. Took the Indian delegation to area cotton producer for a ½-day field tour.

- Participated in a ‘field crop IPM in developing countries’ roundtable workshop at the Indian Agricultural Research Institute, New Delhi, India, after presenting an invited seminar on cotton IPM in the United States. February 6, 2009.
- Hosted Julio Maldonado, a U.S. Embassy Cairo - Ag Attaché, for a 2-hour roundtable conference on cotton insect situation in the Texas High Plains and a laboratory tour. September 14, 2010.
- Hosted a ½-day Texas AgriLife Research Tour of the 69<sup>th</sup> International Cotton Advisory Committee Plenary delegates (70 delegates in four sessions) that visited the Cotton Entomology Program to learn ecological approaches to cotton pest management. September 21-25, 2010.

## 2. National Level

- Ecological methods of arthropod management in closed environment, Columbia University Earth Learning Center (Biosphere 2), Oracle, AZ (1998-2001).
- Served on a panel of *Lygus* Research Experts for Monsanto Biotechnology Group, Memphis, TN (February 25-26, 2010).
- Served on a panel of *Lygus* Research Experts for Monsanto Biotechnology Group, Atlanta, GA (January 4, 2011).

## 3. State Level

- Served as an advisor to a select group of Texas cotton and corn producers in developing Bollgard cotton/corn refuge programs in consultation with Environmental Protection Agency and Monsanto Corporation, Amarillo, TX (2007).

## 4. Local Level

- Provided expert service to High Plains Agriculture Crop Consultants on plant bug management (2003-current). Serve as a subject matter expert on *Lygus*/plant bug management panel annually or when sought by area consultants.

### ***Professional Development and Leadership Activities***

#### ***A. Membership in professional/scientific societies***

##### 1. International/National Level:

- Member, Entomological Society of America (1991-current); Sub-section Cd Secretary (2002), Vice-Chair (2003), and Chair (2004).
- Member, ESA-Southwestern Branch Awards Committee (1997-2001), Chair (1999).
- Member, ESA-Southwestern Branch Student Research Awards Committee (2001-2008).
- Member, International Organization for Biological Control of Noxious Animals and Plants (IOBC); Elected Member-At-Large (2004-2006).
- Member, Society of Southwestern Entomologists (1996-current); President (2009).
- Member, Entomological Society of America International Affairs Committee (2006-current); Chair (2008).
- Program Committee Member, ESA national meeting (2009-2011, Chair 2010).
- Program Co-Chair, International IPM Symposium (2009-2012).

2.Regional/State Level:

- Member, Southern Extension and Research Activities Information Exchange Group (2003-2010).

3.Local Level:

- Member, High Plains Association of Crop Consultants (2001-current).
- Member, Plains Cotton Advisory Group, Plains Cotton Growers, Inc., Lubbock (2001-current).

***B. Elected positions held in professional/scientific societies***

1.International/National Level:

- Secretary (2002), Vice-Chair (2003), and Chair (2004), Entomological Society of America Sub-section Cd (Ecology and Behavior).
- Governing Board, International Organization for Biological Control of Noxious Animals and Plants (IOBC) Nearctic Region (2004-2006).
- Member, International Affairs Committee of the Entomological Society of America (2006-2011), Secretary (2006), Vice-Chair (2007), Chair (2008).
- President, Society of Southwestern Entomologists (2009).

2.Regional/State Level:

- Chair, Southern Extension and Research Activities-Information Exchange Group in Cotton Entomology (SERA-IEG 23), 2005-2006.

3.Local Level:

- Board of Directors, West Texas Agricultural Chemicals Institute (Chair, Scholarship Committee), 2002-2006.
- Director, High Plains Association of Crop Consultants, 2006-2008.

***Editorial Positions Held in Professional/Scientific Societies***

1.International/National Level:

- Editor, Proceedings of the Fourth World Cotton Research Conference, 2007-2008.
- Editor, Journal of Insect Science, 2008-current.

***Special Appointments to Positions of Leadership***

1.Special Leadership Appointments at the National/International Level:

- Local Arrangements, ESA National Meeting, Dallas, TX (December 13-17, 1994).
- Presiding Officer, Beltwide Cotton Conferences, Atlanta, GA (January 11, 2002).
- ESA Annual Meeting Student Paper Competition Head Judge, Cincinnati, OH (October 27, 2003).
- Lead Organizer, International Symposium on Climatic Data Based Pest Management, International Congress of Plant Protection, Beijing, China (May 2004).

- Lead Organizer, International Symposium on Cotton IPM, International Congress of Entomology, Brisbane, Australia (August 2004).
- ESA Annual Meeting Student Paper Competition Head Judge, Salt Lake City, UT (November 15, 2004).
- Presiding Officer, Beltwide Cotton Conferences, New Orleans, LA (January 7, 2005).
- ESA Annual Meeting Student Paper Competition Head Judge, Ft. Lauderdale, FL (December 15-18, 2005).
- Moderator, National Cotton Pest Management Seminar, Virginia Beach, VA (October 11, 2005).
- Coordinator, Beltwide Cotton Conferences Student Paper Competition, San Antonio, TX (January 5, 2006).
- Moderator, National Cotton Pest Management Seminar, San Destin, FL (October 12, 2006).
- Moderator, National Cotton Management Seminar, Puerto Vallarta, Mexico (October 6-9, 2008).
- Moderator, National Crop Management Seminar, Memphis, TN (October 31- November 2, 2006).
- Moderator, ESA Annual Meeting session, Indianapolis, IN (December 11, 2006).
- Judge, Beltwide Cotton Conferences Student Paper Competition, New Orleans, LA (January 11, 2007).
- Presiding Officer/Moderator, Beltwide Cotton Conferences Student Paper Competition, Nashville, TN (January 10, 2008).
- Lead Organizer, International Symposium on Cotton IPM, International Congress of Entomology, Durban, South Africa (July 2008).
- Program Committee, Entomological Society of America Annual Meeting (2009-2011, Program Chair, 2010).
- Moderator, National Cotton Management Seminar, Point Clear, AL (October 5-8, 2009).
- Presiding Officer/Moderator, Beltwide Cotton Conferences, New Orleans, LA (January 6, 2010).
- Panel, National Cotton Management Seminar, Savannah, GA (October 4-7, 2010).
- Program Co-Chair, International IPM Symposium (2009-2012).

## 2. Special Leadership Appointments at the Regional/State Level:

- Chair, Scholarship Committee, West Texas Agricultural Chemicals Institute (2004-2007).
- Program Chair, ESA Southwestern Branch Annual Meeting, Lubbock, TX (February 23-26, 2004).
- Organizer, Entomological Society of America Southwestern Branch Annual Meeting Symposia (2004 in Lubbock, 2006 in Austin, 2008 in Ft. Worth).

- Local Arrangement Chair, ESA Southwestern Branch Annual Meeting, Cancun, Mexico (2009-2010).

3. Special Leadership Appointments at the Local Level (to include ones within the TAMU System):

- Representative to the CSRS Review Panel of the Department of Entomology, University of Wisconsin-Madison (March 4-7, 1991).
- High Plains Association of Crop Consultants Annual Program Symposium Chair, Lubbock, TX (2004), Program Committee Advisor (2007, 2008).

***Professional Improvement Activities***

1. Participation in Meetings/Conferences of Scientific Societies and Other Professional Organizations:

a. Societies and Organizations Whose Meetings Are Regularly Attended (~every year):

1) National/International Societies/Organizations:

- Entomological Society of America (every year)
- Beltwide Cotton Conferences (every year)
- Cotton Incorporated National COTMAN Workshop (every year)
- National Cotton Pest Management Seminar (every year)
- International Symposium on *Lygus* Plant Bugs (every 3 years)
- International Congress of Entomology (every four years)
- World Cotton Research Conference (every four years)

2) Regional/State Level Societies/Organizations:

- Entomological Society of America Southwestern Branch
- Society of Southwestern Entomologists
- Statewide Entomology Science Conference
- West Texas Agricultural Chemicals Institute Annual Conference
- Southern Extension and Research Activities - Information Exchange Group of Cotton Insects (SERA-IEG 23)
- Texas State Support Committee Research Review

3) Local Societies/Organizations:

- High Plains Association of Crop Consultants
- Plains Cotton Advisory Group (every two weeks during growing season and every month during the winter months)

b. Other Societies and organizations Whose Meetings Were Only Attended Once:

1) National/International Societies/Organizations:

- Ecological Society of America National Meeting, Madison, WI (1993).
- International Congress of Stored-Product Research, Canberra, Australia (1994).
- International Plant Protection Congress, Beijing, China (2004).
- International Conference of Plant Protection Institute, Giza, Egypt (2008).
- International Congress of Climate Change on Biodiversity, Coimbatore, India (2009).
- Asia-Pacific Congress of Entomology, Beijing, China (2009).

2) Regional/State Level Societies/Organizations:

- USDA-ARS *Heliothis/Helicoverpa* Research Strategic Planning Workshop, Dallas, Texas (March 25-27, 2003).
- Tarnished Plant Bug/Stink Bug Areawide Management Conference, Stoneville, MS (October 21-22, 2003).

2. Other Professional Improvement Activities:

a. Activities Related to the Improvement of Teaching/Instructional Skills:

- Attended the workshop “*Effective Teaching and Research Methodology in Agriculture*” sponsored by the Utah State University, Logan, UT, May 15-27, 1988.
- Attended the workshop “*Enhancing the Student/Teacher Interaction: A Workshop on Teaching and Learning Styles*” sponsored by the Center for Teaching Excellence, Texas A&M University, College Station, TX, November 4-5, 1994.

b. Activities Related to the Improvement of Research Skills:

- Attended a 2-day workshop on cotton biotechnology (development of transgenic cultivar) at Monsanto World Headquarters, St. Louis, MO, June 24-26, 2002.
- Visited Dr. Gordon Snodgrass Laboratory, USDA-ARS, Jamie Whitten Delta States Research Center Southern Insect Management Research Unit, Stoneville, MS for a 2-day training on *Lygus* rearing technique, dissection and quantification of diapause status, and insecticide bioassay on *Lygus* bugs. October 21-22, 2003.
- Attended a 2-day workshop on “Cotton Management in the First 40 Days” sponsored by Bayer Crop Science, Dallas, TX. February 16-17, 2005.
- Attended a 2-day training on “Molecular Techniques for Arthropod Monitoring” at Dr. James Hagler’s Laboratory, USDA-ARS, Western Cotton Research Laboratory, Phoenix, AZ. Learned marking techniques for *Lygus* bugs using different proteins and detection of marked *Lygus* by direct and DAS-ELISA technique. March 17-18, 2005.
- Attended a 2-day workshop on “Precision Agriculture and Pest Management” sponsored by Cotton Incorporated, Austin, TX. November 15-16, 2005.

- Attended a 1-day workshop on “Use of COTMAN in Entomology Research” sponsored by Cotton Incorporated, Memphis, TN. October 31, 2006.
- Attended a 1-day workshop on “NSF Day: Enhancing the Grantmanship” sponsored by the National Science Foundation, El Paso, TX. January 22, 2008.
- COTMAN Plant Mapping Workshop, Arkansas Agricultural Experiment Station, Marianna, AR. May 15, 2009.
- COTMAN Plant Mapping Workshop, Texas AgriLife Research, Lubbock, TX, June 30, 2009. Workshop Organized by Dr. Parajulee.
- Crop Management Seminar, Cotton Incorporated, Memphis, TN, November 9-11, 2010.

c. Activities Related to the Improvement of Extension Service Skills:

- Annual Workshop of COTMAN Plant Mapping Research and Outreach Activities in the cottonbelt, Cotton Incorporated, Austin, TX. November 17-18, 2003.
- Decision-Aid Workshop sponsored by Cotton Incorporated at the Beltwide Cotton Conference in San Antonio, TX. January 7, 2004.
- COTMAN Workshop, Texas Cooperative Extension, Lubbock, TX. June 2, 2004.
- Annual Workshop of COTMAN Plant Mapping Research and Outreach Activities in the cottonbelt, Cotton Incorporated, Austin, TX. November 16-17, 2005.
- Monsanto Natural Refuge meeting to develop a new refuge plans for Texas. Meeting with Monsanto Technology Development Leadership, State Extension Specialists, and cotton stakeholders, College Station, TX (May 25, 2006).
- Annual Workshop of COTMAN Plant Mapping Research and Outreach Activities in the cottonbelt, Cotton Incorporated Crop Management Seminar, Memphis, TN. November 9-11, 2010.

d. Activities Related to the Improvement of Leadership Skills:

- Operationally merged the Texas AgriLife Cotton Insect Research (Dr. Parajulee) and Texas AgriLife Cotton Insect Extension (Dr. James Leser) projects into a **Cotton Entomology Program** (January 2004) to improve the research-extension partnership and provide synergy to both mission-oriented activities.
- Project Leader Meeting, Texas AgriLife Research, Lubbock, TX. This meeting is called and moderated by the Resident Director of the Experiment Station to provide Project Leaders a “continuing education” on project and Texas AgriLife Research policy matters and involves the faculty on strategic planning, development of mission statements and project-specific impact statements, and the Science Roadmap.
- Emerging Leaders Conference, October 27-28, 2010, Bryan, TX. A 2-day leadership conference.

e. Activities Related to the Improvement of Administrative Skills:

- New Faculty Orientation Workshop. Texas A&M University System. September 20, 2001.

- Conducted annual performance review of Technicians, Research Associates and Associate Research Scientist, 2001-current.
- New Faculty Research Orientation. Texas Tech University. September 17-18, 2002.
- Participated in a 1-day Grant Writers' Seminar and Workshop "Write Winning Grants." Office of Research Services, Texas Tech University. April 22, 2004.
- Completed a training on "Creating a discrimination-free workplace" sponsored by Texas A&M University. September 1, 2004.
- Completed a training on "Shipping and receiving hazardous materials" sponsored by Texas A&M University. March 30, 2005.
- Texas Tech University Plant and Soil Science Annual Faculty Retreats, Lubbock, TX. One-day retreats during late summer/early fall.

f. Activities Related to the Improvement of Other Professional Skills:

- Attended a 1-day educational workshop on *Drip Irrigation*. Texas Agricultural Experiment Station, Halfway, TX. September 11, 2001.
- Attended Stoneville Seed Company sponsored (invited) information exchange meeting that highlighted the role of cooperation between research scientists, extension specialists, crop consultants, and seed industry representatives, Lubbock, TX. February 12, 2002.
- Attended FMC Corporation sponsored (invited) information exchange meeting that highlighted the role of cooperation among research scientists, extension specialists, crop consultants, and pesticide industry, Lubbock, TX. April 5, 2002.
- Attended Cotton Ginners Association Annual Meeting and Trade Show at Lubbock Memorial Civic Center, Lubbock, TX. April 4, 2003.
- Attended Bayer CropScience (invited) information exchange meeting with extension specialists, crop consultants, and pesticide industry, Lubbock, TX. September 25, 2003.
- Attended Monsanto/Stoneville sponsored (invited) information exchange meeting with extension specialists and crop consultants, Lubbock, TX. March 24, 2005.
- Attended Delta and Pine Land sponsored information exchange field day to educate crop consultants, Lubbock, TX. September 13, 2005.
- Attended Monsanto/Stoneville sponsored (invited) information exchange meeting with extension specialists and crop consultants, Lubbock, TX. September 24, 2006.
- Attended Bayer CropScience sponsored FiberMax information exchange field day to educate crop consultants, Lubbock, TX. September 27, 2007.
- Attended Monsanto sponsored (invited) information exchange meeting with extension specialists and crop consultants, Ruidoso, NM. March 1-4, 2007.
- Attended Bayer CropScience sponsored Fruiting-to-Finish workshop to develop a Best Management Plan for cotton production and management, Dallas, TX. March 21-22, 2007.

- Attended Bayer CropScience Technology Conference (invited), San Antonio, TX. February 6-9, 2007.
- Attended Bayer CropScience Technology Conference (invited), San Antonio, TX. February 6-8, 2008.
- Attended Monsanto sponsored (invited) information exchange meeting with extension specialists and crop consultants, Ruidoso, NM. March 6-8, 2008.
- Attended West Texas Ag Chemicals Institute Conference, Lubbock. September 10, 2008.
- Attended Monsanto sponsored (invited) information exchange meeting with extension specialists and crop consultants, San Antonio, TX. January 5-6, 2009.
- Attended Monsanto sponsored (invited) information exchange meeting with extension specialists and crop consultants, Santa Fe, NM. January 27-29, 2010.
- Attended Bayer CropScience Technology Conference (invited), San Antonio, TX. February 17-19, 2010.
- Attended Monsanto sponsored (invited) information exchange meeting with extension specialists and crop consultants, Santa Fe, NM. February 9-11, 2011.
- Attended Bayer CropScience Technology Conference (invited), San Antonio, TX. February 18-20, 2011.

## VII. International

### *Major international involvement*

- Recruitment and training of international graduate students from Nepal, India, Mexico, China, and Ghana.
- Collaborative linkage with Chinese Academy of Science, Beijing, China (2003-current), and Nanjing University (2006-current) in the areas of enhanced CO<sub>2</sub> affecting arthropod population dynamics in cotton.
- Collaborative linkage with Ghana Atomic Energy Commission's Biotechnology and Nuclear Agriculture Research Institute through USAID program (2006-2010).
- Organizing international congress symposia, invited keynote and plenary speeches, and international consulting services (*pro bono*, professional) are integral part of the Program overall mission as evidenced from activities already listed above in other sections.
- Invited to serve as the *External Examiner* for a doctoral thesis "Motion Tracking of Insects in Image Sequence by N. Ravi Kumar at National Institute of Technology, Tamilnadu, India (2008).
- Invited to serve as the *External Examiner* and committee member for a doctoral thesis "Study on Polyphagous Membracids in Thiruvallur District in Tamil Nadu" by K. Rajkumar at University of Madras, Chennai, India (2009-2010).
- Invited to serve as the *External Examiner* and committee member for a doctoral thesis "Studies on the mosquitocidal activity of *Ageratum houstonianum* Mill.

(Asteraceae) against vector mosquitoes” by Samuel Tennyson at University of Madras, Chennai, India (2010-2011).

- Cotton Entomology Program chosen for Dr. Fajun Chen of Nanjing Agricultural University for 1-year Chinese Government visiting fellowship (2011-2012).

## VIII. Grants and Contracts Secured

### Career Summary

Role	Career Total	
	Total \$ Amount to all PIs	Amount allocated to the program
External Competitive		
PI	\$1,381,820	\$1,381,820
Co-PI	\$3,803,245	\$648,000
Total	\$5,185,065	\$2,029,820
Internal Competitive		
PI	\$211,588	\$211,588
Co-PI	\$1,215,785	\$213,788
Total	\$1,427,373	\$425,376
Grand Total (External+Internal)	\$6,612,438	\$2,455,196

### Grants and Contracts

#### Internal (\* indicates non-competitive)

- \*Parajulee, M. N. (PI) and J. E. Slosser. Quantifying levels of resistance to insect pests in the multi-adversity resistant germplasm. Texas A&M Cotton Research Program. 1997. Amount Funded: \$5,200.
- Parajulee, M. N. (PI). Variable rate of water and nitrogen affecting cotton aphid abundance in Texas High Plains cotton. Precision Agriculture Initiative. 2001. Amount Funded: \$10,000.
- \*Parajulee, M. N. (PI). Cotton arthropod research in light of boll weevil eradication in the Texas High Plains. Texas Agricultural Experiment Station Cooperative Agreement Grant. 2001. Amount Funded: \$15,000.
- Parajulee, M. N. (PI). Variable rate of water and nitrogen affecting cotton aphid abundance in Texas High Plains cotton. Precision Agriculture Initiative. 2002. Amount Funded: \$10,000.
- Parajulee, M. N. (PI). Use of leaf area meter in cotton entomology research. Texas Tech University competitive funds for equipment purchase. 2002. Amount Funded: \$8,000.
- \*Parajulee, M. N. (PI). Cotton arthropod research in light of boll weevil eradication in the Texas High Plains. Texas Agricultural Experiment Station Cooperative Agreement Grant. 2002. Amount Funded: \$15,000.
- \*Parajulee, M. N. (PI). Cotton arthropod research in light of boll weevil eradication in the Texas High Plains. Texas Agricultural Experiment Station Cooperative Agreement Grant. 2003. Amount Funded: \$15,000.

- Parajulee, M. N. (Co-PI), R. J. Lascano, J. P. Bordovsky, S. J. Maas, E. Segarra, L. T. Wilson, W. Xu, and Y. Yang. An integrated cotton-corn system: Site-specific management. Precision Agriculture Initiative. 2003. Amount Funded: \$142,000 (Account manager of \$21,000).
- Parajulee, M. N. (Co-PI), K. F. Bronson, W. J. Keeling, H. Kaufmann, R. K. Boman, and E. Segarra. Farm-scale testing of site-specific technologies for the terminated wheat-cotton cropping system. Precision Agriculture Initiative. 2003. Amount Funded: \$100,000 (Account manager of \$24,000).
- \*Parajulee, M. N. (PI). Evaluation of cotton arthropod activity in dryland, furrow irrigation, and drip irrigation systems. Cooperative Agreement Grant from Texas Agricultural Experiment Station Entomology Program at Vernon. 2004. Amount Funded: \$20,000.
- Parajulee, M. N. (Co-PI), R. J. Lascano, J. P. Bordovsky, S. J. Maas, E. Segarra, L. T. Wilson, W. Xu, and Y. Yang. An integrated cotton-corn system: Site-specific management. Precision Agriculture Initiative. 2004. Amount Funded: \$132,485 (Account manager of \$19,593).
- Parajulee, M. N. (Co-PI), K. F. Bronson, W. J. Keeling, H. Kaufmann, R. K. Boman, and E. Segarra. Farm-scale testing of site-specific technologies for the terminated wheat-cotton cropping system. Precision Agriculture Initiative. 2004. Amount Funded: \$93,300 (Account manager of \$18,000).
- Parajulee, M. N. (Co-PI), W. J. Keeling, R. K. Boman, J. P. Bordovsky, K. F. Bronson, T. A. Wheeler, D. O. Porter, and E. Segarra. Integrated cotton production systems for optimizing profitability in Texas Southern High Plains. Cropping System Initiative. 2005. Amount Funded: \$100,000 (Account manager of \$15,000).
- Parajulee, M. N. (Co-PI), D. O. Porter, J. P. Bordovsky, R. K. Boman, K. F. Bronson, and W. J. Keeling. Integrated subsurface drip irrigation management research program in the Texas Southern High Plains. Cropping System Initiative. 2005. Amount Funded: \$40,000 (Account manager of \$4,500).
- Parajulee, M. N. Procurement of specialized instrument for molecular research in cotton entomology. Texas Agricultural Experiment Station. 2005. Amount Funded: \$9,000.
- Parajulee, M. N. (Co-PI), W. J. Keeling, R. K. Boman, J. P. Bordovsky, K. F. Bronson, T. A. Wheeler, D. O. Porter, and J. Johnson. Integrated cotton production systems for optimizing profitability in Texas Southern High Plains. Cropping System Initiative. 2006. Amount Funded: \$100,000 (Account manager of \$15,000).
- Parajulee, M. N. (Co-PI), D. O. Porter, J. P. Bordovsky, R. K. Boman, K. F. Bronson, and W. J. Keeling. Integrated subsurface drip irrigation management research program in the Texas Southern High Plains. Cropping System Initiative. 2006. Amount Funded: \$40,000 (Account manager of \$4,500).
- Parajulee, M. N. Motorized sprayer for Cotton Entomology Applied Research Program in the High Plains. Texas Agricultural Experiment Station. 2006. Amount Funded: \$12,000.
- Parajulee, M. N., R. F. Medina, C. G. Sansone, and C. P. Suh. INSECTeam funds to develop a cooperative research program between College Station and off-campus research Center in Insect Ecology. 2006. Amount Funded: \$2,500.
- Parajulee, M. N., S. Behemer, and J. S. Armstrong. INSECTeam funds to develop a cooperative research program between College Station and off-campus research Center in Insect Physiology. 2006. Amount Funded: \$2,500.
- \*Parajulee, M. N. Supplemental funding from TAMU federal funds to compensate TTU/USDA funding through International Cotton Research Center. Texas Agricultural Experiment Station. 2007. Amount Funded: \$8,461.
- \*Parajulee, M. N. Bridge funding to supplement TTU/USDA funding through International Cotton Research Center. Texas Tech University. 2007. Amount Funded: \$12,977.

- Nansen, C. and M. N. Parajulee. Procurement of specialized instrument for chemical ecology research in entomology. Texas Agricultural Experiment Station. 2007. Amount Funded: \$18,000 (Account Manager of \$0, but the funding was shared and matched to purchase the GC-MS).
- Parajulee, M. N. Acquisition of a table top autoclave for Cotton Entomology Research Program. Texas AgriLife Research. 2008. Amount Funded: \$14,750.
- Yang, Y., L. Wilson, C. Fernandez, M. Parajulee, J. Johnson. 2009. Cotton crop production decision support system (CropDSS) Part II: Integration and delivery of a pest management advisor. Texas AgriLife Cropping System Grants Program. Amount Funded: \$80,000 (Account Manager of \$25,500).
- Dever, J., R. Wright, T. Wheeler, M. Parajulee, J. Starr. 2009. Mining genes for Texas cotton: Identify and deploy genes that confer resistance to insect, disease and nematode pests. Texas AgriLife Cotton Improvement Program. Amount Funded: \$70,000 (Account Manager of \$19,500).
- Keeling, W., J. Sij, J. Bordovsky, T. Wheeler, K. Bronson, R. Boman, E. Hequet, M. Parajulee, C. Trostle, J. Johnson, T. Baughman. 2009. Integrated production systems to enhance cotton quality for global markets. Texas AgriLife Cropping System Grants Program. Amount Funded: \$145,000 (Account Manager of \$12,000).
- Yang, Y., L. Wilson, C. Fernandez, M. Parajulee, J. Johnson. 2010. Cotton crop production decision support system (CropDSS) Part II: Integration and delivery of a pest management advisor. Texas AgriLife Cropping System Grants Program. Amount Funded: \$80,000 (Account Manager of \$24,225).
- Dever, J., R. Wright, T. Wheeler, M. Parajulee, J. Starr. 2010. Mining genes for Texas cotton: Identify and deploy genes that confer resistance to insect, disease and nematode pests. Texas AgriLife Cotton Improvement Program. Amount Funded: \$70,000 (Account Manager of \$19,070).
- Keeling, W., J. Sij, J. Bordovsky, T. Wheeler, K. Bronson, R. Boman, E. Hequet, M. Parajulee, C. Trostle, J. Johnson, T. Baughman. 2010. Integrated production systems to enhance cotton quality for global markets. Texas AgriLife Cropping System Grants Program. Amount Funded: \$145,000 (Account Manager of \$11,400).

**External funding (\* indicates non-competitive)**

- Parajulee, M. N. (PI). Bionomics and management of *Callosobruchus maculatus* on stored legumes. Agricultural Manpower Development Project (World Bank), Nepal. 1988. Amount Funded: \$10,000.
- Parajulee, M. N. (PI). Rearing non-mulberry silkworms for cocoon production. Agricultural Manpower Development Project (World Bank), Nepal. 1989. Amount Funded: \$30,000.
- Parajulee, M. N. (PI). Development of a population growth model for the predator *Lyctocoris campestris* feeding on the Indianmeal moth, *Plodia interpunctella*. USDA-ARS Specific Cooperative Agreement Grant, Savannah, GA. 1993. Amount Funded: \$21,128.
- Parajulee, M. N. (PI). Special International Travel Grant. Insects Limited, Inc., Indianapolis, IN. 1994. Amount Funded: \$1,000.
- Parajulee, M. N. (Co-PI), J. E. Slosser, and L. T. Wilson. Cotton aphid population dynamics modeling. Cotton Incorporated and Texas State Support Committee. 2001. Amount Funded: \$30,000 (Account Manager of \$10,000).
- Parajulee, M. N. (PI). Effects of various seed cotton handling and ginning practices on boll weevil survival. USDA-ARS Cooperative Agreement Grant, Lubbock, TX. 2001. Amount Funded: \$42,500.
- Parajulee, M. N. (PI). Cotton arthropod research in light of boll weevil eradication in the Texas High Plains. Plains Cotton Growers, Incorporated. 2001. Amount Funded: \$15,000.
- Parajulee, M. N. (PI). Effects of various seed cotton handling and ginning practices on boll weevil survival. USDA-ARS Cooperative Agreement Grant, Lubbock, TX. 2002. Amount Funded: \$42,500.

- \*Parajulee, M. N. (PI). Beltwide *Helicoverpa* resistance management. USDA-ARS Cooperative Agreement Grant, Stoneville, MS. 2002. Amount Funded: \$3,000.
- Parajulee, M. N. (PI). Exploiting natural enemies in cotton insect pest management following boll weevil eradication in the Texas High Plains: Transition from pesticide risks. U. S. Environmental Protection Agency. 2002. Amount Funded: \$67,490 (2-yr funding).
- Parajulee, M. N. (PI). Identifying factors affecting population abundance of *Lygus* species in Texas High Plains cotton. Texas Department of Agriculture. 2002. Amount Funded: \$14,800.
- Parajulee, M. N. (PI). Quantifying the natural enemy profile and developing a decision rule system for predators in cotton agroecosystems. Texas Department of Agriculture. 2002. Amount Funded: \$10,000.
- Parajulee, M. N. (Co-PI), J. E. Slosser, and L. T. Wilson. Cotton aphid population dynamics modeling. Cotton Incorporated and Texas State Support Committee. 2002. Amount Funded: \$30,000 (Account Manager of \$10,000).
- Parajulee, M. N. (PI). Investigating host source of *Lygus* bugs in the Texas High Plains. Cotton Incorporated Core Program. 2002. Amount Funded: \$6,000.
- Parajulee, M. N. (PI). Quantifying arthropod complex for Texas High Plains cotton agroecosystems following boll weevil eradication. USDA-ARS CSREES Competitive Grants Program through International Cotton Research Center. 2002. Amount Funded: \$43,501.
- \*Parajulee, M. N. (PI). Cotton arthropod research in light of boll weevil eradication in the Texas High Plains. Plains Cotton Growers, Incorporated. 2002. Amount Funded: \$15,000.
- Parajulee, M. N. (PI). Investigating host source of *Lygus* bugs in the Texas High Plains. Cotton Incorporated Core Program. 2003. Amount Funded: \$10,000.
- Parajulee, M. N. (Co-PI), J. E. Slosser, and L. T. Wilson. Cotton aphid population dynamics modeling. Cotton Incorporated and Texas State Support Committee. 2003. Amount Funded: \$30,000 (Account Manager of \$10,000).
- Parajulee, M. N. (PI). Quantifying arthropod complex for Texas High Plains cotton agroecosystems following boll weevil eradication. USDA-ARS CSREES Competitive Grants Program through International Cotton Research Center. 2003. Amount Funded: \$26,590.
- Parajulee, M. N. (PI). Quantifying the role of conservation tillage system on arthropod predators in cotton. Texas Department of Agriculture. 2003. Amount Funded: \$9,959.
- Parajulee, M. N. (PI) and J. F. Leser (Co-PI). Factors affecting population abundance of *Lygus* species in Texas High Plains cotton and development of a *Lygus* sampling plan. Cotton Incorporated Texas State Support Committee. 2003. Amount Funded: \$25,000.
- \*Parajulee, M. N. (PI). Beltwide *Helicoverpa* resistance management. USDA-ARS Cooperative Agreement Grant, Stoneville, MS. 2003. Amount Funded: \$3,000.
- \*Parajulee, M. N. (Co-PI and Account Manager), J. F. Leser, and R. K. Boman. Evaluating the merits of sub-threshold effects of the Bollgard technology on the economics of bollworm management. Plains Cotton Growers, Incorporated, Lubbock, Texas. 2003. Amount Funded: \$15,000.
- \*Parajulee, M. N. (Co-PI and Account Manager), J. F. Leser, and R. K. Boman. Evaluating the merits of sub-threshold effects of the Bollgard technology on the economics of bollworm management. Monsanto Company, Memphis, TN. 2003. Amount Funded: \$6,000.
- \*Parajulee, M. N. (PI). Cotton arthropod research in light of boll weevil eradication in the Texas High Plains. Plains Cotton Growers, Incorporated. 2003. Amount Funded: \$15,000.
- Parajulee, M. N. (PI). Investigating host source of *Lygus* bugs in the Texas High Plains. M. N. Parajulee (PI), Cotton Incorporated Core Program. 2004. Amount Funded: \$10,000.

- Parajulee, M. N. (PI) and J. F. Leser. Factors affecting population abundance of *Lygus* species in Texas High Plains cotton and development of a *Lygus* sampling plan. Cotton Incorporated Texas State Support Committee. 2004. Amount Funded: \$25,000.
- Parajulee, M. N. (Co-PI and Account Manager), J. F. Leser, and R. K. Boman. Evaluating the merits of sub-threshold effects of the Bollgard technology on the economics of bollworm management. Cotton Incorporated Texas State Support Committee. 2004. Amount Funded: \$20,000.
- \*Parajulee, M. N. (Co-PI and Account Manager), J. F. Leser, and R. K. Boman. Evaluating the merits of sub-threshold effects of the Bollgard technology on the economics of bollworm management. Monsanto Company, Memphis, TN. 2004. Amount Funded: \$6,000.
- Parajulee, M. N. (Co-PI), J. E. Slosser, and L. T. Wilson. Cotton aphid population dynamics modeling. Cotton Incorporated. 2004. Amount Funded: \$15,500 (Account Manager of \$5,500).
- \*Parajulee, M. N. (PI). Beltwide *Helicoverpa* resistance management. USDA-ARS Cooperative Agreement Grant, Stoneville, MS. 2004. Amount Funded: \$3,000.
- Parajulee, M. N. (Co-PI and Account Manager) and J. F. Leser. Validation of the new COTMAN compensation capacity value for Texas High Plains cotton using plant bug induced square damage. Cotton Incorporated Core Program. 2004. Amount Funded: \$19,000.
- Parajulee, M. N. (PI) and J. F. Leser. Quantifying the level of cotton aphid and bollworm population suppression by lady beetles and green lacewings: Potential reduction in insecticide use in cotton production. USDA-ARS CSREES Competitive Grants Program through International Cotton Research Center. 2004. Amount Funded: \$55,318.
- Parajulee, M. N. (Co-PI), A. M. Cranmer, S. A. Russell, J. F. Leser, and W. L. Multer. Developing best management practices for the increasing pink bollworm problem in west Texas cotton. Texas Department of Agriculture. 2005. Amount Funded: \$14,813 (Account Manager of \$0).
- Parajulee, M. N. (PI) and J. F. Leser. Roadside alfalfa: A management plan to reduce *Lygus* problem in adjacent cotton fields. Texas Department of Agriculture. 2005. Amount Funded: \$14,936.
- Parajulee, M. N. (PI) and J. F. Leser. Validation of the new COTMAN compensation capacity value for Texas High Plains cotton using plant bug induced square damage. Cotton Incorporated State Support Committee. 2005. Amount Funded: \$25,000.
- Parajulee, M. N. (PI). Investigating host source of *Lygus* bugs in the Texas High Plains. M. N. Parajulee (PI), Cotton Incorporated Core Program. 2005. Amount Funded: \$10,000.
- Parajulee, M. N. (PI) and J. F. Leser. Roadside alfalfa management strategies to reduce *Lygus* problem in adjacent cotton fields. Cotton Incorporated Core Program. 2005. Amount Funded: \$19,705.
- Parajulee, M. N. (PI) and J. F. Leser. Quantifying the level of cotton aphid and bollworm population suppression by lady beetles and green lacewings: Potential reduction in insecticide use in cotton production. USDA-ARS CSREES Competitive Grants Program through International Cotton Research Center. 2005. Amount Funded: \$58,894.
- Parajulee, M. N. (Co-PI), T. A. Wheeler, J. F. Leser, and J. W. Keeling. Impact of biodegradation of aldicarb by soil microbes on nematodes and thrips control on cotton and the evaluation of possible management approaches in the Texas High Plains. USDA CSREES Competitive Grants through International Cotton Research Center. 2005. Amount Funded: \$46,310 (Account Manager of \$0).
- \*Parajulee, M. N. (PI) and J. F. Leser. Quantifying the tolerance level of Bollgard II cotton to cotton bollworm pressure. Monsanto Company, Memphis, TN. 2005. Amount Funded: \$5,000.
- \*Parajulee, M. N. (PI). Ecological approach to cotton insect management in the Texas High Plains. Plains Cotton Growers, Incorporated, 2005. Amount Funded: \$30,000.

- Parajulee, M. N. (PI) and J. F. Leser. Validation of the new COTMAN compensation capacity value for Texas High Plains cotton using plant bug induced square damage. Cotton Incorporated State Support Committee. 2006. Amount Funded: \$25,000.
- Parajulee, M. N. (PI). Roadside alfalfa management strategies to reduce *Lygus* problem in adjacent cotton fields. Cotton Incorporated Core Program. 2006. Amount Funded: \$19,705.
- Parajulee, M. N. (PI). COTMAN compensation capacity value for the high input drip irrigated production system using *Lygus*-induced fruit damage. Cotton Incorporated Core Program. 2006. Amount Funded: \$20,197.
- \*Parajulee, M. N. (PI). Evaluating the economics of Bollgard II<sup>®</sup>/Roundup Ready Flex cotton versus Roundup Ready Flex only cotton under simulated commercial production conditions. Monsanto Company. 2006. Amount Funded: \$5,000.
- Parajulee, M. N. (PI) and R. K. Boman. Quantifying cotton compensation ability to *Lygus*-induced fruit loss under a high input drip irrigation system. USDA-ARS CSREES Competitive Grants Program through International Cotton Research Center. 2006. Amount Funded: \$41,000.
- Ellsworth, P., P. Goodell, M. N. Parajulee, S. Bundy, S. Naranjo, J. Bancroft, J. Blackmer, Y. Carriere, J. Palumbo, A. Fournier, L. Godfrey, J. Hagler, M. McGuire, J. Rosenheim. Developing and implementing field and landscape level reduced-risk management strategies for *Lygus* in western cropping systems. USDA-RAMP CSREES Competitive Grants Program. 2007. Amount Funded: \$2,500,000 (Account Manager of \$427,500).
- \*Parajulee, M. N. (PI). Ecological approach to cotton insect management in the Texas High Plains. Plains Cotton Growers, Incorporated, 2007. Amount Funded: \$30,000.
- Parajulee, M. N. (PI) and J. F. Leser. Validation of the new COTMAN compensation capacity value for Texas High Plains cotton using plant bug induced square damage. CI-State Support Committee. 2007. Amount Funded: \$25,000.
- Parajulee, M. N. (PI). Roadside alfalfa management strategies to reduce *Lygus* problem in adjacent cotton fields. Cotton Incorporated Core Program. 2007. Amount Funded: \$19,705.
- Parajulee, M. N. (PI). COTMAN compensation capacity value for the high input drip irrigated production system using *Lygus*-induced fruit damage. Cotton Incorporated Core Program. 2007. Amount Funded: \$20,197.
- Parajulee, M. N. (PI). Understanding the sources of thrips infesting seedling cotton and developing management recommendations. CI-State Support Committee. 2007. Amount Funded: \$25,000.
- Parajulee, M. N. (Co-PI), P. Porter, N. McEntyre, B. Baugh. Control of the larger black flour beetle in extended storage of cotton gin trash. CI-State Support Program. 2007. Amount Funded: \$16,000.
- Parajulee, M. N. (PI). COTMAN compensation capacity value for the high input drip irrigated production system using *Lygus*-induced fruit damage. Cotton Incorporated Core Program. 2008. Amount Funded: \$20,000.
- Parajulee, M. N. (PI). COTMAN monitoring of agronomic and entomological parameters in the evaluation of nitrogen fertility rate in drip irrigated cotton. Cotton Incorporated Core Program. 2008. Amount Funded: \$22,500.
- Parajulee, M. N. (Co-PI), P. Porter, N. McEntyre, B. Baugh. Control of the larger black flour beetle in extended storage of cotton gin trash. Cotton Incorporated State Support Program. 2008. Amount Funded: \$16,000 (Account Manager of: \$0).
- Parajulee, M. N. (Co-PI), D. L. Kerns. Understanding the sources of thrips infesting seedling cotton and developing management recommendations. Cotton Incorporated State Support Committee. 2008. Amount Funded: \$25,000 (Account Manager of \$0).

- Parajulee, M. N. (PI), D. L. Kerns. Evaluation of western tarnished plant bug as a late season pest of cotton. Cotton Incorporated State Support Committee. 2008. Amount Funded: \$25,000.
- Parajulee, M. N. (PI) and D. L. Kerns. Quantifying the economic damage potential of plant bug in Texas High Plains cotton and developing management recommendations. USDA-ARS CSREES Competitive Grants Program/International Cotton Research Center. 2008. Amount Funded: \$45,864.
- Parajulee, M.N. (Co-PI), S. Bilimoria, H. Zhang. Generation of transgenic Arabidopsis and cotton against boll weevils and aphids. Texas Tech University Research Development Grant. 2008-2010. Amount Funded: \$294,998.
- \*Parajulee, M. N. (PI), D. L. Kerns. Ecological approach to cotton insect management in the Texas High Plains. Plains Cotton Growers, Incorporated, 2008. Amount Funded: \$30,000.
- Parajulee, M. N. (PI). COTMAN monitoring of agronomic and entomological parameters in the evaluation of nitrogen fertility rate in drip irrigated cotton. Cotton Incorporated Core Program. 2009. Amount Funded: \$22,556.
- Parajulee, M. N. (PI) and D. L. Kerns. Evaluating varietal difference in COTMAN compensation capacity value in drip-irrigated cotton using *Lygus*-induced fruit damage. Cotton Incorporated Core Program. 2009. Amount Funded: \$23,000.
- Parajulee, M. N. (PI), D. L. Kerns. Evaluation of western tarnished plant bug as a late season pest of cotton. Cotton Incorporated State Support Committee. 2009. Amount Funded: \$25,000.
- \*Parajulee, M. N. (PI), D. L. Kerns. Ecological approach to cotton insect management in the Texas High Plains. Plains Cotton Growers, Incorporated, 2009. Amount Funded: \$30,000.
- Parajulee, M. N. (PI) and D. L. Kerns. Quantifying the economic damage potential of plant bug in Texas High Plains cotton and developing management recommendations. USDA-ARS CSREES Competitive Grants Program/International Cotton Research Center. 2009. Amount Funded: \$43,051.
- Kerns, D. L. and M. N. Parajulee (Co-PI). Understanding the sources of thrips infesting seedling cotton and developing management recommendations. Cotton Incorporated State Support Committee. 2009. Amount Funded: \$25,000 (Account Manager of \$0).
- Nansen, C., T. Wheeler, P. Porter, M. Parajulee, and B. Baugh. Innovative control of the larger black flour beetle in cotton gin trash piles. Cotton Incorporated State Support Committee. 2009. Amount Funded: \$32,000 (Account Manager of \$0).
- Nansen, C., M. Parajulee, J. Dever, and P. Porter. Better understanding of how water stress of cotton plants affects susceptibility to insect pests. Cotton Incorporated State Support Committee. 2009. Amount Funded: \$35,000 (Account Manager of \$0).
- Parajulee, M. N. (PI). COTMAN monitoring of agronomic and entomological parameters in the evaluation of nitrogen fertility rate in drip irrigated cotton. Cotton Incorporated Core Program. 2010. Amount Funded: \$22,556.
- Parajulee, M. N. (PI) and D. L. Kerns. Evaluating varietal difference in COTMAN compensation capacity value in drip-irrigated cotton using *Lygus*-induced fruit damage. Cotton Incorporated Core Program. 2010. Amount Funded: \$23,000.
- Parajulee, M. N. (PI), D. L. Kerns. Evaluation of western tarnished plant bug as a late season pest of cotton. Cotton Incorporated State Support Committee. 2010. Amount Funded: \$25,000.
- \*Parajulee, M. N. (PI), D. L. Kerns. Ecological approach to cotton insect management in the Texas High Plains. Plains Cotton Improvement Program Plains Cotton Growers, Incorporated, 2010. Amount Funded: \$35,000.
- Kerns, D. L. and M. N. Parajulee (Co-PI). Understanding the sources of thrips infesting seedling cotton and developing management recommendations. Cotton Incorporated State Support Committee. 2010. Amount Funded: \$25,000 (Account Manager of \$0).

- Nansen, C., T. Wheeler, P. Porter, M. Parajulee, and B. Baugh. Innovative control of the larger black flour beetle in cotton gin trash piles. Cotton Incorporated State Support Committee. 2010. Amount Funded: \$32,000 (Account Manager of \$0).
- Nansen, C., M. Parajulee, J. Dever, and P. Porter. Better understanding of how water stress of cotton plants affects susceptibility to insect pests. Cotton Incorporated State Support Committee. 2010. Amount Funded: \$35,000 (Account Manager of \$0).
- Dever, J. K., M. N. Parajulee, D. L. Kerns, and M. D. Arnold. Development of cultivars and IPM systems for organic cotton production. USDA-National Institute of Food and Agriculture. 2010. Amount Funded: \$661,437.
- Parajulee, M. N., R. B. Shrestha, and T. I. Matis. Texas High Plains *Lygus* bugs: Investigation of predisposition factors causing outbreaks in order to strengthen cotton pest management strategies. USDA-NIFA, International Cotton Research Center through Texas Tech University. 2010. Amount Funded: \$55,483.
- Parajulee, M. N. 2010. Regulated trial for the evaluation of cotton transgenic traits for *Lygus*. Monsanto Company. Amount Funded: \$32,000.
- Parajulee, M. N. (PI). COTMAN monitoring of agronomic and entomological parameters in the evaluation of nitrogen fertility rate in drip irrigated cotton. Cotton Incorporated Core Program. 2011. Amount Funded: \$22,867.
- Parajulee, M. N. (PI) and D. L. Kerns. Evaluating varietal difference in COTMAN compensation capacity value in drip-irrigated cotton using *Lygus*-induced fruit damage. Cotton Incorporated Core Program. 2011. Amount Funded: \$24,000.
- Parajulee, M. N. (PI), D. L. Kerns. Evaluation of western tarnished plant bug as a late season pest of cotton. Cotton Incorporated State Support Committee. 2011. Amount Funded: \$25,000.
- \*Parajulee, M. N. (PI), D. L. Kerns. Ecological approach to cotton insect management in the Texas High Plains. Plains Cotton Improvement Program Plains Cotton Growers, Incorporated, 2011. Amount Funded: \$35,000.
- Kerns, D. L. and M. N. Parajulee (Co-PI). Understanding the sources of thrips infesting seedling cotton and developing management recommendations. Cotton Incorporated State Support Committee. 2011. Amount Funded: \$25,000 (Account Manager of \$0).
- Nansen, C., T. Wheeler, P. Porter, M. Parajulee, and B. Baugh. Innovative control of the larger black flour beetle in cotton gin trash piles. Cotton Incorporated State Support Committee. 2011. Amount Funded: \$32,000 (Account Manager of \$0).
- Nansen, C., M. Parajulee, J. Dever, and P. Porter. Better understanding of how water stress of cotton plants affects susceptibility to insect pests. Cotton Incorporated State Support Committee. 2011. Amount Funded: \$35,000 (Account Manager of \$0).

## IX. Publications and Professional Output

### Summary of Publications and Scholarly Work

Publication Type	Career Total
Refereed/Peer-Reviewed Journal	68
Refereed Proceedings	5
Non-Refereed Proceedings	79
Scientific Abstracts	14
Book Chapters	3

Experiment Station Publications	29
Technical Reports	8
Extension Publications	7
Popular Articles/Interviews	13

## Publication list

### Refereed journal articles

1. **Parajulee, M. N.**, F. P. Neupane, and R. B. Thapa. 1989. Life and seasonal histories, host preference and control of the pulse beetle, *Callosobruchus maculatus* (L.) (Coleoptera: Bruchidae). *Journal of Institute of Agriculture and Animal Sciences* 10: 1-6.
2. Neupane, F. P., R. B. Thapa, and **M. N. Parajulee**. 1990. Life and seasonal histories of the Eri silkworm, *Samia cynthia ricini* Hutt. (Lepidoptera: Saturniidae), in Chitwan, Nepal. *Journal of Institute of Agriculture and Animal Sciences* 11: 113-120.
3. **Parajulee, M. N.** and G. R. DeFoliart. 1992. A simple model of heat supplementation for cricket mass-rearing in the absence of controlled-temperature equipment in developing countries. *Journal of Institute of Agriculture and Animal Sciences* 13: 95-98.
4. **Parajulee, M. N.** and T. W. Phillips. 1992. Laboratory rearing and field observations of *Lyctocoris campestris* (F.) (Heteroptera: Anthocoridae), a predator of stored-product insects. *Annals of the Entomological Society of America* 85: 736-743.
5. **Parajulee, M. N.**, G. R. DeFoliart, and D. B. Hogg. 1993. Model for use in mass-production of *Acheta domesticus* (L.) (Orthoptera: Gryllidae) as food. *Journal of Economic Entomology* 86: 1424-1428.
6. **Parajulee, M. N.** and T. W. Phillips. 1993. Effect of prey species on the development and reproduction of *Lyctocoris campestris* (F.) (Heteroptera: Anthocoridae). *Environmental Entomology* 22: 1035-1042.
7. **Parajulee, M. N.**, T. W. Phillips, and D. B. Hogg. 1994. Functional response of *Lyctocoris campestris* (F.) adults: Effects of predator sex, prey type, and experimental habitat. *Biological Control* 4: 80-87.
8. **Parajulee, M. N.** and T. W. Phillips. 1995. Survivorship and cannibalism in *Lyctocoris campestris* (Hemiptera: Anthocoridae): Effects of density, prey availability, and temperature. *Journal of Entomological Science* 30: 1-8.
9. **Parajulee, M. N.** and T. W. Phillips. 1995. Seasonal abundance and spatial patterns of the predator *Lyctocoris campestris* in stored corn. *Entomologia Experimentalis et Applicata* 75: 33-42.
10. Phillips, T. W., **M. N. Parajulee**, and D. K. Weaver. 1995. Toxicity of terpenes secreted by the predator *Xylocoris flavipes* (Reuter) to *Tribolium castaneum* (Herbst) and *Oryzaephilus surinamensis* (L.). *Journal of Stored-Product Research* 31: 131-138.
11. **Parajulee, M. N.**, T. W. Phillips, J. E. Throne, and E. V. Nordheim. 1995. Effects of constant temperatures and relative humidities on development, survival and reproduction of *Lyctocoris campestris*. *Environmental Entomology* 24: 889-898.
12. **Parajulee, M. N.**, L. T. Wilson, D. R. Rummel, S. C. Carroll, and P. J. Trichilo. 1996. Climatic data-based analysis of boll weevil overwintering survival and spring emergence. *Environmental Entomology* 25: 882-894.
13. **Parajulee, M. N.**, L. T. Wilson, D. R. Rummel, S. C. Carroll, P. J. Trichilo, J. E. Slosser, and T. W. Fuchs. 1997. Relationship between ambient and leaf litter temperatures in boll weevil overwintering habitats. *Environmental Entomology* 26: 135-141.

14. **Parajulee, M. N.**, J. E. Slosser, R. Montandon, S. L. Dowhower, and W. E. Pinchak. 1997. Rangeland grasshoppers (Orthoptera: Acrididae) associated with mesquite and juniper habitats in the Texas Rolling Plains. *Environmental Entomology* 26: 528-536.
15. **Parajulee, M. N.**, R. Montandon, and J. E. Slosser. 1997. Relay intercropping to enhance predators of the cotton aphids in Texas cotton. *International Journal of Pest Management* 43: 227-232.
16. **Parajulee, M. N.**, J. E. Slosser, and E. P. Boring, III. 1998. Seasonal activity of *Helicoverpa zea* and *Heliothis virescens* (Lepidoptera: Noctuidae) detected by pheromone traps in the Rolling Plains of Texas. *Environmental Entomology* 27: 1203-1219.
17. **Parajulee, M. N.** and J. E. Slosser. 1999. Evaluation of potential relay strip crops for predator enhancement in Texas cotton. *International Journal of Pest Management* 45: 275-286.
18. Slosser, J. E., **M. N. Parajulee**, and D. G. Bordovsky. 2000. Evaluation of food sprays and relay strip crops for enhancing biological control of bollworms and cotton aphids in cotton. *International Journal of Pest Management* 46: 267-275.
19. Slosser, J. E., T. R. Moore, and **M. N. Parajulee**. 2000. Summer flight activity patterns of *Tabanus abactor* Philip in the Texas Rolling Plains. *Southwestern Entomologist* 25: 185-190.
20. Throne, J. E., **M. N. Parajulee**, and T. W. Phillips. 2000. Computer model for simulating population dynamics of the predator *Lyctocoris campestris* (Heteroptera: Anthocoridae) in stored shelled corn. *Environmental Entomology* 29: 1236-1243.
21. Carroll, S. C., D. R. Rummel, T. W. Fuchs, J. E. Slosser, M. D. Arnold, **M. N. Parajulee**, L. T. Wilson, and J. E. Huston. 2001. Influence of adult boll weevil diet on winter survival and spring-summer emergence. *Southwestern Entomologist* 26: 35-48.
22. **Parajulee, M. N.** and J. E. Slosser. 2001. Effect of ethephon on efficacy of grandlure-baited pheromone traps in surveying fall and spring populations of boll weevil (Coleoptera: Curculionidae). *Environmental Entomology* 30: 64-69.
23. **Parajulee, M. N.**, J. E. Slosser, S. C. Carroll, and D. R. Rummel. 2001. A model for predicting boll weevil (Coleoptera: Curculionidae) overwintering survivorship. *Environmental Entomology* 30: 550-555.
24. Slosser, J. E., **M. N. Parajulee**, G. B. Idol, and D. R. Rummel. 2001. Cotton aphid response to irrigation and crop chemical applications. *Southwestern Entomologist* 26: 1-14.
25. Slosser, J. E., **M. N. Parajulee**, D. L. Hendrix, T. J. Henneberry, and D. R. Rummel. 2001. Relationship between *Aphis gossypii* (Homoptera: Aphididae) and sticky lint. *Journal of Economic Entomology* 95: 299-306.
26. **Parajulee, M. N.** and J. E. Slosser. 2003. Potential of yellow sticky traps for lady beetle survey in cotton. *Journal of Economic Entomology* 96: 239-245.
27. **Parajulee, M. N.**, P. W. Kidd, D. R. Rummel, and W. P. Morrison. 2003. Aerial movements of the cotton aphid, *Aphis gossypii* Glover (Homoptera: Aphididae), and discovery of male morphs in the Texas High Plains. *Southwestern Entomologist* 28: 241-247.
28. **Parajulee, M. N.**, D. R. Rummel, M. D. Arnold, and S. C. Carroll. 2004. Long-term seasonal abundance of *Helicoverpa zea* and *Heliothis virescens* (Lepidoptera: Noctuidae) moths in the Texas High Plains. *Journal of Economic Entomology* 97: 668-677.
29. Nansen, C., T. W. Phillips, **M. N. Parajulee**, and R. A. Franqui-Rivera. 2004. Spatial distribution patterns of *Plodia interpunctella* in a corn storage facility – comparison of direct and indirect sampling procedures. *Journal of Stored-Product Research* 40: 151-168.
30. Slosser, J. E., **M. N. Parajulee**, D. L. Hendrix, T. J. Henneberry, and W. E. Pinchak. 2004. Cotton aphid (Homoptera: Aphididae) abundance in relation to cotton leaf sugars. *Environmental Entomology* 33: 690-699.

31. Sappington, T. W., A. D. Brashears, **M. N. Parajulee**, S. C. Carroll, M. D. Arnold, J. W. Norman, Jr., and A. E. Knutson. 2004. Potential for transport of boll weevils (Coleoptera: Curculionidae) to the cotton gin within cotton modules. *Journal of Economic Entomology* 97: 934-940.
32. Du, L., F. Ge, S. Zhu, and **M. N. Parajulee**. 2004. Effect of cotton cultivar on development and reproduction of *Aphis gossypii* (Homoptera: Aphididae) and its predator *Propylaea japonica* (Coleoptera: Coccinellidae) through the food chain. *Journal of Economic Entomology* 97: 1278-1283.
33. Sappington, T. W., A. D. Brashears, **M. N. Parajulee**, S. C. Carroll, M. D. Arnold, and R. V. Baker. 2004. Boll weevil (Coleoptera: Curculionidae) survival through the seed cotton cleaning process in the cotton gin. *Journal of Economic Entomology* 97: 1323-1329.
34. Sappington, T. W., A. D. Brashears, **M. N. Parajulee**, S. C. Carroll, M. D. Arnold, and R. V. Baker. 2004. Boll weevil (Coleoptera: Curculionidae) survival through cotton gin trash fans. *Journal of Economic Entomology* 97: 1612-1618.
35. Sappington, T. W., A. D. Brashears, **M. N. Parajulee**, S. C. Carroll, M. D. Arnold, and R. V. Baker. 2004. Potential for escape of live boll weevils (Coleoptera: Curculionidae) into cottonseed, motes, and cleaned lint at the cotton gin. *Journal of Economic Entomology* 97: 1773-1781.
36. Bommireddy, P. L., **M. N. Parajulee**, and D. O. Porter. 2004. Influence of constant temperatures on life history of immature *Lygus elisus* (Hemiptera: Miridae). *Environmental Entomology* 33: 1549-1553.
37. Men, X. Y., F. Ge, E. N. Yardim, and **M. N. Parajulee**. 2004. Evaluation of winter wheat as a potential relay crop for enhancing biological control of cotton aphids in seedling cotton. *BioControl* 49: 701-714.
38. Chen, F., F. Ge, and **M. N. Parajulee**. 2005. Impact of elevated CO<sub>2</sub> on tritrophic interaction of *Gossypium hirsutum*, *Aphis gossypii*, and *Leis axyridis*. *Environmental Entomology* 34: 37-46.
39. Men, X. Y., F. Ge, E. N. Yardim, and **M. N. Parajulee**. 2005. Behavioral response of *Helicoverpa armigera* (Lepidoptera: Noctuidae) to cotton with and without expression of the Cry1Ac  $\delta$ -endotoxin protein of *Bacillus thuringiensis* Berliner. *Journal of Insect Behavior* 18: 33-50.
40. Chen, F., G. Wu, F. Ge, **M. N. Parajulee**, and R. B. Shrestha. 2005. Effects of elevated CO<sub>2</sub> and transgenic Bt cotton on plant chemistry, performance, and feeding of an insect herbivore, the cotton bollworm. *Entomologia Experimentalis et Applicata* 115: 341-350.
41. Ge, F., F. Chen, **M. N. Parajulee**, and E. N. Yardim. 2005. Quantification of diapausing fourth generation and suicidal fifth generation cotton bollworm, *Helicoverpa armigera* (Hübner), in cotton and corn in northern China. *Entomologia Experimentalis et Applicata* 116: 1-7.
42. Slosser, J. E., C. L. Cole, E. P. Boring, III, **M. N. Parajulee**, and G. B. Idol. 2005. Thrips species associated with cotton in the northern Texas Rolling Plains. *Southwestern Entomologist* 30: 1-7.
43. Sappington, T. W., M. D. Arnold, A. D. Brashears, **M. N. Parajulee**, S. C. Carroll, A. E. Knutson, and J. W. Norman, Jr. 2006. Dispersal of boll weevils (Coleoptera: Curculionidae) from cotton modules before ginning. *Journal of Economic Entomology* 99: 67-75.
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  53. Shrestha, R. B. and **M. N. Parajulee**. 2007. Morphometric analysis of *Lygus* bugs from Texas, pp. 1693-1699. Proceedings, Beltwide Cotton Conferences. National Cotton Council, Memphis, TN.
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  61. **Parajulee, M. N.**, A. K. Barman, A. Balachandran, C. Chen, R. B. Shrestha, and S. C. Carroll. 2008. Compensation of *Lygus*-induced fruit loss in drip irrigated cotton, pp. 1251-1256. Proceedings, Beltwide Cotton Conferences. National Cotton Council, Memphis, TN.
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76. Shrestha, R. B., A. Bastola, **M. N. Parajulee**. 2010. Seasonal dynamics of insect community structure in Texas High Plains cotton, pp. 1155-1162. Proceedings, Beltwide Cotton Conferences, National Cotton Council, Memphis, TN.
77. Adhikari, M. B., **M. N. Parajulee**, R. B. Shrestha, and D. L. Kerns. 2010. *Lygus hesperus* feeding on maturing cotton bolls: Adults versus nymphs, pp. 849-852. Proceedings, Beltwide Cotton Conferences, National Cotton Council, Memphis, TN.
78. Musser, F. R., R. E. Jackson, J. K. Greene, B. R. Leonard, S. D. Stewart, **M. N. Parajulee**, J. J. Adamczyk, G. M. Lorenz, D. S. Akin, K. V. Tindall, D. A. Herbert, and P. M. Roberts. 2010. Pyrethroid resistance monitoring of bollworms, pp. 1259-1264. Proceedings, Beltwide Cotton Conferences, National Cotton Council, Memphis, TN.

79. Shrestha, R. B., M. J. D. San Francisco, L. D. Densmore, R. E. Strauss, A. S. Holaday, M. D. Burrow, and **M. N. Parajulee**. 2010. Determining population genetic structure of *Lygus hesperus* from Texas High Plains using microsatellite markers. *In* Annual Biological Science Symposium, Department of Biological Sciences, TTU, Lubbock, Texas.

#### **Experiment Station Research Reports**

1. Bordovsky, J. P., J. Mustian, and **M. N. Parajulee**. 2002. Cotton irrigation management with SDI. Helms Research Farm Annual Report, p. 7.
2. **Parajulee, M. N.**, A. M. Cranmer, J. F. Leser, P. L. Bommireddy, R. B. Shrestha, S. C. Carroll, and M. D. Arnold. 2002. Influence of cotton cultivar and planting date on arthropod populations. Helms Research Farm Annual Report, p. 10.
3. **Parajulee, M. N.**, R. B. Shrestha, S. C. Carroll, and J. P. Bordovsky. 2002. Influence of three irrigation methods (LEPA, Overhead Spray, and Drip) on seasonal activity of cotton arthropods. Helms Research Farm Annual Report, p. 11.
4. Porter, D. O., **M. N. Parajulee**, and T. A. Wheeler. 2002. Efficient irrigation management for cotton production in the Texas Southern High Plains. Western Peanut Growers Research Farm Annual Report.
5. **Parajulee, M. N.**, R. B. Shrestha, S. C. Carroll, M. D. Arnold, A. M. Cranmer, and P. L. Bommireddy. 2002. Cotton insect pests and natural enemies in conventional and conservation tillage systems at AG-CARES, Lamesa. Agricultural Complex for Advance Research and Extension Systems Annual Report, pp. 32-41.
6. Bordovsky, J. P., J. Mustian, and **M. N. Parajulee**. 2003. Cotton irrigation management with subsurface drip irrigation. Helms Research Farm Annual Report, p. 7.
7. **Parajulee, M. N.**, A. M. Cranmer, J. F. Leser, P. L. Bommireddy, R. B. Shrestha, S. C. Carroll, D. M. Nesmith, and J. P. Bordovsky. 2003. Influence of cotton cultivar and planting date on arthropod populations. Helms Research Farm Annual Report, p. 12.
8. **Parajulee, M. N.**, R. B. Shrestha, S. C. Carroll, D. M. Nesmith, and J. P. Bordovsky. 2003. Influence of soil nitrogen level on seasonal activity of cotton arthropods with drip irrigation systems. Helms Research Farm Annual Report, p. 23.
9. **Parajulee, M. N.**, P. L. Bommireddy, D. O. Porter, R. B. Shrestha, A. M. Cranmer, M. D. Arnold, and S. C. Carroll. 2003. Influence of irrigation regimes on insect populations in Texas High Plains cotton. Western Peanut Growers Research Farm Annual Report.
10. **Parajulee, M. N.**, P. L. Bommireddy, D. O. Porter, R. B. Shrestha, A. M. Cranmer, M. D. Arnold, and S. C. Carroll. 2003. Influence of irrigation regimes on insect populations in Texas High Plains cotton. Western Peanut Growers Research Farm Annual Report.
11. **Parajulee, M. N.**, R. B. Shrestha, S. C. Carroll, M. D. Arnold, A. M. Cranmer, and P. L. Bommireddy. 2003. Cotton insect pests and natural enemies in conventional and conservation tillage systems at AG-CARES, Lamesa. Agricultural Complex for Advance Research and Extension Systems Annual Report, pp. 42-45.
12. Bordovsky, J. P., C. Mull, and **M. N. Parajulee**. 2004. Cotton irrigation management with subsurface drip irrigation. Helms Research Farm Annual Report, p. 7.
13. **Parajulee, M. N.**, A. K. Barman, R. B. Shrestha, S. C. Carroll, D. M. Nesmith, and J. P. Bordovsky. 2004. Influence of cotton cultivar and planting date on *Lygus* populations. Helms Research Farm Annual Report, p. 13.
14. **Parajulee, M. N.**, J. F. Leser, R. B. Shrestha, A. K. Barman, and R. K. Boman. 2004. Evaluating the merits of sub-threshold effects of the Bollgard technology on the economics of bollworm management. Helms Research Farm Annual Report, p. 14.

15. **Parajulee, M. N.**, R. B. Shrestha, S. C. Carroll, D. M. Nesmith, and J. P. Bordovsky. 2004. Influence of soil nitrogen level on seasonal activity of cotton arthropods in drip irrigation system. Helms Research Farm Annual Report, p. 25.
16. **Parajulee, M. N.**, S. C. Carroll, D. M. Nesmith, and J. P. Bordovsky. 2005. Influence of soil nitrogen level on seasonal activity of cotton arthropods in drip irrigation system. Helms Research Farm Annual Report.
17. **Parajulee, M. N.**, S. C. Carroll, D. M. Nesmith, and J. P. Bordovsky. 2006. Influence of soil nitrogen level on seasonal activity of cotton arthropods in drip irrigation system. Helms Research Farm Annual Report, p. 17.
18. **Parajulee, M. N.**, S. C. Carroll, D. M. Nesmith, and J. P. Bordovsky. 2007. Influence of soil nitrogen level on seasonal activity of cotton arthropods in drip irrigation system. Helms Research Farm Annual Report, p. 15.
19. **Parajulee, M.**, S. Carroll, A. Balachandran, and K. Bronson. 2007. Effect of cover crop on arthropod population dynamics in subsurface drip irrigated cotton at AGCARES, Lamesa, TX, 2007. AGCARES Research Farm Annual Report, pp. 29-30.
20. **Parajulee, M. N.**, S. C. Carroll, R. J. Kesey, D. M. Nesmith, and J. P. Bordovsky. 2008. Influence of soil nitrogen level on seasonal activity of cotton arthropods and lint yield under drip irrigation. Helms Research Farm Annual Report.
21. **Parajulee, M.**, B. Kesey, S. Carroll, and K. Bronson. 2008. Effect of cover crop on arthropod population dynamics in subsurface drip irrigated cotton at AGCARES, Lamesa, TX, 2008. AGCARES Research Farm Annual Report, pp. 45-46.
22. **Parajulee, M. N.** and D. L. Kerns. 2008. Plains Cotton Growers Cotton Entomology Annual Research Report.
23. **Parajulee, M. N.**, S. C. Carroll, R. J. Kesey, D. M. Nesmith, and J. P. Bordovsky. 2009. Influence of soil nitrogen level on seasonal activity of cotton arthropods and lint yield under drip irrigation. Helms Research Farm Annual Report.
24. **Parajulee, M.**, B. Kesey, S. Carroll, and K. Bronson. 2009. Effect of cover crop on arthropod population dynamics in subsurface drip irrigated cotton at AGCARES, Lamesa, TX, 2009. AGCARES Research Farm Annual Report.
25. **Parajulee, M.**, R. Shrestha, W. McSpadden, A. Bastola, D. Neupane, S. Carroll, W. Keeling. 2009. Cotton fruiting/yield compensation after *Lygus* induced square loss as influenced by variety x water treatments, Lamesa, TX, 2009. AGCARES Research Farm Annual Report.
26. **Parajulee, M. N.** and D. L. Kerns. 2009. Plains Cotton Growers Cotton Entomology Annual Research Report.
27. **Parajulee, M. N.**, S. C. Carroll, R. J. Kesey, D. L. Kerns, and J. P. Bordovsky. 2010. Influence of soil nitrogen level on seasonal activity of cotton arthropods and lint yield under drip irrigation. Helms Research Farm Annual Report.
28. **Parajulee, M.**, B. Kesey, S. Carroll, and K. Bronson. 2010. Effect of cover crop on arthropod population dynamics in subsurface drip irrigated cotton at AGCARES, Lamesa, TX, 2010. AGCARES Research Farm Annual Report.
29. **Parajulee, M.**, R. Shrestha, W. McSpadden, A. Bastola, D. Neupane, S. Carroll, W. Keeling. 2010. Cotton fruiting/yield compensation after *Lygus* induced square loss as influenced by variety x water treatments, Lamesa, TX, 2010. AGCARES Research Farm Annual Report.

#### **Technical Reports**

1. **Parajulee, M. N.**, J. E. Slosser, P. M. Thaxton, and K. M. El-Zik. 1997. Quantifying levels of resistance to cotton insect pests in multi-adversity resistance (MAR) germplasms. Texas A&M Vernon Center Technical Report No. 97-01.

2. **Parajulee, M. N.**, J. E. Slosser, D. G. Bordovsky, T. A. Baughman, and E. P. Boring. 1999. Role of transgenic Bt cotton in a relay strip cropping system, pp. 8-14. *In* T. A. Baughman and M. N. Parajulee [eds.], Transgenic Bt cotton performance in the Texas Rolling Plains. Texas A&M Vernon Center Technical Report No. 99-06.
3. Slosser, J. E., D. G. Bordovsky, E. P. Boring, and **M. N. Parajulee**. 1999. Evaluation of Bollgard cotton performance in the Texas Rolling Plains, pp. 2-3. *In* T. A. Baughman and M. N. Parajulee [eds.], Transgenic Bt cotton performance in the Texas Rolling Plains. Texas A&M Vernon Center Technical Report No. 99-06.
4. **Parajulee, M. N.**, J. E. Slosser, R. Montandon, S. L. Dowhower, and W. E. Pinchak. 1999. Grasshoppers associated with mesquite and juniper habitats, pp. 43-45. *In* W. R. Teague [ed.], Rolling Plains Ranching Systems Report. Texas A&M Vernon Center Technical Report No. 99-10.
5. **Parajulee, M. N.** 2006. Ecologically intensive pest management in Texas High Plains cotton. Texas AgriLife Research and Extension Center Cotton Entomology Program Annual Report to Plains Cotton Growers, Inc.
6. **Parajulee, M. N.** 2007. Ecologically intensive pest management in Texas High Plains cotton. Texas AgriLife Research and Extension Center Cotton Entomology Program Annual Report to Plains Cotton Growers, Inc.
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8. **Parajulee, M. N.** 2009. Ecologically intensive pest management in Texas High Plains cotton. Texas AgriLife Research and Extension Center Cotton Entomology Program Annual Report to Plains Cotton Growers, Inc.

#### **Extension Publications**

1. Parajulee, M. N. 2003. Plant bug activity on roadside weed hosts. *In* FOCUS on Entomology for South Plains Agriculture, J. F. Leser (ed.), Vol. 42 No. 2, pp. 11.
2. Parajulee, M. N. 2003. Irrigation management and insect activity in cotton. *In* FOCUS on Entomology for South Plains Agriculture, J. F. Leser (ed.), Vol. 42 No. 4, pp. 7.
3. Parajulee, M. N. 2003. Lady beetles can eat a lot of cotton aphids in a short period of time. *In* FOCUS on Entomology for South Plains Agriculture, J. F. Leser (ed.), Vol. 42 No. 6, pp. 4.
4. Parajulee, M. N. 2003. Importance of beneficial arthropods in insect pest management in the High Plains. *In* FOCUS on Entomology for South Plains Agriculture, J. F. Leser (ed.), Vol. 42 No. 7, pp. 7.
5. Parajulee, M. N. 2003. Why are cotton aphids not distributed uniformly throughout the field? *In* FOCUS on Entomology for South Plains Agriculture, J. F. Leser (ed.), Vol. 42 No. 8, pp. 7.
6. Parajulee, M. N. 2003. Long-term trends in bollworm and tobacco budworm moth flight activity in the High Plains. *In* FOCUS on Entomology for South Plains Agriculture, J. F. Leser (ed.), Vol. 42 No. 13, pp. 7.
7. Parajulee, M. N. 2003-2006. *Lygus* population dynamics in non-cotton and cotton hosts. *In* FOCUS on Entomology for South Plains Agriculture, J. F. Leser (ed.), Vol. 42-44. Weekly publication of survey charts and summaries.

#### **Popular articles/interviews on Dr. Parajulee's work**

1. Greedy little pirate bug terrorizes grain robbers. *Quarterly* 12(3): 5. The University of Wisconsin, College of Agriculture and Life Sciences, Madison, WI, 1993.
2. A good pirate: The larger pirate bug could be a potent biocontrol in stored products. *Agricultural Research* 43(3): 19. USDA-ARS, Greenbelt, MD, 1995.

3. Bugs for hire: Sicking good insects on bad ones. Science News 147: 289-304, 1995.
4. Researchers investigate cotton irrigation strategies. Texas A&M University Research in Review AgNews, September 15, 2004.
5. Tiny fleahoppers can cause big problems: Early-season pressure from fleahoppers can take a bite out of final yields. Cotton Grower Magazine, p. 4-6, May 2005.
6. Research seeks answers to *Lygus* bug questions. Texas A&M University AgNews, August 5, 2005.
7. Research seeks answers to *Lygus* questions. Southwest Farm Press, August 12, 2005.
8. Inquiring minds want to know about cotton fleahoppers. Texas A&M University Research in Review/ AgNews, September 5, 2007.
9. Scouting is critical in insect management. Cotton Farming, June 2008.
10. Tiny insect causes big problems for cotton. Southwest farm Press 35 (19): 12-16, October 2008.
11. Cotton research program saves Texas High Plains farmers from insect pests. Feature article at <http://insects.tamu.edu/feature/cotton/index.cfm>, April-May, 2009.
12. 100 years and counting as ag research continues. Southwest Farm Press, October 19, 2009.
13. Temik loss could reduce nematode control. Southwest Farm Press, October 13, 2010.

### Summary of Scientific and Professional Presentations

Type	Invited	Submitted	Total
International	22	3	25
National	42	126	168
Regional/State	32	39	71
Total	96	168	264

### Invited Presentations

#### *International*

1. **Parajulee, M. N.** and T. W. Phillips. 1992. Biology and field activity of *Lyctocoris campestris* (Heteroptera: Anthocoridae), a predator of stored-product insects. First International Symposium on Stored Grain Ecosystems, June 7-10, Winnipeg, Canada.
3. **Parajulee, M. N.** and T. W Phillips. 1994. Life history, predatory biology, and population ecology of *Lyctocoris campestris* (Heteroptera: Anthocoridae). The Sixth International Working Conference on Stored-Product Protection, April 17-23, Canberra, Australia.
4. **Parajulee, M. N.** and T. W Phillips. 1994. Monitoring field populations of *Lyctocoris campestris*, a predator of stored grain insects: Assessment of different trap designs. Special Trapping Workshop, The 6<sup>th</sup> International Working Conference on Stored-Product Protection, April 17-23, Canberra, Australia.

5. **Parajulee, M. N.**, D. R. Rummel, M. D. Arnold, and S. C. Carroll. 2004. Long-term seasonal abundance patterns of Heliothine species: Implications in pest management. The 15<sup>th</sup> International Plant Protection Congress, May 11-16, Beijing, China (Symposium Lead Organizer).
6. **Parajulee, M. N.** and R. B. Shrestha. 2004. Biological control of cotton aphids, *Aphis gossypii*, in cotton: Effectiveness of *Hippodamia convergens* and *Chrysoperla carnea*. The 22<sup>nd</sup> International Congress of Entomology, August 15-21, Brisbane, Australia (Symposium Lead Organizer).
7. **Parajulee, M. N.**, S. C. Carroll, M. D. Arnold, R. B. Shrestha, A. M. Cranmer, and P. L. Bommireddy. 2005. Species composition and host-plant sequence of *Lygus* bugs in the Texas High Plains. International Symposium on Ecology and Management of *Lygus* Plant Bugs, January 30-February 3, Ottawa, Canada.
8. **Parajulee, M. N.** 2007. Ecological approaches to pest management: Integrating basic and applied research in cotton IPM in the United States. Ghana Atomic Energy Commission Seminar Series, June 7, Accra, Ghana (Invited Speaker).
9. **Parajulee, M. N.** 2007. Overview of agricultural research/teaching programs at the Texas Agricultural Experiment Station and Texas Tech University: Opportunities for collaborative linkage. Ghana Atomic Energy Commission Seminar Series, June 7, Accra, Ghana (Invited Speaker).
10. **Parajulee, M. N.**, and A. K. Barman. 2007. Cotton compensation of *Lygus* induced square loss in a limited irrigation production regime. World Cotton Research Conference, September 10-14, Lubbock, TX (Invited Speaker).
11. Carroll, S. C., **M. N. Parajulee**, and M. D. Arnold. 2007. Survey of lady beetles (Coleoptera: Coccinellidae) found on Texas High Plains cotton, alfalfa and weeds. World Cotton Research Conference, September 10-14, Lubbock, TX.
12. Shrestha, R. B., **M. N. Parajulee**, and M. J. Grimson. 2007. SEM ultrastructure study of *Lygus hesperus* (Knight) (Hemiptera: Miridae). World Cotton Research Conference, September 10-14, Lubbock, TX.
13. Barman, A. K., R. F. Medina, **M. N. Parajulee**, C. P. Suh, and C. G. Sansone. 2007. Developing AFLP markers to study genetic differentiation of the cotton fleahopper, *Pseudatomoscelis seriatus* (Reuter) (Hemiptera: Miridae). World Cotton Research Conference, September 10-14, Lubbock, TX.
14. **Parajulee, M. N.** 2008. Habitat manipulation in cotton IPM: Host plant utilization, host sequence, and host preference of *Lygus hesperus*. International Congress of Entomology, July 6-12, Durban, South Africa.
15. **Parajulee, M. N.**, R. B. Shrestha, A. K. Barman, and S. C. Carroll. 2008. Ecologically intensive pest management in cotton agroecosystems: *Lygus hesperus* as a model system. Fourth International Conference of Plant Protection Institute, November 9-12, Dokki-Giza, Egypt (Conference Keynote Speaker).
16. **Parajulee, M. N.**, F.-J. Chen, and G. Feng. 2009. Impact of global warming on management of agricultural arthropods: Elevated CO<sub>2</sub> and tri-trophic interactions in cotton agroecosystems. International Congress of Global Warming on Biodiversity of Insects: Management and Conservation, February 9-12, Coimbatore, India (Congress Plenary Speaker).
17. **Parajulee, M. N.** 2009. Ecologically intensive pest management in cotton agroecosystems: *Lygus hesperus* as a model system. Indian Agricultural Research Institute, February 6, New Delhi, India.
18. **Parajulee, M. N.** 2009. Landscape level understanding of *Lygus hesperus* host preference and host utilization affecting *Lygus* management in cotton. 6<sup>th</sup> International IPM Conference, March 24-26, Portland, OR (Organized an Invited Symposium; Program Enhancement Funds were also awarded).
19. **Parajulee, M. N.** 2009. Ecological approaches to agroecosystems management: Integration of basic and applied research. Institutional Seminar Series, October 20, Chinese Academy of Sciences, Beijing, China.

20. **Parajulee, M. N.** 2009. Impact of global warming on agroecosystems management: Elevated CO<sub>2</sub> and tritrophic interactions in cotton agroecosystems. University Seminar Series, October 23, Nanjing Agricultural University, Nanjing, China.
21. **Parajulee, M. N.** 2009. Ecological approaches to agroecosystems management: Cotton Entomology Program as a model system. Department of Entomology Seminar Series, October 23, Nanjing Agricultural University, Nanjing, China.
22. **Parajulee, M. N.** 2009. Effect of global warming and elevated CO<sub>2</sub> on tritrophic interactions in cotton agroecosystems. Sixth Asia-Pacific Congress of Entomology, October 18-21, Beijing, China.

#### **National**

1. **Parajulee, M. N.** 1993. Biology and predatory potential of *Lyctocoris campestris*. A special seminar given to the "People's Republic of China Team-7: Application of Predatory Insects in Grain Storage Management" at USDA-ARS Laboratory, June 28, Madison, WI.
2. **Parajulee, M. N.** 1994. Biology of *Lyctocoris campestris*, a predator of stored grain insects. USDA-ARS, Stored Product Insects Research and Development Laboratory, May 2, Savannah, GA.
3. **Parajulee, M. N.** 1996. Life history, predatory biology, and population ecology of *Lyctocoris campestris* (Hemiptera: Anthicoridae). Department of Entomology, Oklahoma State University, June 24, Stillwater, OK.
4. **Parajulee, M. N.** 1998. Biological and cultural management of insect pests in cotton agroecosystems. Univ. of Nebraska Northeast Research and Extension Center, December 14, Concord, NE.
5. **Parajulee, M. N.** 1998. Biological and cultural management of insect pests in cotton agroecosystems. Department of Entomology, University of Nebraska, December 15, Lincoln, NE.
6. **Parajulee, M. N.** 1999. Biologically intensive pest management in cotton: Strategies for reducing pesticide usage. Department of Entomology, North Dakota State University, May 3, Fargo, ND.
7. **Parajulee, M. N.** 1999. Bridging the gap between research and clientele: Role of extension in integrated pest management programs. Department of Entomology, North Dakota State University, May 4, Fargo, ND.
8. **Parajulee, M. N.** 1999. Biological control potential of *Lyctocoris campestris* in stored-product ecosystems. Department of Entomology, University of Minnesota, October 4, St. Paul, MN.
9. **Parajulee, M. N.** 1999. Development and delivery of IPM in stored-products: Research and extension partnership in the 21<sup>st</sup> Century. Department of Entomology, University of Minnesota, October 5, St. Paul, MN.
10. **Parajulee, M. N.** 1999. Biologically intensive pest management in cotton agroecosystems. Texas Agricultural Experiment Station, November 1, Corpus Christi, TX.
11. **Parajulee, M. N.** 1999. Biologically intensive pest management in cotton agroecosystems. Department of Entomology, Texas A&M University, November 2, College Station, TX.
12. **Parajulee, M. N.** 2001. Biologically and ecologically intensive pest management in cotton agroecosystems. Texas Agricultural Experiment Station, April 25, Lubbock, TX.
13. **Parajulee, M. N.** 2001. Biologically and ecologically intensive pest management in cotton agroecosystems. Department of Entomology, Texas A&M University, April 26, College Station, TX.
14. **Parajulee, M. N.** 2002. Effect of temperatures on boll weevil survival in cotton modules. Cotton Council International Joint Meeting of the Cotton USA and Pakistani Plant Protection Officials, May 22, Lubbock, TX.
15. **Parajulee, M. N.** 2002. Cotton entomology research program at the Lubbock Center: A new direction for west Texas cotton IPM. Monsanto World Headquarters, June 24-26, St. Louis, MO.

16. Leser, J. F., and **M. N. Parajulee**. 2005. Early square loss and compensation capacity for Texas High Plains cotton. National COTMAN Working Group Meeting, November 16-17, Austin, TX (Discussion panel).
17. **Parajulee, M. N.** 2005. In-season crop management: Compensation for *Lygus* induced fruit loss in cotton. National COTMAN Working Group Meeting, November 16-17, Austin, TX (Discussion panel).
18. **Parajulee, M. N.** 2006. Sampling *Lygus* bugs in West Texas. USDA-ARS *Lygus* and Stink Bug Symposium and Workshop at the Beltwide Cotton Conference, January 4, San Antonio, TX (Invited Speaker and Panel Discussion Member).
19. **Parajulee, M. N.** 2006. Cotton IPM research in Texas: Generating ecologically-based IPM information. Fifth National Integrated Pest Management Symposium, April 4-6, St. Louis, MO. (Invited Symposium Organizer and Lead Speaker).
20. **Parajulee, M. N.** 2006. Sampling basics: Sampling considerations in cotton IPM. Southern Extension and Research Activities Information Exchange Group (SRA-IEG 23) Annual Symposium, October 31, Memphis, TN (Symposium Organizer and Lead Speaker).
21. **Parajulee, M. N.** 2007. Host plant utilization for plant bug species in the Texas High Plains. Plant Bug Symposium at the Beltwide Cotton Conference, January 10, New Orleans, LA (Invited Speaker).
22. **Parajulee, M. N.** 2007. Connecting to the world: Should ESA have an International Branch? Entomological Society of America Program Symposium, December 8-13, San Diego, CA (Organized the Program Symposium; Program Enhancement Funds were also awarded).
23. **Parajulee, M. N.** 2008. Connecting to the world: Should ESA have an International Branch? Entomological Society of America Program Symposium, November 16-19, Reno, NV (Organized the Program Symposium; Program Enhancement Funds were also awarded).
24. **Parajulee, M. N.** 2009. Compensation capacity of Texas cotton. Precision Cotton and COTMAN Annual Meeting, November 10-12, Austin, TX.
25. Muegge, M., D. Kerns, **M. Parajulee**, M. Vandiver, W. Multer, E. Nino, D. Patman, S. Russell, and K. Siders. 2010. Development of a binomial sampling plan to estimate thrips populations in cotton to aid in ipm decision making. Beltwide Cotton Conference, January 4-6, New Orleans, LA.
26. Kerns, D., **M. Parajulee**, E. Bynum, M. Vandiver, M. Cattaneo, K. Siders, and D. Patman. 2010. Developing an action threshold for thrips in the Texas High Plains. Beltwide Cotton Conference, January 4-6, New Orleans, LA.
27. **Parajulee, M. N.**, S. C. Carroll, R. B. Shrestha, R. J. Kesey, D. M. Nesmith, and J. P. Bordovsky. 2010. Effect of nitrogen fertility on agronomic parameters and arthropod activity in drip irrigated cotton. Beltwide Cotton Conference, January 4-6, New Orleans, LA.
28. Shrestha, R. B., S. C. Carroll, and **M. N. Parajulee**. 2010. Effect of roadside alfalfa mowing on *Lygus hesperus* abundance in adjacent cotton: A field marking study. Beltwide Cotton Conference, January 4-6, New Orleans, LA.
29. Shrestha, R. B., **M. N. Parajulee**, S. C. Carroll. 2010. Genetic population structure of *Lygus hesperus* in the Texas High Plains. Beltwide Cotton Conference, January 4-6, New Orleans, LA.
30. Shrestha, R. B., A. Bastola, **M. N. Parajulee**. 2010. Seasonal dynamics of insect community structure in Texas High Plains cotton. Beltwide Cotton Conference, January 4-6, New Orleans, LA.
31. Adhikari, M. B., **M. N. Parajulee**, R. B. Shrestha, and D. L. Kerns. 2010. *Lygus hesperus* feeding on maturing cotton bolls: Adults versus nymphs. Beltwide Cotton Conference, January 4-6, New Orleans, LA.
32. Musser, F. R., R. E. Jackson, J. K. Greene, B. R. Leonard, S. D. Stewart, **M. N. Parajulee**, J. J. Adamczyk, G. M. Lorenz, D. S. Akin, K. V. Tindall, D. A. Herbert, and P. M. Roberts. 2010. Pyrethroid resistance monitoring of bollworms. Beltwide Cotton Conference, January 4-6, New Orleans, LA.

33. Shrestha, R. B., M. J. D. San Francisco, L. D. Densmore, R. E. Strauss, A. S. Holaday, M. D. Burrow, and **M. N. Parajulee**. 2010. Determining population genetic structure of *Lygus hesperus* from Texas High Plains using microsatellite markers. In Annual Biological Science Symposium, Department of Biological Sciences, TTU, Lubbock, Texas.
34. Barman, A. K., R. F. Medina, **M. N. Parajulee**, C. G. Sansone. 2010. Use of AFLP markers in understanding host associated difference in cotton fleahoppers in Texas. Entomological Society of America Program Symposium, December 12-16, San Diego, CA.
35. DeFoliart, G. R., and **M. N. Parajulee**. 2010. Entomophagy in the United States: History, current status, and future prospect. Entomological Society of America Program Symposium, December 12-16, San Diego, CA.
36. Ellsworth, P. C., A. Fournier, P. B. Goodell, D. L. Kerns, and **M. N. Parajulee**. 2010. The influence of landscape on *Lygus* management: What can growers do about it? Entomological Society of America Program Symposium, December 12-16, San Diego, CA.
37. Ghimire, M. N., and **M. N. Parajulee**. 2010. Nepal Overseas Entomologists: Current status and future course of the network. Entomological Society of America Program Symposium, December 12-16, San Diego, CA.
38. Murugan, K., and **M. N. Parajulee**. 2010. Use of neem extract and microbial insecticides for sustainable management of cotton bollworm, *Helicoverpa armigera*. Entomological Society of America Program Symposium, December 12-16, San Diego, CA.
39. **Parajulee, M. N.** 2010. Entomological networking: Role of Nepal Overseas Entomologists in Entomological Society of America. Entomological Society of America Program Symposium, December 12-16, San Diego, CA.
40. **Parajulee, M. N.**, W. O. McSpadden, R. B. Shrestha, D. L. Kerns, P. C. Ellsworth, P. B. Goodell, Y. Carriere, and S. C. Carroll. 2010. Landscape impacts on *Lygus* management in West Texas. Entomological Society of America Program Symposium, December 12-16, San Diego, CA.
41. Shrestha, R. B., **M. N. Parajulee**, and S. C. Carroll. 2010. Immunological assays in ecological studies: Movement behavior of *Lygus* bugs in cotton. Entomological Society of America Program Symposium, December 12-16, San Diego, CA.
42. Dever, J. K., **M. N. Parajulee**, D. L. Kerns, and M. D. Arnold. 2011. Development of cultivars and IPM strategies for organic cotton production. Organic Farming Systems Workshop, March 16-18, Washington, DC.

#### **Regional/State**

1. **Parajulee, M. N.** 2001. Overview of cotton entomology research in Lubbock. Entomology Science Conference, October 29-November 1, College Station, TX.
2. **Parajulee, M. N.** 2002. *Lygus* and other plant bugs - an emerging issue. West Texas Cotton IPM Conference, March 6-7, Lubbock, TX (moderated the session).
3. **Parajulee, M. N.** 2002. Cotton entomology research program at the Lubbock Center. High Plains Association of Crop Consultants Annual Meeting, March 5-6, Lubbock, TX.
4. **Parajulee, M. N.**, M. D. Arnold, S. C. Carroll, A. M. Cranmer, R. B. Shrestha, and P. L. Bommireddy. 2003. *Lygus* abundance on wild hosts: A survey across the Texas High Plains. High Plains Association of Crop Consultants Annual Meeting, March 4-5, Lubbock, TX.
5. Carroll, S. C., **M. N. Parajulee**, R. B. Shrestha, and M. D. Arnold. 2003. Beet armyworm seasonal activity in cotton as affected by pigweed. High Plains Association of Crop Consultants Annual Meeting, March 4-5, Lubbock, TX.
6. **Parajulee, M. N.** 2003. Cotton arthropod research directions after boll weevil eradication. Field Crop IPM Symposium at the ESA-SW Branch Annual Meeting, February 24-27, Oklahoma City, OK.

7. **Parajulee, M. N.** 2003. High Plains cotton entomology: Issues and answers. West Texas Agricultural Chemicals Institute Annual Conference, September 16, Lubbock, TX.
8. **Parajulee, M. N.** and J. F. Leser. 2003. Review of potential area-wide management of *Lygus* bugs in Texas. Tarnished Plant Bug/Stink Bug Area-wide Management Meeting, USDA-ARS, October 21-22, Stoneville, MS.
9. **Parajulee, M. N.** 2004. Ecological differences in *Lygus* bugs and management challenges for the Texas High Plains. Cotton Symposium at the ESA-Southwestern Branch Annual Meeting, February 22-26, Lubbock, TX (Lead organizer of the symposium).
10. **Parajulee, M. N.** 2004. Economic evaluation of Bollgard technology for the Texas High Plains. Monsanto Field Day at the Helms Farm, August 3, Halfway, TX.
11. **Parajulee, M. N.** 2004. Joint research-extension programs in cotton entomology at the Helms Research Validation Farm. TAMU/TAES Administration Area Tour, September 23, Halfway, TX.
12. **Parajulee, M. N.** and J. F. Leser. 2005. Plant bug issues in the Texas High Plains. High Plains Association of Crop Consultants Annual Meeting, March 1-2, Lubbock, TX.
13. Leser, J. F. and **M. N. Parajulee.** 2005. What do we know about the pink bollworm problem in the Texas High Plains? High Plains Association of Crop Consultants Annual Meeting, March 2, Lubbock, TX.
14. Leser, J. F. and **M. N. Parajulee.** 2005. Managing insects in Bt versus non-Bt cotton. High Plains Association of Crop Consultants Annual Meeting, March 2, Lubbock, TX.
15. **Parajulee, M. N.** and A. K. Barman. 2006. Cotton compensation of *Lygus* induced fruit loss: Are we too aggressive in plant bug management? Plant Bug Symposium at the ESA-Southwestern Branch Annual Meeting, February 28-March 2, Austin, TX (Lead organizer of the symposium).
16. **Parajulee, M. N.,** C. P. Suh, and A. E. Knutson. 2006. Current projects and research priorities in plant bug management. Plant Bug Symposium at the ESA-Southwestern Branch Annual Meeting, February 28-March 2, Austin, TX (Lead organizer of the symposium).
17. **Parajulee, M. N.** 2006. Compensation of *Lygus* induced fruit loss in cotton. High Plains Association of Crop Consultants Annual Meeting, March 7, Lubbock, TX (Program Committee).
18. **Parajulee, M. N.** 2007. How much early fruit loss can cotton tolerate? High Plains Association of Crop Consultants Annual Meeting, March 6, Lubbock, TX (Program Committee).
19. **Parajulee, M. N.** 2007. Sampling basics: Sampling considerations in arthropod management. TAMU Statewide Extension Entomology Retreat, March 27-29, New Braunfels, TX.
20. **Parajulee, M. N.** 2008. Cotton response to cotton fleahopper induced fruit loss. Southwest Cotton Technology Conference, February 6-7, San Antonio, TX.
21. **Parajulee, M. N.** and R. B. Shrestha. 2008. Overview of molecular research programs in Cotton Entomology Laboratory at the Lubbock Center. ESA-Southwestern Branch Annual Meeting, February 23-26, Ft. Worth, TX (Lead organizer of the symposium).
22. **Parajulee, M. N.** and R. B. Shrestha. 2008. Immunological assays in ecological studies: Movement behavior of *Lygus* bugs in cotton. ESA-Southwestern Branch Annual Meeting, February 23-26, Ft. Worth, TX (Lead organizer of the symposium).
23. Barman, A. K., R. F. Medina, **M. N. Parajulee,** C. G. Sansone, and C. P. Suh. 2008. Development and use of AFLP markers in understanding host associated differences of cotton fleahoppers in Texas. ESA-Southwestern Branch Annual Meeting, February 23-26, Ft. Worth, TX.
24. **Parajulee, M. N.** 2008. Compensation to *Lygus*-induced fruit loss in cotton: Effect of plant phenological stage. Entomological Society of America Pacific Branch Annual Meeting, March 28-April 2, Napa, CA (Symposium speaker).

25. **Parajulee, M. N.** 2008. Cotton Entomology Program in the High Plains: Ecologically intensive IPM approach to manage cotton arthropods. Texas Tech University Departmental Seminar Series, Plant and Soil Science Department, April 21, Lubbock, TX.
26. **Parajulee, M. N.** 2008. Cotton compensation of insect-induced fruit loss. High Plains Association of Crop Consultants Annual Meeting, March 4-5, Lubbock, TX (Program Committee).
27. Barman, A. K., R. F. Medina, **M. N. Parajulee**, C. G. Sansone, C. Suh. 2009. The role of host plants in population differentiation of cotton fleahopper: IPM considerations. ESA-Southwestern Branch Annual Meeting, February 23-26, Stillwater, OK.
28. **Parajulee, M. N.** 2009. *Lygus* bugs: Their alternate host plants and cotton boll susceptibility. High Plains Association of Crop Consultants Annual Meeting, March 3-4, Lubbock, TX.
29. **Parajulee, M. N.** 2010. Cotton Entomology Research Program in the High Plains: Program overview and potential areas of collaboration. Entomology Science Conference, November 4-7, College Station, TX.
30. **Parajulee, M. N.** 2011. Sucking bugs: Agricultural relevance and status of science from a Texas High Plains viewpoint. Plant Bug Workshop, Texas AgriLife Research and Extension Center, February 21-22, Corpus Christi, TX.
31. **Parajulee, M. N.**, R. B. Shrestha, D. L. Kerns, W. O. McSpadden, and S. C. Carroll. 2011. Managing *Lygus* bugs for Texas High Plains cotton. High Plains Association of Crop Consultants Annual Meeting, March 1-2, Lubbock, TX.
32. **Parajulee, M. N.**, R. B. Shrestha, and T. I. Matis. 2011. Texas High Plains *Lygus* bugs: Investigation of predisposition factors causing outbreaks in order to strengthen cotton pest management strategies. International Cotton Research Center/Center for Economic Research Institute Annual Research and Outreach Symposium, March 29, Lubbock, TX.

## Submitted Presentations

### *International*

1. Ge, F., F. Chen, **M. N. Parajulee**, and E. N. Yardim. 2004. Differentiation and overwintering duration of the fourth generation cotton bollworm, *Helicoverpa armigera* (Hübner) in cotton and corn fields in northern China. The 15<sup>th</sup> International Plant Protection Congress, May 10-16, Beijing, China (Oral).
2. Ge, F., L. Du, **M. N. Parajulee**, and C. A. Edwards. 2004. A quantitative method to evaluate the biological control efficiency of lady beetle, *Propylaea japonica*, on cotton aphid, *Aphis gossypii*. The 15<sup>th</sup> International Plant Protection Congress, May 10-16, Beijing, China (Oral).
3. **Parajulee, M. N.** and R. B. Shrestha. 2004. Potential of convergent lady beetle, *Hippodamia convergens*, in suppressing cotton aphids, *Aphis gossypii*. The 15<sup>th</sup> International Plant Protection Congress, May 10-16, Beijing, China (Poster).

### *National*

1. **Parajulee, M. N.** and G. R. DeFoliart. 1991. A fecundity model for use in mass-production of the house cricket (*Acheta domesticus*) as food and feed. Biology Graduate Student Conference, March 15, University of Wisconsin-Madison, WI (Oral).
2. **Parajulee, M. N.**, G. R. DeFoliart, and D. B. Hogg. 1991. A fecundity model for use in mass-production of the house cricket as food or feed. Annual meeting of the Entomological Society of America, December 6-11, Reno, NV (Oral).
3. Phillips, T. W. and **M. N. Parajulee**. 1991. Volatiles of stored-product Anthocorids: *X. flavipes* and *L. campestris*. Annual meeting of the Entomological Society of America, December 6-11, Reno, NV (Oral).

4. **Parajulee, M. N.** and T. W. Phillips. 1992. General biology of *Lyctocoris campestris*, a predator in stored-product ecosystem. Entomological Society of America North-Central Branch Meeting, March 15-18, Kansas City, MO (Oral).
5. **Parajulee, M. N.** and T. W. Phillips. 1992. Laboratory study of the functional response of *Lyctocoris campestris*, a predator of stored-product insects. Annual meeting of the Entomological Society of America, December 5-10, Baltimore, MD (Oral).
6. **Parajulee, M. N.** and T.W. Phillips. 1993. Prey utilization by *Lyctocoris campestris* (Heteroptera: Anthocoridae). Entomological Society of America North-Central Branch Meeting, March 21-24, Fargo, ND (Oral).
7. **Parajulee, M. N.** and T. W. Phillips. 1993. Response variation of predatory pirate bugs to prey insects in stored grain ecosystems. Annual meeting of the Ecological Society of America, July 31-August 4, Madison, WI (Oral).
8. **Parajulee, M. N.** and T. W. Phillips. 1993. Seasonal abundance of the predator *Lyctocoris campestris* (Heteroptera: Anthocoridae) in stored corn in Wisconsin. Annual meeting of the Entomological Society of America, December 12-16, Indianapolis, IN (Oral).
9. Phillips, T. W., **M. N. Parajulee**, J. E. Throne, and E. V. Nordheim. 1994. Effects of constant temperatures and relative humidities on life history of *Lyctocoris campestris*. Annual meeting of the Entomological Society of America, December 13-17, Dallas, TX (Poster).
10. **Parajulee, M. N.**, L. T. Wilson, D. R. Rummel, S. C. Carroll, and P. J. Trichilo. 1994. Relationship between ambient air temperature and leaf litter temperature in boll weevil overwintering habitats in the Texas Rolling Plains. Annual meeting of the Entomological Society of America, December 13-17, Dallas, TX (Oral).
11. **Parajulee, M. N.**, L. T. Wilson, D. R. Rummel, S. C. Carroll, and P. J. Trichilo. 1995. Insulating values of boll weevil overwintering habitats: Implications of using habitat versus ambient temperatures in developing meteorological data-based predictive models. Beltwide Cotton Conference, January 4-7, San Antonio, TX (Oral).
12. **Parajulee, M. N.**, L. T. Wilson, D. R. Rummel, S. C. Carroll, P. J. Trichilo, and S. Bozkurt. 1995. Improving our understanding of boll weevil overwintering biology. Annual meeting of the Entomological Society of America, December 17-21, Las Vegas, NV (Oral).
13. **Parajulee, M. N.**, L. T. Wilson, S. Bozkurt, D. R. Rummel, S. C. Carroll, and P. J. Trichilo. 1996. Predicting boll weevil overwintering survival and spring emergence in the Rolling Plains of Texas. Beltwide Cotton Conference, January 8-12, Nashville, TN (Oral).
14. **Parajulee, M. N.** and J. E. Slosser. 1997. Potential relay strip crops for predator enhancement in cotton. Beltwide Cotton Conference, January 6-10, New Orleans, LA (Oral).
15. **Parajulee, M. N.**, L. T. Wilson, D. R. Rummel, S. C. Carroll, P. J. Trichilo, J. E. Slosser, and T. W. Fuchs. 1997. Insulating abilities of six boll weevil overwintering habitats from the Rolling Plains of Texas. Beltwide Cotton Conference, January 6-10, New Orleans, LA (Oral).
16. **Parajulee, M. N.** and J. E. Slosser. 1997. Predator enhancement in cotton: Use of relay strip crops. Entomological Society of America Southwestern Branch Meeting, February 17-20, Oklahoma City, OK (Oral).
17. **Parajulee, M. N.** and J. E. Slosser. 1998. Evaluation of potential relay strip crops for predator enhancement in cotton. Beltwide Cotton Conferences, January 5-10, San Diego, CA (Oral).
18. **Parajulee, M. N.** and J. E. Slosser. 1998. Pesticide-free cotton production system: Is it feasible? Entomological Society of America Southwestern Branch Meeting, February 9-12, Corpus Christi, TX (Oral).
19. **Parajulee, M. N.**, J. E. Slosser, and D. G. Bordovsky. 1999. Cultural practices affecting the abundance of cotton aphids and beet armyworms in dryland cotton. Beltwide Cotton Conferences, January 3-7, Orlando, FL (Oral).

20. Boring, E. P., **M. N. Parajulee**, and J. E. Slosser. 1999. Bollworm and budworm moth activity in the Texas Rolling Plains. Beltwide Cotton Conferences, January 3-7, Orlando, FL (Poster).
21. Slosser, J. E., **M. N. Parajulee**, D. R. Rummel, and D. L. Hendrix. 1999. Influence of irrigation and chemical treatments on cotton aphid infestations. Entomological Society of America Southwestern Branch Meeting, February 22-26, Las Cruces, NM (Oral).
22. **Parajulee, M. N.**, J. E. Slosser, and D. G. Bordovsky. 1999. Influence of skip-row planting pattern on insect pest abundance and damage in dryland cotton. Entomological Society of America Southwestern Branch Meeting, February 22-26, Las Cruces, NM (Oral).
23. **Parajulee, M. N.** and J. E. Slosser. 2000. Influence of boll weevil eradication on moth activity in the Texas Rolling Plains. Beltwide Cotton Conferences, January 4-8, San Antonio, TX (Oral).
24. Slosser, J. E., **M. N. Parajulee**, D. R. Rummel, and D. L. Hendrix. 2000. Management of cotton lint stickiness in Texas cotton. Beltwide Cotton Conferences, January 4-8, San Antonio, TX (Oral).
25. **Parajulee, M. N.**, J. E. Slosser, and D. G. Bordovsky. 2000. Skip-row planting pattern and insect pest management in dryland cotton. Entomological Society of America Southwestern Branch Meeting, February 9-11, Ft. Worth, TX (Oral).
26. Slosser, J. E. and **M. N. Parajulee**. 2000. Evaluation of food sprays and relay strip crops for enhancing biological control of bollworms and cotton aphids in cotton. Entomological Society of America Southwestern Branch Meeting, February 9-11, Ft. Worth, TX (Oral).
27. Slosser, J. E. and **M. N. Parajulee**. 2001. Factors contributing to late season cotton aphid infestations. Beltwide Cotton Conferences, January 9-13, Anaheim, CA (Oral).
28. **Parajulee, M. N.** and J. E. Slosser. 2001. Cotton aphid biology as affected by cyhalothrin (Karate): Aphid or host plant modification? Beltwide Cotton Conferences, January 9-13, Anaheim, CA (Oral).
29. **Parajulee, M. N.**, J. E. Slosser, and L. T. Wilson. 2001. Cotton aphid population dynamics modeling: A distributed-delay approach. Annual meeting of Entomological Society of America, December 9-12, San Diego, CA (Oral).
30. **Parajulee, M. N.**, J. E. Slosser, and D. G. Bordovsky. 2002. Planting patterns affecting the abundance of cotton aphids and whiteflies in dryland cotton. Beltwide Cotton Conferences, January 8-12, Atlanta, GA (Oral).
31. Slosser, J. E., **M. N. Parajulee**, D. L. Hendrix, T. J. Henneberry, and D. G. Bordovsky. 2002. Relationship between numbers of cotton aphids per leaf and sticky lint. Beltwide Cotton Conferences, January 8-12, Atlanta, GA (Oral).
32. Hendrix, D. L., T. J. Henneberry, J. E. Slosser, and **M. N. Parajulee**. 2002. Bandedwinged whitefly honeydew: Another possible source of cotton stickiness. Beltwide Cotton Conferences, January 8-12, Atlanta, GA (oral).
33. Sappington, T. W., A. D. Brashears, S. C. Carroll, M. D. Arnold, **M. N. Parajulee**, J. W. Norman, Jr., and A. E. Knutson. 2002. Potential for boll weevil transport to gins on modules. Beltwide Cotton Conferences, January 8-12, Atlanta, GA (Oral).
34. Brashears, A. D., R. V. Baker, T. W. Sappington, S. C. Carroll, M. D. Arnold, **M. N. Parajulee**. 2002. Boll weevil survival in baled lint. Beltwide Cotton Conferences, January 8-12, Atlanta, GA (Oral).
35. **Parajulee, M. N.**, M. D. Arnold, and S. C. Carroll. 2002. Predator-prey dynamics in late season cotton in the Texas High Plains. Entomological Society of America Southwestern Branch Annual Meeting, February 24-27, Guanajuato, Mexico (Poster).
36. Carroll, S. C., D. R. Rummel, C. Britton, R. Mitchell, M. D. Arnold, **M. N. Parajulee**, B. Racher, and R. K. Haldenby. 2002. Burning CRP grasses to reduce boll weevil overwintering potential. Entomological Society of America Southwestern Branch Annual Meeting, February 24-27, Guanajuato, Mexico (Poster).

37. Arnold, M. D., D. R. Rummel, J. W. Smith, Jr., S. C. Carroll, and **M. N. Parajulee**. 2002. Natural mortality of *Helicoverpa zea* in Texas High Plains cotton. Entomological Society of America Southwestern Branch Annual Meeting, February 24-27, Guanajuato, Mexico (Poster).
38. **Parajulee, M. N.**, M. D. Arnold, S. C. Carroll, A. M. Cranmer, P. L. Bommireddy, and R. B. Shrestha. 2002. Host plant sequence of *Lygus* bugs in Texas cotton. Annual meeting of the Entomological Society of America, November 17-20, Ft. Lauderdale, FL (Poster).
39. Shrestha, R. B., **M. N. Parajulee**, M. D. Arnold, S. C. Carroll, A. M. Cranmer. 2002. Cotton insect predators in conventional and conservation tillage systems. Annual Meeting of the Entomological Society of America, November 17-20, Ft. Lauderdale, FL (Poster).
40. Bommireddy, P. L., **M. N. Parajulee**, D. O. Porter. 2002. Influence of irrigation methods on *Lygus* population abundance. Annual meeting of the Entomological Society of America, November 17-20, Ft. Lauderdale, FL (Poster).
41. Cranmer, A. M., **M. N. Parajulee**, J. F. Leser, P. L. Bommireddy, M. D. Arnold, and R. B. Shrestha. 2002. Cotton cultivars and planting date window: Do *Lygus* bugs care? Annual meeting of the Entomological Society of America, November 17-20, Ft. Lauderdale, FL (Poster).
42. Zhao, B., T. W. Phillips, and **M. N. Parajulee**. 2002. Species-specific PCR-based identification of eggs and larvae of *Helicoverpa zea* and *Heliothis virescens*. Annual meeting of the Entomological Society of America, November 17-20, Ft. Lauderdale, FL (Oral).
43. Cranmer, A. M., **M. N. Parajulee**, J. F. Leser, P. L. Bommireddy, R. B. Shrestha, S. C. Carroll, and M. D. Arnold. 2003. Influence of cotton cultivar and planting date on fleahopper and *Lygus* populations in Texas High Plains. Beltwide Cotton Conference, January 6-10, Nashville, TN (Oral presentation for student paper competition).
44. Bommireddy, P. L., **M. N. Parajulee**, D. O. Porter, R. B. Shrestha, A. M. Cranmer, M. D. Arnold, and S. C. Carroll. 2003. Effect of irrigation regimes on insect populations in Texas High Plains cotton. Beltwide Cotton Conference, January 6-10, Nashville, TN (Oral presentation for student paper competition).
45. Shrestha, R. B., **M. N. Parajulee**, A. M. Cranmer, P. L. Bommireddy, S. C. Carroll, and M. D. Arnold. 2003. Seasonal abundance patterns of thrips and fleahoppers in Texas High Plains cotton. Beltwide Cotton Conference, January 6-10, Nashville, TN (Oral presentation for student paper competition).
46. **Parajulee, M. N.**, M. D. Arnold, S. C. Carroll, A. M. Cranmer, R. B. Shrestha, and P. L. Bommireddy. 2003. *Lygus* abundance on wild hosts: A survey across the Texas High Plains. Beltwide Cotton Conference, January 6-10, Nashville, TN (Oral).
47. **Parajulee, M. N.** and R. B. Shrestha. 2003. Rate of consumption of cotton aphids by Convergent lady beetle in the laboratory. Beltwide Cotton Conference, January 6-10, Nashville, TN (Oral).
48. Carroll, S. C., **M. N. Parajulee**, R. B. Shrestha, and M. D. Arnold. 2003. Beet armyworm population abundance in cotton as affected by pigweed. Beltwide Cotton Conference, January 6-10, Nashville, TN (Poster).
49. Arnold, M. D., **M. N. Parajulee**, S. C. Carroll, A. D. Brashears, and T. W. Sappington. 2003. Survival of boll weevils trapped under cotton module tarps. Beltwide Cotton Conference, January 6-10, Nashville, TN (Poster).
50. Slosser, J. E., E. P. Boring, and **M. N. Parajulee**. 2003. Distribution of *Lygus* spp. in the northern Texas Rolling Plains. Beltwide Cotton Conference, January 6-10, Nashville, TN (Oral).
51. Greenberg, S. M., A. T. Showler, T. W. Sappington, J. M. Bradford, S. Carroll, M. Arnold, **M. Parajulee**, A. Brashears, and A. Knutson. 2003. Postharvest mortality of boll weevils relative to tillage in fallen cotton squares and bolls. Beltwide Cotton Conference, January 6-10, Nashville, TN (Oral).

52. Sappington, T. W., A. D. Brashears, **M. N. Parajulee**, S. C. Carroll, M. D. Arnold, J. W. Norman, A. E. Knutson, and R. V. Baker. 2003. Modules, gin, and the threat of boll weevil introduction: What we know so far. Beltwide Cotton Conference, January 6-10, Nashville, TN (Oral).
53. **Parajulee, M. N.**, M. D. Arnold, S. C. Carroll, A. M. Cranmer, R. B. Shrestha, and P. L. Bommireddy. 2003. Noncotton host source of *Lygus* bugs in the Texas High Plains. ESA Southwestern Branch Meeting, February 24-27, Oklahoma City, OK (Poster).
54. Carroll, S. C., **M. N. Parajulee**, R. B. Shrestha, and M. D. Arnold. 2003. Influence of pigweed on beet armyworm activity in cotton. Entomological Society of America Southwestern Branch Meeting, February 24-27, Oklahoma City, OK (Poster).
55. Arnold, M. D., **M. N. Parajulee**, and A. M. Cranmer. 2003. Influence of planting date and cultivar on cotton arthropod predators. Entomological Society of America Southwestern Branch Meeting, February 24-27, Oklahoma City, OK (Poster).
56. Shrestha, R. B., **M. N. Parajulee**, A. M. Cranmer, P. L. Bommireddy, S. C. Carroll, and M. D. Arnold. 2003. Influence of conservation tillage system on cotton arthropod predators. Entomological Society of America Southwestern Branch Meeting, February 24-27, Oklahoma City, OK (Poster).
57. Cranmer, A. M., **M. N. Parajulee**, J. F. Leser, P. L. Bommireddy, R. B. Shrestha, S. C. Carroll, and M. D. Arnold. 2003. Seasonal activity patterns of *Lygus* species as affected by planting date and cotton cultivar. Entomological Society of America Southwestern Branch Meeting, February 24-27, Oklahoma City, OK (Poster).
58. Bommireddy, P. L., **M. N. Parajulee**, D. O. Porter, R. B. Shrestha, A. M. Cranmer, M. D. Arnold, and S. C. Carroll. 2003. Influence of irrigation regime on seasonal abundance patterns of *Lygus* species in cotton. Entomological Society of America Southwestern Branch Meeting, February 24-27, Oklahoma City, OK (Poster).
59. Ge, F. and **M. N. Parajulee**. 2003. Effect of cotton-mung bean intercropping on seasonal activity of cotton arthropods. Entomological Society of America Southwestern Branch Meeting, February 24-27, Oklahoma City, OK (Poster).
60. **Parajulee, M. N.**, J. E. Slosser, and L. T. Wilson. 2004. Cotton aphid population dynamics modeling. Beltwide Cotton Conference, January 6-10, San Antonio, TX (Oral).
61. **Parajulee, M. N.** and A. P. Sapkota. 2004. Development and reproduction of cotton aphids in the field. Beltwide Cotton Conferences, January 6-10, San Antonio, TX (Poster).
62. Cranmer, A. M., **M. N. Parajulee**, J. F. Leser, P. L. Bommireddy, and R. B. Shrestha. 2004. Use of COTMAN in insect management research. Beltwide Cotton Conferences, January 6-10, San Antonio, TX (Poster).
63. Bommireddy, P. L., **M. N. Parajulee**, and D. O. Porter. 2004. Life history characteristics of *Lygus elisus* in the laboratory. Beltwide Cotton Conferences, January 6-10, San Antonio, TX (Oral).
64. Shrestha, R. B., **M. N. Parajulee**, and C. Blanco. 2004. Functional response of selected cotton arthropod predators to bollworm eggs in the laboratory. Beltwide Cotton Conference, January 6-10, San Antonio, TX (Oral).
65. Carroll, S. C., **M. N. Parajulee**, and M. D. Arnold. 2004. Effect of pigweed on beet armyworm activity in cotton. Beltwide Cotton Conference, January 6-10, San Antonio, TX (Poster).
66. Arnold, M. D., **M. N. Parajulee**, and A. M. Cranmer. 2004. Cultural practices affecting seasonal abundance of selected cotton arthropod predators. Beltwide Cotton Conference, January 6-10, San Antonio, TX (Poster).
67. Slosser, J., W. Pinchak, **M. Parajulee**, D. Hendrix, and T. Henneberry. 2004. Influence of cotton leaf sugars on cotton aphid populations. Beltwide Cotton Conferences, January 6-10, San Antonio, TX (Oral).
68. Blanco, C., L. Adams, J. Gore, D. Hardee, M. Mullen, J. R. Bradley, J. van Duyn, P. Ellsworth, J. K. Green, D. Johnson, R. Luttrell, G. Studebaker, A. Herbert, M. Karner, R. Leonard, B. Lewis, J.

- López, Jr., D. Parker, M. Williams, R. D. Parker, M. Roof, R. Sprenkel, S. Stewart, J. R. Weeks, S. Carroll, **M. Parajulee**, P. Roberts, and J. Ruberson. 2004. *Bacillus thuringiensis* resistance monitoring program for tobacco budworm and bollworm in 2003. Beltwide Cotton Conference, January 6-10, San Antonio, TX (Oral).
69. Bronson, K. F., J. W. Keeling, J. D. Booker, J. P. Bordovsky, **M. N. Parajulee**, T. A. Wheeler, and R. K. Boman. 2004. Variable rate nitrogen and water for irrigated cotton in the southern High Plains. Beltwide Cotton Conference, January 6-10, San Antonio, TX (Oral).
70. Bommireddy, P. L., **M. N. Parajulee**, and D. O. Porter. 2004. Effect of constant temperature on life history characteristics of *Lygus elisus* in the laboratory. Entomological Society of America Southwestern Branch Meeting, February 23-26, Lubbock, TX (awarded 3<sup>rd</sup> place in student oral presentation for the President's prize).
71. Shrestha, R. B., **M. N. Parajulee**, and C. Blanco. 2004. Predation efficiency of selected cotton arthropod predators to bollworm eggs. Entomological Society of America Southwestern Branch Meeting, February 23-26, Lubbock, TX (student oral competition for the President's prize).
72. Shrestha, R. B. and **M. N. Parajulee**. 2004. Influence of temporal abundance and spatial patterns of thrips and fleahoppers on effectiveness of sampling methods in Texas High Plains cotton. Entomological Society of America SW Branch Meeting, February 23-26, Lubbock, TX (Oral).
73. Cranmer, A. M., **M. N. Parajulee**, J. F. Leser, P. L. Bommireddy, and R. B. Shrestha. 2004. Use of COTMAN expert system software in cotton insect management. ESA-SWB Meeting, February 23-26, Lubbock, TX (student poster competition for the President's prize).
74. Sapkota, A. P. and **M. N. Parajulee**. 2004. Cotton aphid population dynamics in the field. Entomological Society of America Southwestern Branch Meeting, February 23-26, Lubbock, TX (student poster presentation competition for the President's prize).
75. **Parajulee, M. N.**, R. B. Shrestha, and J. E. Leser. 2004. Effect of tillage, planting date, and cultivar on western flower thrips seasonal dynamics patterns in cotton. Entomological Society of America Annual Meeting, November 14-17, Salt Lake City, UT (Poster).
76. Carroll, S. C., **M. N. Parajulee**, and M. D. Arnold. 2005. *Lygus* survey in the Texas High Plains: Species composition and host-plant sequencing. Beltwide Cotton Conference, January 4-7, New Orleans, LA (Oral).
77. Barman, A. K., **M. N. Parajulee**, and R. B. Shrestha. 2005. Influence of planting date and cultivar on *Lygus* and cotton fleahopper activity in cotton. Beltwide Cotton Conference, January 4-7, New Orleans, LA (Oral).
78. Cranmer, A. M., **M. N. Parajulee**, J. F. Leser, M. D. Arnold, and S. C. Carroll. 2005. When is a cotton boll safe from *Lygus hesperus* damage? Beltwide Cotton Conf., January 4-7, New Orleans, LA (Oral).
79. Shrestha, R. B., and **M. N. Parajulee**. 2005. Effect of tillage system and planting date on seasonal abundance of predacious ground beetles in cotton. Beltwide Cotton Conference, January 4-7, New Orleans, LA (Oral).
80. **Parajulee, M. N.**, R. B. Shrestha, S. C. Carroll, P. L. Bommireddy, A. M. Cranmer, and K. F. Bronson. 2005. Variable rate of irrigation water and nitrogen: Potential of site-specific management of cotton aphids. Beltwide Cotton Conference, January 4-7, New Orleans, LA (Oral).
81. Blanco, C., M. Mullen, C. Abel, J. R. Bradley, P. Ellsworth, J. K. Green, A. Herbert, R. Leonard, J. D. López, R. Meagher, W. Moar, **M. Parajulee**, R. D. Parker, P. Roberts, J. Ruberson, R. Sprenkel, G. Studebaker, A. P. Teran, M. Williams, and J. van Duyn. 2005. *Bacillus thuringiensis* Cry1Ac resistance monitoring program for tobacco budworm and bollworm in 2004. Beltwide Cotton Conference, January 4-7, New Orleans, LA (Oral).
82. Slosser, J. E., **M. N. Parajulee**, and D. L. Hendrix. 2005. Bandedwinged whiteflies in the Texas Rolling Plains. Beltwide Cotton Conference, January 4-7, New Orleans, LA (Oral).

83. **Parajulee, M. N.**, A. K. Barman, J. F. Leser. 2005. Comparative susceptibility of *Lygus hesperus* (Hemiptera: Miridae) to selected insecticides in the Texas High Plains. Entomological Society of America Annual Meeting, December 15-18, Ft. Lauderdale, FL (Oral).
84. Barman, A. K. and M. N. **Parajulee**. 2005. Host preference of *Lygus hesperus*. Entomological Society of America Annual Meeting, December 15-18, Ft. Lauderdale, FL (Poster).
85. Shrestha, R. B., **M. N. Parajulee**, and S. C. Carroll. 2006. Optimization of ELISA procedure for *Lygus* marking and its application in *Lygus* movement study. Entomological Society of America Southwestern Branch Meeting, February 28-March 2, Austin, TX (oral).
86. Shrestha, R. B., **M. N. Parajulee**, and O. P. Perera. 2006. Construction of microsatellite enriched genomic DNA library of *Lygus hesperus*. Entomological Society of America Southwestern Branch Meeting, February 28-March 2, Austin, TX (oral).
87. Carroll, S. C. and **M. N. Parajulee**. 2006. Seasonal abundance of bollworm, tobacco budworm, and beet armyworm moths across the Texas Southern High Plains. Entomological Society of America Southwestern Branch Meeting, February 28-March 2, Austin, TX (poster).
88. Albeldaño, W. A., J. E. Slosser, and **M. N. Parajulee**. 2006. Identification of thrips from cotton in the Texas Rolling Plains. Entomological Society of America Southwestern Branch Meeting, February 28-March 2, Austin, TX (oral).
89. **Parajulee, M. N.**, A. K. Barman, S. C. Carroll. 2006. Host preference of *Lygus hesperus* : Laboratory and field evaluation. Entomological Society of America Annual Meeting, December 9-14, Indianapolis, IN (Poster).
90. Shrestha, R. B., **M. N. Parajulee**, and O. P. Perera. 2006. Development and characterization of SSR and ISSR markers for *Lygus hesperus* from Texas. Entomological Society of America Annual Meeting, December 9-14, Indianapolis, IN (oral).
91. Carroll, S. C., **M. N. Parajulee**, M. D. Arnold. 2007. Survey of lady beetles in the Texas High Plains. Entomological Society of America SW Branch Meeting, February 19-22, Corpus Christi, TX (poster).
92. Shrestha, R. B., and **M. N. Parajulee**. 2007. Morphometric comparison of *Lygus* species. Entomological Society of America SW Branch Meeting, February 19-22, Corpus Christi, TX (poster).
93. Shrestha, R. B., **M. N. Parajulee**, and O. P. Perera. 2007. Genetic diversity of *Lygus hesperus* in Texas. Entomological Society of America Annual Meeting, December 9-13, San Diego, CA (oral).
94. **Parajulee, M. N.**, A. K. Barman, R. B. Shrestha, C. Chen, A. Balachandran, and S. C. Carroll. 2007. Compensation of *Lygus* induced fruit loss in cotton. Entomological Society of America Annual Meeting, December 9-13, San Diego, CA. (Poster).
95. Barman, A. K., R. F. Medina, **M. N. Parajulee**, C. P. Suh, and C. G. Sansone. 2007. Host associated differentiation in cotton fleahopper, *Pseudatomoscelis seriatus*. Entomological Society of America Annual Meeting, December 9-13, San Diego, CA (oral).
96. Barman, A. K., R. F. Medina, **M. N. Parajulee**, C. G. Sansone, and C. P. Suh. 2008. Host associated genetic differentiation in cotton fleahopper, *Pseudatomoscelis seriatus* (Reuter), in Texas. Entomological Society of America Annual Meeting, November 16-19, Reno, NV (oral).
97. Carroll, S. C., **M. N. Parajulee**, and M. D. Arnold. 2008. Host preference survey of stink bugs on the Texas High Plains cotton, alfalfa and prevalent weeds. Beltwide Cotton Conferences. January 8-11, Nashville, TN.
98. Balachandran, A., D. L. Kerns, and **M. N. Parajulee**. 2008. Residual activity of selected insecticides on *Lygus hesperus* in cotton. Beltwide Cotton Conferences. January 8-11, Nashville, TN.
99. Shrestha, R. B., **M. N. Parajulee**, M. B. Adhikari, and R. E. Strauss. 2008. Comparative ontogenic morphometry: *Lygus hesperus* vs. *Lygus lineolaris*. Beltwide Cotton Conferences. January 8-11, Nashville, TN.

100. **Parajulee, M. N.**, A. K. Barman, A. Balachandran, C. Chen, R. B. Shrestha, and S. C. Carroll. 2008. Compensation of *Lygus*-induced fruit loss in drip irrigated cotton. Beltwide Cotton Conferences, January 8-11, Nashville, TN.
101. **Parajulee, M. N.** and C. Chen. 2008. *Lygus hesperus* host preference and suitability: Implications in landscape level pest management in Texas cotton. Entomological Society of America Annual Meeting, November 16-19, Reno, NV. (Poster).
102. Shrestha, R. B., **M. N. Parajulee**, and S. C. Carroll. 2008. Optimization of protein marking and detection system for the study of intercrop movement behavior of *Lygus hesperus* (Knight). Entomological Society of America Annual Meeting, November 16-19, Reno, NV (oral, competition).
103. Barman, A. K., R. F. Medina, **M. N. Parajulee**, C. G. Sansone, and C. Suh. 2008. Host associated genetic differentiation in cotton fleahopper, *Pseudatomoscelis seriatus* (Reuter), in Texas. Entomological Society of America Annual Meeting, November 16-19, Reno, NV (oral, competition).
104. Carroll, S. C. and **M. N. Parajulee**. 2008. Bollworm, tobacco budworm, and beet armyworm moths: Seasonal abundance across Texas southern High Plains. Entomological Society of America Annual Meeting, November 16-19, Reno, NV (Poster).
105. Balachandran, A., D. L. Kerns, **M. N. Parajulee**, and B. Baugh. 2009. Insecticidal management of *Lygus* and relative boll damage in Texas High Plains. Beltwide Cotton Conferences, January 5-8, San Antonio, TX.
106. Balachandran, A., D. L. Kerns, and **M. N. Parajulee**. 2009. Evaluating effectiveness of flonicamid on *Lygus hesperus*. Beltwide Cotton Conferences, January 5-8, San Antonio, TX.
107. **Parajulee, M. N.**, A. K. Barman, and S. C. Carroll. 2009. COTMAN compensation capacity value for *Lygus*-induced pr-flower square loss in cotton. Beltwide Cotton Conferences, January 5-8, San Antonio, TX.
108. Shrestha, R. B., **M. N. Parajulee**, S. C. Carroll, and A. Bastola. 2009. Evaluation of intercrop movement of *Lygus* between cotton and roadside alfalfa. Beltwide Cotton Conferences, January 5-8, San Antonio, TX.
109. Chen, C., **M. N. Parajulee**, S. C. Carroll, and M. D. Arnold. 2009. Climatic data-based analysis of *Lygus hesperus* preference on selected host plants. Beltwide Cotton Conferences, January 5-8, San Antonio, TX.
110. Bastola, A., **M. N. Parajulee**, and R. B. Shrestha. 2009. Evaluation of different methods of nuclear DNA extraction for *Lygus hesperus* samples preserved in various storage conditions. Beltwide Cotton Conferences, January 5-8, San Antonio, TX.
111. Carroll, S. C. and **M. N. Parajulee**. 2009. Seasonal flight patterns of bollworm, tobacco budworm, and beet armyworm moths in the Texas High Plains. Beltwide Cotton Conferences, January 5-8, San Antonio, TX.
112. Sansone, C. G. **M. N. Parajulee**, R. R. Minzenmayer, C. Suh, A. Barman, and R. Medina. 2009. Investigations into timing and frequency of insecticide applications for cotton fleahopper. Beltwide Cotton Conferences, January 5-8, San Antonio, TX.
113. Kerns, D., **M. Parajulee**, M. Vandiver, M. Cattaneo, and K. Siders. 2009. Developing an action threshold for thrips in the Texas High Plains. Beltwide Cotton Conferences, January 5-8, San Antonio, TX.
114. **Parajulee, M. N.**, A. K. Barman, R. B. Shrestha, and S. C. Carroll. 2009. Plant compensation of *Lygus* induced fruit loss in cotton: How much can we tolerate? Entomological Society of America Annual Meeting, December 12-16, Indianapolis, IN. (Poster).
115. Shrestha, R. B., **M. N. Parajulee**, and S. C. Carroll. 2009. Characterization of the host selection behavior of *Lygus hesperus* (Knight). Entomological Society of America Annual Meeting, December 12-16, Indianapolis, IN (oral, competition).

116. Barman, A. K., **M. N. Parajulee**, C. G. Sansone, and R. F. Medina. 2009. Factors promoting genetic differentiation in cotton fleahopper (*Pseudatomoscelis seriatus*). Entomological Society of America Annual Meeting, December 12-16, Indianapolis, IN (oral, competition).
117. Murugan, K., **M. N. Parajulee**, F. J. Chen, and D. R. Barnard. 2010. Use of botanicals for the sustainable management of dengue mosquito vector, *Aedes aegypti*. Entomological Society of America annual meeting, December 12-16, San Diego, CA.
118. Neupane, D., **M. N. Parajulee**, S. C. Carroll, and C. Wang. 2010. Effect of nitrogen application rate on cotton growth parameters and arthropod activity in Texas cotton. Entomological Society of America annual meeting, December 12-16, San Diego, CA.
119. Shrestha, R. B., **M. N. Parajulee**, and S. C. Carroll. 2010. Evaluation of molecular markers for genetic diversity studies of western tarnished plant bug (*Lygus hesperus* Knight). Entomological Society of America annual meeting, December 12-16, San Diego, CA.
120. Carroll, S. C., **M. N. Parajulee**, W. O. McSpadden, and R. B. Shrestha. 2010. Influence of proximity and abundance of non-cotton hosts on *Lygus hesperus* in cotton. Entomological Society of America annual meeting, December 12-16, San Diego, CA.
121. Barman, A. K., R. F. Medina, **M. N. Parajulee**, and C. G. Sansone. 2010. The geographic structure of host-associated differentiation in an herbivorous insect. Ecological Society of America annual meeting, August 1-6, Pittsburgh, PA.
122. Barman, A. K., **M. N. Parajulee**, C. G. Sansone, and R. F. Medina. 2011. Population level genetic variability of cotton fleahopper in the United States. Beltwide Cotton Conferences, January 4-7, Atlanta, GA.
123. Kesey, B., D. Kerns, B. Baugh, and **M. Parajulee**. 2011. Miticide efficacy, threshold evaluation, and impact of fertility on mite outbreaks. Beltwide Cotton Conferences, January 4-7, Atlanta, GA.
124. Kerns, D. L., M. Vandiver, D. Patman, and **M. N. Parajulee**. 2011. Thrips management timing and action threshold considerations. Beltwide Cotton Conferences, January 4-7, Atlanta, GA.
125. **Parajulee, M. N.**, Y. Yang, L. T. Wilson, and D. Neupane. 2011. Effect of cotton fleahopper density on pre-flower fruit loss and plant biomass in cotton. Beltwide Cotton Conferences, January 4-7, Atlanta, GA.
126. **Parajulee, M. N.**, M. B. Adhikari, D. L. Kerns, R. B. Shrestha, and S. C. Carroll. 2011. Insecticide termination rule for western tarnished plant bug in the Texas High Plains. Beltwide Cotton Conferences, January 4-7, Atlanta, GA.

#### **Regional/State Level**

1. **Parajulee, M. N.**, J. E. Slosser, and E. P. Boring. 2000. Relationship between bollworm moth activity and lunar cycle: Application in pest management. Entomology Science Conference, October 31-November 2, College Station, TX.
2. **Parajulee, M. N.** 2001. Develop a dynamic model for describing and predicting cotton aphid population development. Cotton Incorporated Texas State Support Committee Annual Project Review, December 11, Lubbock, TX.
3. **Parajulee, M. N.** 2002. Overview of cotton entomology research in Lubbock. Entomology Science Conference, October 29-November 1, College Station, TX.
4. **Parajulee, M. N.** 2002. Develop a dynamic model for describing and predicting cotton aphid population development. Cotton Incorporated Texas State Support Committee Annual Project Review, December 17, Lubbock, TX.
5. **Parajulee, M. N.** 2003. Develop a dynamic model for describing and predicting cotton aphid population development. Cotton Incorporated Texas State Support Committee Annual Project Review, December 10-11, College Station, TX.

6. **Parajulee, M. N.** 2003. Factors affecting population abundance of *Lygus* species in Texas High Plains and development of *Lygus* sampling plan. Cotton Incorporated Texas State Support Committee Annual Project Review, December 10-11, College Station, TX.
7. **Parajulee, M. N.** 2003. Update on *Lygus* research in the Texas High Plains. Entomology Science Conference, October 29-November 1, College Station, TX.
8. **Parajulee, M. N.** 2004. Discussion on plant bug issues in Texas. Entomology Science Conference, October 26-28, College Station, TX.
9. **Parajulee, M. N.** 2004. Factors affecting population abundance of *Lygus* species in Texas High Plains and development of *Lygus* sampling plan. Cotton Incorporated Texas State Support Committee Annual Project Review, December 14-15, Lubbock, TX.
10. **Parajulee, M. N.** 2005. Validation of new COTMAN™ compensation capacity value for the Texas High Plains using plant bug induced square damage. Cotton Incorporated Texas State Support Committee Annual Project Review, December 13-14, Lubbock, TX.
11. **Parajulee, M. N.** 2005. *Lygus hesperus*: Host plant sequencing and host preference. Entomology Science Conference, October 26-28, College Station, TX.
12. **Parajulee, M. N.** and S.C. Carroll. 2006. Validation of new COTMAN™ compensation capacity value for the Texas High Plains using plant bug induced square damage. Cotton Incorporated Texas State Support Committee Annual Project Review, December 13-14, Lubbock, TX.
13. Barman, A. K., R. F. Medina, **M. N. Parajulee**, C. P. Suh, and C. G. Sansone. 2007. Host associated differentiation in cotton fleahopper, *Pseudatomoscelis seriatus*. Entomology Science Conference, November 7-9, College Station, TX.
14. **Parajulee, M. N.**, S. C. Carroll, and D. L. Kerns. 2007. An overview of the Cotton Entomology Research Program at the Lubbock Center. Entomology Science Conference, November 7-9, College Station, TX.
15. **Parajulee, M. N.** 2007. Validation of new COTMAN™ compensation capacity value for the Texas High Plains using plant bug induced square damage. Cotton Incorporated Texas State Support Committee Annual Project Review, December 4-5, Lubbock, TX.
16. Chen, C. and **M. N. Parajulee**. 2008. Laboratory life history study of *Lygus hesperus* on different hosts. ESA Southwestern Branch Meeting, February 23-26, Ft. Worth, TX.
17. Adhikari, M. B. and **M. N. Parajulee**. 2008. Relationship between cotton boll age and *Lygus* injury. ESA Southwestern Branch Meeting, February 23-26, Ft. Worth, TX.
18. Carroll, S. C., **M. N. Parajulee**, M. D. Arnold. 2008. Host preference survey of stink bugs on Texas High Plains cotton, alfalfa, and prevalent weeds. ESA Southwestern Branch Meeting, February 23-26, Ft. Worth, TX.
19. **Parajulee, M. N.**, A. K. Barman, R. B. Shrestha, C. Chen, A. Balachandran, and S. C. Carroll. 2008. Compensation of *Lygus*-induced fruit loss in cotton. ESA Southwestern Branch Meeting, February 23-26, Ft. Worth, TX.
20. Kerns, D. L., **M. N. Parajulee**, and M. Vandiver. 2008. Developing an action threshold for thrips in irrigated cotton for the High Plains of Texas. ESA Southwestern Branch Meeting, February 23-26, Ft. Worth, TX.
21. Adhikari, M. B., **M. N. Parajulee**, R. B. Shrestha, D. L. Kerns, and S. C. Carroll. 2008. Boll susceptibility threshold for *Lygus hesperus*: When is the boll safe? Entomology Science Conference, November 5-7, College Station, TX.
22. Barman, A. K., R. F. Medina, **M. N. Parajulee**, C. G. Sansone, and C. Suh. 2008. Host associated genetic differentiation in cotton fleahopper, *Pseudatomoscelis seriatus* (Reuter), in Texas Entomology Science Conference, November 5-7, College Station, TX.

23. **Parajulee, M. N.** and D. L. Kerns. 2008. Evaluation of western tarnished plant bug as a late season pest. Cotton Incorporated Texas State Support Committee Annual Project Review, December 16-17, Lubbock, TX.
24. Shrestha, R. B., **M. N. Parajulee**, and S. C. Carroll. 2009. Challenges in tracking intercrop movement of *Lygus hesperus* between cotton and alfalfa. ESA Southwestern Branch Meeting, February 23-26, Stillwater, OK (oral competition, runner-up prize).
25. Shrestha, R. B. and **M. N. Parajulee**. 2010. Optimization of indirect ELISA protocol for the detection of marker protein on *Lygus hesperus*. Entomological Society of America Southwestern Branch annual meeting, April 11-14, Cancun, Mexico.
25. Carroll, S. C., **M. N. Parajulee**, M. B. Adhikari, and R. B. Shrestha. 2010. *Lygus hesperus* injury to maturing bolls: Effects on quality and quantity of cotton yield. Entomological Society of America Southwestern Branch annual meeting, April 11-14, Cancun, Mexico.
27. Bastola, A., **M. N. Parajulee**, R. B. Shrestha, and S. C. Carroll. 2010. Population dynamics and intercrop movement behavior of convergent lady beetle in cotton-alfalfa agroecosystem. Entomological Society of America Southwestern Branch annual meeting, April 11-14, Cancun, Mexico.
28. **Parajulee, M. N.**, S. C. Carroll, and R. B. Shrestha. 2010. Cotton entomology research and outreach in the Texas High Plains: A historic journey of the Texas A&M Lubbock Center. Entomological Society of America Southwestern Branch annual meeting, April 11-14, Cancun, Mexico.
29. McSpadden, W. O., **M. N. Parajulee**, S. C. Carroll, and R. B. Shrestha. 2010. Effect of landscape level heterogeneity on the abundance of *Lygus hesperus* in cotton. Entomological Society of America Southwestern Branch annual meeting, April 11-14, Cancun, Mexico.
30. Barman, A. K., **M. N. Parajulee**, C. G. Sansone, and R. F. Medina. 2010. Population genetic structure of *Pseudatomoscelis seriatus*: Interplay of geography and host plant species. Entomological Society of America Southwestern Branch annual meeting, April 11-14, Cancun, Mexico.
31. Kerns, D., M. Muegge, and **M. Parajulee**. 2010. Development of a binomial sampling plan to estimate thrips populations in cotton to aid in IPM decision making. Entomological Society of America Southwestern Branch annual meeting, April 11-14, Cancun, Mexico.
32. Adhikari, K. D., R. B. Shrestha, and M. N. Parajulee. 2011. Challenges in *Lygus* species identification. Entomological Society of America Southwestern Branch annual meeting, March 7-11, Amarillo, TX.
33. Carroll, S. C., W. O. McSpadden, R. B. Shrestha, M. N. Parajulee, and D. L. Kerns. 2011. Effect of landscape characteristics on *Lygus* abundance in cotton. Entomological Society of America Southwestern Branch annual meeting, March 7-11, Amarillo, TX.
34. Fernando, E.A.J., M. N. Parajulee, W. O. McSpadden, R. B. Shrestha, S. C. Carroll. 2011. Evaluation of *Lygus hesperus* cold tolerance, overwintering survivorship, and spring emergence. Entomological Society of America Southwestern Branch annual meeting, March 7-11, Amarillo, TX.
35. Chen, F., and M. N. Parajulee. 2011. Effects of elevated CO<sub>2</sub> on the interspecific competition between two sympatric species, *Aphis gossypii* and *Bemisia tabaci*, fed on transgenic Bt cotton. Entomological Society of America Southwestern Branch annual meeting, March 7-11, Amarillo, TX.
36. Chen, F., and M. N. Parajulee. 2011. Specific responses of three key species of rice planthoppers to elevated CO<sub>2</sub> and temperature. Entomological Society of America Southwestern Branch annual meeting, March 7-11, Amarillo, TX.
37. McSpadden, W. O., M. N. Parajulee, R. B. Shrestha, S. C. Carroll, F. Chen. 2011. Cotton cultivar compensatory response to *Lygus*-induced fruit loss under low and high irrigation. Entomological Society of America Southwestern Branch annual meeting, March 7-11, Amarillo, TX.
38. Parajulee, M. N., R. J. Kesey, R. B. Shrestha, S. C. Carroll, D. L. Kerns. 2011. Effect of nitrogen fertility on arthropod pests in cotton. Entomological Society of America Southwestern Branch annual meeting, March 7-11, Amarillo, TX.

39. Shrestha, R. B., and M. N. Parajulee. 2011. Amplified length polymorphism (AFLP): "The ideal marker" for genetic diversity studies of *Lygus hesperus*. Entomological Society of America Southwestern Branch annual meeting, March 7-11, Amarillo, TX.

## **X. Professional Honors and Awards**

1. For Distinguished Teaching/Instruction of Others:
  - Selected to serve as a *Science Education Fellow (SEF) mentor* at the Howard Hughes Medical Institute's Center for the Integration of Science Education and Research, 2003. Selection to SEF mentorship is the recognition of teaching excellence at Texas Tech University.
2. For Distinguished Research Accomplishments and Contributions:
  - *Vice Chancellor's Award in Research Excellence (Off-Campus)* (2008), Texas A&M University, College Station, Texas.
  - *Plenary Speaker Recognition at the International Congress of Biodiversity* (2009), Bharathiar University, Coimbatore, India.
  - *Texas AgriLife Research Faculty Fellow* (2009), Texas A&M University, College Station, Texas.
3. For Distinguished Extension and Service Accomplishments and Contributions:
  - *Outstanding Service Award* for volunteer extension services to the Indian rural community of Himachal Pradesh, July 1987, Y. S. Parmar University of Horticulture and Forestry, Solan, India. Extension services included training rural peasants on agricultural resource utilization, woman and infant health, and women involvement in household decision-making.
  - *Recognition of Exceptional Service as ESA National Program Co-Chair* (2010), Entomological Society of America, Lanham, MD.
  - *Recognition of Exceptional Service as President* (2010), Society of Southwestern Entomologists Executive Committee, Cancun, Mexico.