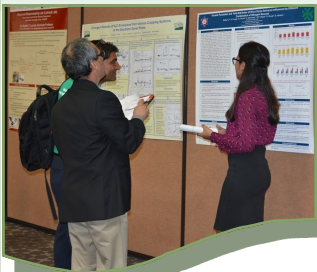


Agri-Connection

Vol 3, Issue 2 & 3, August 2018



A quarterly newsletter of the Association of Nepalese Agricultural Professionals of Americas (NAPA)



NAPA First Biennial Conference 2018 was a big success!



President's Corner

Greetings to all NAPA members and beyond:

Firstly, I salute all those hard-working previous Executive Committee (EC) officials and members (2016-2018) for their unwavering contribution to this enduring journey of NAPA from day one – thus far. In addition, I would like to welcome new EC officials and members (2018-2020) onboard for getting ready to work relentlessly to make a difference. Secondly, on behalf of the First NAPA Biennial Scientific Conference Organizing Committee, and the previous EC (2016-2018), I feel honored to express our great appreciation and sincere thanks to all generous donors, self-motivated volunteers, moderators, presenters, editors, committee and event chairs, poets, evaluators, judges, athletes, and artists for their incredible contributions, which made the conference exceptional. The conference was a huge success as an overwhelming majority of the participants reported that they thoroughly enjoyed the jam-packed events set forth during the conference. Thirdly, thank you all NAPA members for giving opportunity to all of us “2018-2020 EC” to serve the community and beyond by expanding its mission and vision around the globe.

Most importantly, I welcome heartily on-board and thank sincerely the following outstanding community leaders for their willingness in serving the NAPA community with full energy, ideas, and dedication

through various flagship activities: Dr. Nityananda Khanal, Chair, Agri-Connection; Dr. Ramjee Ghimire, Chair, Research/Policy Brief; Mr. Shankar Prasad Gaire, Chair, Student Coordination Committee; Dr. Rajan Ghimire, Chair, Scholarships for Academic Excellence; Dr. Drona P.



Rasali, Chair and Dr. Prem Bhandari, Managing Editor, Book Publication Committee; Dr. Megha N. Parajulee, Chair, Global Journal of Agricultural & Allied Sciences; Dr. Pradeep Wagle, Chair, Membership Drive Committee; Dr. Ananta Acharya, Chair, Information & Technology support; Mr. Tanka Kafle, Webmaster, and their respective team members.

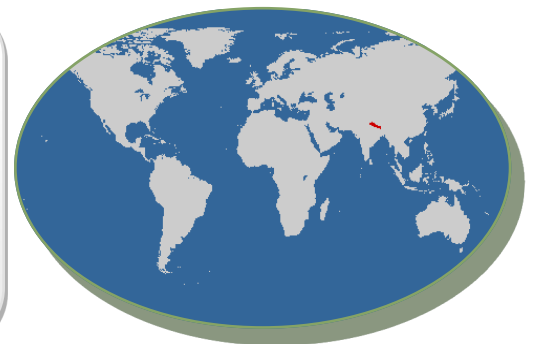
We appeal to all members for your continued contribution to propel NAPA to become one of the vibrant professional organizations in our time. Last but not the least, we highly appreciate all volunteer contributors to bring the first issue of Agri-Connection to fruition as the second EC for 2018-2020 starts its journey. Your team deserves sincere appreciation and thanks for working diligently, Dr. Nityananda Khanal. Together, we can make a difference.

Lila B. Karki, Ph.D.

President

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Editorial

Here is the Volume 3, Issue 2 & 3 combined of Agri-Connection (AC) series, continuing the heritage handed down to us by our predecessor editorial board and nurtured by the current and former NAPA leadership. The new editorial board takes this opportunity to acknowledge the past editorial board for their dedicated efforts in bringing out last seven informative issues of this newsletter series. Commendable credit goes to past editorial board comprising Drs. Ramesh C. Khanal (Editor-in-Chief), Sanjay Lamsal (Editor) and Toya Nath Baral (Editor). Truly it is an essence



of connection - a means of linkage among Nepali souls worldwide, a collection of ideas and wisdoms pertaining to agriculture, livelihoods, food security and environmental stewardship, and an expression of literary creativity and sharing of tears of consolation and cheers of success.

This issue constitutes a special volume of AC featuring the news about one of the milestones of NAPA's organizational endeavor, the First Biennial Conference 2018 themed "*Global Food Security through Agricultural Transformation*". The conference held in Oklahoma City (May 26-27, 2018) brought together over hundred participants with abundance of oral and poster presentations of intellectual rigor interspersed with fun-filled sports, poetry and cultural amusements. Of special merits were competitive essay compositions, and the oral and poster presentations by students that gave a glimpse of the reservoir of talents Nepalese youths hold around the globe.

This issue also summarizes a brief account of NAPA's initiatives and achievements made on the aspect of organizational development, networking, publication, webinars, scholarships, distance education and charitable activities. As in the past, agriculture related articles, pertinent announcements, news and literary collections remain as the continued features of the Agri-Connection in the current issue. Agri-Connection will continue to publish award winning essays and agri-poems from this issue onward. Let's come together to cherish our connection, bring together our ideas and thoughts, and work together to elevate our heritage and identity in the coming years.

Thank you

Nityananda Khanal, Ph.D., P.Ag.
Editor-in-Chief

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<http://napaamericas.org/agri-connection.php>

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NAPA Initiatives and Achievements

Historical Overview

NAPA was officially founded in 2016 as a philanthropic professional organization contributing towards promotion of human wellbeing and environmental stewardship through scientific research, capacity building, information dissemination and charitable activities. Within a short span of its inception, NAPA successfully geared its efforts towards the organizational development, professional networking, communication and outreach activities. Here is a brief account of achievements NAPA has made through the voluntary contribution of NAPA members and through the patronage by well-wishers.

Organizational Development

Formation of the first 11-member Executive Committee (EC) in 2016 paved the way towards NAPA's organizational development. The EC formed various committees and sub-committees to align its efforts with the strategic objectives. The first EC successfully completed its tenure in May 2018 with significant achievements and the new EC (2018-2020) is moving forward with programs and activities towards meeting the intended organizational vision and mission to heighten NAPA to the next level.

Formation of Advisory Council: An eight-member advisory committee was formed to provide strategic advice to the EC. The Council's meeting was held that provided valuable direction to the NAPA's course of activities.

Membership Drive: NAPA has been continuously striving to reach out to potential members around the globe. As of August 2018, a total of 246 members have joined NAPA. Its membership has expanded across 39 states in the USA and global membership expanded to Australia, Canada, Mexico and Nepal.

Student Co-ordination: Recognizing that students are the major stakeholders and potential leaders in the evolving society, NAPA initiated student coordination as a major organizational thrust. The student coordination meetings were held, and three talk sessions were conducted.

Information dissemination

NAPA designed, developed and has maintained an informative website that reckoned thousands of visitors. The website development facilitated online membership and donation payment, conduction of online election, and posting of publications, notices, announcements, talk sessions and conference proceedings.

Similarly, NAPA Facebook has already drawn 2,363 followers from various walks of life; predominantly professionals, agri-business entrepreneurs, agriculture students and producers. The postings covered the aspects of research grant, higher studies and employment opportunities. A Twitter communication has also been initiated for information sharing.

Publication

NAPA has charted an enthusiastic plan for the following periodic and special publications:

Agri-Connection, an online quarterly newsletter is continuing currently with its Vol 3, Issue 2 and 3 combined, in your screen. The first Editorial Board handed this legacy down to the newer Board after the publication of 7th issue (Vol 3, Issue 1) in March 2018 (<http://napaamericas.org/newsletter.php>).

NAPA Initiatives and Achievements (Cont....)

NAPA published *Proceedings of the First Biennial Conference* (May 2018) themed *Global Food Security Through Agricultural Transformation*. Bhandari, Prem B., Ramjee Ghimire, Suman Rimal Gautam, Margaret Holler Stephens, Lila B. Karki eds. 2018. (<http://napaamericas.org/downloads/first-biennial-conference-proceedings-2018.pdf>).

Book Publication: A six-member editorial board is arduously working to publish a book entitled “Food Sustainability, Food Sufficiency, Food Safety and Healthy Food in Nepal: Principles and Practices of Food Security.” Chapters are under review (<http://napaamericas.org/napa-book-project.php>) (update in page 15 in this issue).

Global Journal of Agriculture and Allied Sciences (GJAAS): NAPA’s scientific journal publication is shouldered by a 14-member Editorial Board. Call for paper is open (<http://napaamericas.org/journal-call-for-papers.php>) (see page 15 in this issue).

Research/Policy Brief, an occasional online publication. Two issues have already been published (<http://napaamericas.org/research-policy-brief-editorial-committee.php>) (page 20 in this issue).

Scholarship Establishment

With the donation received from 16 generous sponsors, a scholarship fund of \$2,510.00 has been raised for awarding outstanding students of agricultural institutions in Nepal. This fund will be disbursed to meritorious students in the amount standardized by the Agriculture and Forestry University (AFU), Nepal (<http://napaamericas.org/napa-scholarships-sponsors.php>).

Endowment Fund

NAPA established an endowment fund that amounted to \$800.00 as of May 2018. Eight generous people contributed to the fund (<http://napaamericas.org/endowment-fund-announcement.php>).

Networking and Collaboration

NAPA has established working network across USA, Australia, Canada, Japan, Bangladesh, Nepal and Thailand. It is also striving to extend collaboration with several organizations. It has initiated database for Nepalese women professionals in agriculture engaged in diverse careers around the globe.



Conference and Webinars

The first biennial scientific conference held in Oklahoma City, USA on May 26-27, 2018 constitutes a substantial achievement of the NAPA. Additionally, NAPA conducted 11 webinars in which the speakers from Canada, USA and Nepal delivered their talks.

Distance Teaching Pilot Projects

NAPA piloted the distance teaching project facilitated through Skype Video-conferencing. Instructors delivered lectures from USA. This pilot project was launched to support the Agricultural Studies Certificate program (equivalent to I.Sc.Ag.) offered by the Shiva Jan High School in Salyan and Prabuddha High School in Okhaldhunga district of Nepal.



Charitable Support

NAPA raised and donated \$4,428.00 as flood relief in LA, USA in 2016. A sum of \$1,260.00 was donated to the victims of a fatal vehicular accident in GA, USA in 2016.

Inside and Around the 2018 NAPA First Biennial Conference

Pre-conference Tour

Twenty-five participants of the conference participated in the pre-conference tour to the Grazinglands Research Laboratory of USDA located at El Reno, Oklahoma on May 25, 2018. Dr. Pradeep Wagle, Research Ecologist at the USDA research center, coordinated the tour and welcomed participants in the USDA's conference room. After introductions among the NAPA Conference participants and USDA Scientist, Dr. Jean Steiner, Lab Director and Research Leader



for the Great Plains Agroclimate and Natural Resources Research Unit (GPANRR) highlighted on the historical overview and current research activities of the GPANRR Unit, and on the USDA's Long-Term Agroecosystems Research (LTAR) Network. Dr. Prasanna Gowda, Research Leader for the Forage and Livestock Production Research (FLPR) Unit presented major on-going research activities of the FLPR Unit. The USDA scientists involved in various aspects of soils, plants and agroecological research led the visitors to the field experimental sites and shed light on their research activities. Soil Scientist Dr. Patrick Starks gave an overview of the recently developed 178-hectare common experiment "Grazinglands Research on agro-Ecosystems and the ENvironment (GREEN) farm" and studies about soil moisture measurement and total water budget. Dr. Wagle demonstrated and talked about eddy covariance systems, a micrometeorological tool to study ecosystem level dynamics of carbon dioxide and water vapor fluxes. Plant Breeder and Geneticist Dr. Bryan Kindiger discussed about the status of grass breeding.

Agronomist Dr. Brian Northup talked about the studies on cover cropping, tillage and fertilizer management. Environmental Scientist Dr. Tanka Kandel demonstrated simultaneous measurements of greenhouse gas (GHG) emissions using chambers and an automated gas analyzer.

The Conference: The Core and Peripherals

The theme of the Oklahoma Conference was "Global Food Security through Agricultural Transformation". The Conference showcased the cutting-edge scientific and interdisciplinary research with nearly 100 oral and poster presentations contributed by 210 authors and co-authors representing 71 institutions from 10 countries including USA, Nepal, Canada, Australia, Benin, Ethiopia, China, Vietnam, Tanzania and Nigeria (<http://napaamericas.org/downloads/first-biennial-conference-proceedings-2018.pdf>). The submissions embraced diverse disciplines including crops, soils, animal and environmental sciences, social, demographic and economic studies, and application of biometrics, bio-informatics, econometrics, geographical information system (GIS) and remote sensing techniques. A number of presentations discussed on perspectives of Nepal's agricultural development in the changing demographic and socio-economic contexts.



The scientific sessions also included competitive oral and poster presentations by the students. Student essay writing contest was also conducted prior to the conference in the same topic as the conference theme (<http://napaamericas.org/conference2018/student-writing-contest.php>). NAPA's organizational activities such as annual general meeting, joint member roundtables, student roundtables and recreational activities such as golf competition, wellness walk-and-run and blood donation programs were interspersed with the conference program. A post-conference agricultural poem competition and live cultural entertainment added delights to the conference program.

The Conference: The Core and Peripherals (Cont.....)



Congratulations to Student Poster Presentation Winners

1st Place: Mr. Sanjok Poudel, Tuskegee University, USA
2nd Place: Ms. Sangita Karki, Tuskegee University, USA
3rd Place: Ms. Akriti Bhattarai, University of Connecticut, USA
Honorable mention: Mr. Dikshit Poudel, Agriculture and Forestry University, Nepal



Congratulations to Student Oral Presentation Winners

1st Place: Mr. Laxman Adhikari, University of Georgia, USA
2nd Place: Mr. Pramod Pantha, Louisiana State University, USA
3rd Place: Mr. Bijesh Mishra, Kentucky State University, USA



Congratulations!



Congratulations to Essay Writing Contest Winners

1st Place: Mr. Prashant Bhandari, B.Sc. Agriculture, Agriculture and Forestry University, Nepal
2nd Place: Mr. Santosh Pathak, M.Sc. Agriculture, Institute of Agriculture and Animal Science, Tribhuvan University, Kritipur, Nepal
3rd Place: Mr. Santosh Thapa, Ph.D., Tennessee State University, USA (receiving award in the adjacent picture)
Honorable mention: Ms. Sangita Karki, M.S., Tuskegee University, USA



Congratulations to Agri-poem Competition Winners

1st Prize: Ms. Sangita Karki, Tuskegee University, USA
2nd Prize: Mr. Shailes Bhattarai, Tuskegee University, USA
3rd Prize: Mr. Laxman Adhikari, University of Georgia, USA



Congratulations to Gulf Cup Winners

Long Drive: Mr. Aman Bhatta, Kentucky State University, USA
Potting: Mr. Bijesh Mishra, Kentucky State University, USA
Chipping: Mr. Yogendra Upadhyaya, Kentucky State University, USA

Abstracts of Poster Presentation Winners

Diurnal Behavior of Kiko Wethers in the Southern-Pine Silvopastures Planted with Warm-Season Forages

Sanjok Poudel*, Uma Karki, Yubaraj Karki and Asha Tillman

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*Winner of the 1st Place Prize

Goats are popular among limited-resource small-holders in the southeastern United States. They are common livestock species integrated within silvopasture systems. Previous study of goats grazing in southern-pine silvopastures showed significant debarking of pine during the cool-season grazing period. However, goats' diurnal behavior in southern-pine silvopasture during the warm-season grazing period has not been previously reported. The objective of the study was to determine the diurnal behavior and distribution pattern of Kiko wethers in southern-pine silvopastures planted with warm-season forages. The study was carried out in Atkins Agroforestry Research and Demonstration Site, Tuskegee University, Tuskegee, Alabama consisting of three (0.4-ha each) silvopasture plots with longleaf (*Pinus palustris* Mill.) and loblolly (*Pinus taeda* L.) pines at a tree density of 402 trees ha⁻¹ (loblolly: longleaf ratio-1.27). Plots were divided into three zones, and three different warm-season forages were planted in each zone within each plot. Forage samples were collected and analyzed for productivity and quality. Ten Kiko wethers (33-35 months old, 62.9±1.56kg BW) were stocked in each study plot one day prior to each observation. On the observation day, animals' diurnal behavior and distribution pattern were recorded once in every 10 minute in pre-formatted data sheets. Data were analyzed using Kruskal-Wallis rank-sum test in R-package (P<0.05). Grazing (46%) was the predominant diurnal behavior shown by wethers followed by staying in shelter (22%), lying (17%), loafing (14%), and browsing (1%). Wethers did not show any debarking of pine trees. Grazing was predominant during post-midday period (1500h-dusk) while staying in shelter was predominant during midday (1100h-1500h). Wethers showed overall distribution evenness index of 0.06. They utilized tree shades and shelter during midday, which signifies the importance of trees or shelter incorporated into the grazing system. Wethers were found safe to stock in southern-pine silvopasture during the warm-season grazing period.

Keywords: browsing, debarking, distribution evenness index, grazing

Growth Parameter and Yield Attributes of Rice (*Oryza Sativa*) as Influenced by Different Combinations of Nitrogen Sources

Sangita Karki^{1*}, Sanjok Poudel¹ Nabin Poudel², Suresh Simkhada², Bishma Raj Regmi², Gopal Bhusal³ and Bhuwan Adhikari³

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²*Agriculture and Forestry University, Nepal;* ³*Tribhuvan University, Nepal*

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*Winner of the 2nd Place Prize

Nitrogen is one of the yield limiting factors in rice production. Adequate nitrogen improves yield attributes and growth parameters while excessive nitrogen increases the cost of production as well as leads to environmental degradation. Therefore, the adequate rate, appropriate source and timing of application play a crucial role in rice production. There is an increasing trend of using excessive inorganic source of nitrogen in rice, which is detrimental to environment and costly. So, there is a need for identifying alternative N source that is ecologically sound as well as economically viable. The objective of the study was to determine the response of rice as influenced by different combinations of organic and inorganic nitrogen sources. The study was carried out in an agronomy farm of IAAS, Paklihawa Campus Nepal. The study consists of three nitrogen sources i.e., urea, farmyard manure and blue green algae at different levels comprising seven treatments in randomized complete block design with three replications. Rice seedlings were raised in wet nursery beds and transplanted in experimental plots. Growth parameters, yield attributing traits and grain yield of rice were recorded. Data were analyzed using Duncan's Multiple Range Test in MSTAT-C. Result indicates that treatment combination of 75% of recommended dose of nitrogen (90kg/ha), farmyard manure (5tons/ha) and blue green algae (9kg/ha) has significantly higher plant height (96.13cm), effective tiller per square meter (345.6), filled grain per panicle (180.9), grain yield (4.787ton/ha), and straw yield (9.07 ton/ha) (p≤0.05). Also, there was a positive correlation between the grain yield and effective tillers per square meter (R²=0.254), grain yield and number of filled grains per panicle (R²=0.315). Hence, 75% of recommended dose of nitrogen (90kg/ha), farmyard manure (5tons/ha) and blue green algae (9kg/ha) were found to improve plant characteristics, thus improving rice yield.

Keywords: blue green algae, farmyard manure, urea

Abstracts of Poster Presentation Winners (Cont....)

The Impact of Infrastructure and Development in Food Security and Nutrition in Rural Nepal: A Case Study in Kalika Municipality in Chitwan, Nepal

Akriti Bhattarai^{1*}, Ashmita Pandey², and Gandhi R. Bhattarai³

¹University of Connecticut, USA; ²FORWARD, Nepal;

³United Health Group, USA

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***Winner of the 3rd Place Prize**

In Nepal, transportation infrastructure is essential to increasing the situation of food security. Stable road networks would help promote farmers' abilities to purchase inputs and produce, and sell surplus production. Improved access to resources like education and enterprises would lead to better livelihoods. Development and women's empowerment in agricultural households is also positively related to productivity of smallholder farmers. This study qualitatively examines the impact of "Building Community Enterprises of Smallholders in Bangladesh and Nepal" (BCES), as well as villagers' experiences in the past 15-20 years of infrastructure development, agricultural production, market access, general livelihoods, and the status of women in rural households. Beneficiaries of the BCES project were selected for discussions during field visits in July 2017. A semi-structured questionnaire served as a guide for these interactions and for historical recollection of respondents' experiences about farming in the region and changes in food security and livelihoods in recent years. Three group discussions and two individual interviews were completed. The farmers' consensus was that in the past 20 years, road access to the villages has increased incomes and food security, but farmers still rely on intermediaries to transport their surplus to market, limiting their income potential. Farmers gained greater advantage in the marketplace, and compensation for the lack of transport facilities, after the construction of collection centers and irrigation infrastructure and the development of community enterprises through the BCES project. Women also have a significant role in making household and farm decisions. Road infrastructure is essential but not sufficient for increasing agricultural productivity and proper access to markets. Community enterprises and collection centers help provide farmers greater access to inputs and technical resources and increase the value of agricultural surpluses. Empowering women will ensure that investments in agricultural development translate to improved nutrition.

Keywords: agricultural productivity, community enterprises, food security, market access

Assessment of Food and Nutritional Security Status among Landless People in Chitwan District, Nepal

Dikshit Poudel^{1*}, Suryamani Dhungana¹, Kalyani Mishra Tripathi¹, Krishna Kaphle², Shrawan K. Sah¹

¹Agriculture and Forestry University, Nepal;

²Institute of Agriculture and Animal Science, Tribhuvan University, Nepal

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***Honorable mention**

Food insecurity still remains a major concern in Nepal. The harsh terrains, the remoteness of settlements of communities, and inequity in income generation have left millions of Nepalese experiencing some level of food insecurity mostly among marginalized populations in both urban and rural settings. A pilot study was conducted within ninety households in four different locations with the purpose to assess the various dimensions of food and nutritional security of landless people living in undocumented land by purposive selection of Chitwan District of Nepal. A semi-structured questionnaire was used to obtain primary data. Secondary data was obtained from Bharatpur Municipality and Madi Agriculture Service Centre in Chitwan. Analysis revealed that 57.8% of households expressed themselves as food secure in terms of their production and source of income while 42.2% were food insecure. The most food insecure ethnic group were the Janajatis (34.2%) followed by Dalits and Brahmins (15.8%). Similarly, 80.0% (36.7% male, 43.3% female) respondents were under-nutritioned and 20.0% (5.6% male and 14.5% female) were nutritionally secure according to calculations using Harris-Benedict principle based on net calories they obtained from their daily meals. Females were more insecure in terms of population size, education, skill, nutrition and diseases followed by males. Of those interviewed, 57.8% households lack production activity and were also food insufficient. The main source of income was off-farm work (40%), followed by remittance (35.6%). Various natural calamities were also the reason behind being landless in the case of some households, and they reportedly migrated from elsewhere. People are still involved in foraging and traditional farming activities with low output. Addressing agricultural production, nutrition awareness, climate change monitoring, livelihoods strengthening and disaster preparedness to ensure access to food are urgent needs even in urban areas like those in Chitwan. Dependence on food imports, away shying from production activities, traditional food sources have to be addressed for Nepal's struggle against food insecurity.

Keywords: calorie, food insecurity, landless, production activity, under-nutrition

Abstracts of Oral Presentation Winners

Construction of High Density Linkage Map in Tetraploid Alfalfa Using GBS

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Ali M. Missouri
University of Georgia, USA

First author's e-mail: laxman.adhikari86@gmail.com

***Winner of the 1st Place Prize**

Alfalfa (*Medicago sativa* L.) is a cool-season, C3, perennial, allogamous and autotetraploid ($2n=4x=32$) legume. It has a genome size of approximately one Gb. In this study, we aim to construct high-density alfalfa linkage maps for genomes of a dormant alfalfa cultivar, 3010, as maternal parent and a non-dormant cultivar, CW1010, as paternal parent of a pseudo test cross F1 population. 184 F1 hybrids were developed by control pollination. The hybrids along with the two parents, and standard checks were planted using RCBD design with three replications at two locations. Phenotypic data for fall dormancy (FD) and low-temperature (LT) tolerance were collected in order to observe the population segregation pattern and for mapping quantitative traits loci (QTL). A Genotyping-by-sequencing (GBS) library was constructed using a single digestion of DNA by ApeKI enzyme followed by annealing of adapters and amplification. Two 96-multiplexed GBS libraries were sent to the Georgia Genomics Facility for sequencing on Illumina NextSeq PE75 High Output Flow Cell platform. We received 2 Billion (B) raw reads from sequencing, out of which 1B paired reads were usable. The sequenced data were processed using the Tassel Uneak pipeline using the R1 reads of the pair-end data. The loci that were present in at least 80% of the total population were considered for the genotyping. Only the single dose markers were used for constructing genetic maps. Of the total single dose markers, 1377 SNPs of CW1010 and 1837 of 3010 parents were mapped into 32 linkage groups of respective parents. The average density of markers in both parental maps was 1.5 cM/marker. The markers were subsequently used for QTL mapping for fall dormancy and winter hardiness in the population. We observed several QTLs.

Keywords: alfalfa, genotyping-by-sequencing, linkage map, quantitative trait loci

Transcriptome and Metabolome of the Extremophyte, *Schrenkiella parvula* Reveal Unique Adaptations to Survive High K⁺ in its Native Soils

Pramod Pantha*, Dong-Ha Oh and
Maheshi Dassanayake
Louisiana State University, USA

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***Winner of the 2nd Place Prize**

Schrenkiella parvula, a close relative of *Arabidopsis thaliana* and Brassica crop species, grows in the shores of Lake Tuz, Turkey. *S. parvula* can complete its life cycle in the presence of multi-ion salt concentrations lethal to *A. thaliana* and most plants. The genome of *S. parvula* compared to that of *A. thaliana* reveals multiple signatures of copy number variation and structural differences that suggest unique regulatory cascades in responding to salt stress. The objective of this study was to investigate how the genomic blueprint for high K⁺ tolerance is manifested in stress-adapted *S. parvula* compared to the stress-sensitive *A. thaliana*. Next generation sequencing of transcriptome of root and shoot samples for high potassium at four different time points was performed and analyzed computationally. We obtained the ionome and the metabolome for each transcriptome sample to facilitate inferences linking genomic structural changes, its response via the transcriptome, to a molecular phenotype measured using the metabolome. In response to high K⁺, both the primary and lateral root architecture changes significantly compared to control conditions, and the phenotypic change in *A. thaliana* is more pronounced than the effect observed for *S. parvula*. Key differently regulated pathways between the two species include photosynthesis, stress responses coordinated by ABA, response to H₂O₂, cellular response to phenylpropanoid biosynthetic process, plasma membrane repair and water transport, autophagy, and mannitol biosynthesis. Overall, this study sheds a light on the stress adapted lifestyle of the *S. parvula* using a systems biology approach.

Keywords: extremophyte, ionomics, metabolomics, next generation sequencing, *Schrenkiella parvula*

Abstracts of Oral Presentation Winners (Cont....)

**The Urban Heat Island in Kathmandu, Nepal:
Evaluating the Spatial Distribution of Changes in
Normalized Difference Vegetation Index and
Land Surface Temperatures 2000-2016**

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Kentucky State University, USA

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***Winner of the 3rd Place Prize**

The term “urban heat island” (UHI) describes the increased surface and atmospheric temperatures in an urban core relative to surrounding non-urbanized areas. Although the phenomenon has been studied to a great extent throughout the world, it is less understood for Kathmandu, Nepal. This study uses the Moderate Resolution Imaging Spectro-radiometer (MODIS) 8-day product (MOD11A2) to evaluate land surface temperatures (LSTs), the MODIS-derived Normalized Difference Vegetation Index (NDVI) product (MOD13Q1) to quantify land surface characteristics, and the MODIS annual land cover classification product (MCD12Q1) to identify major land cover classes. We evaluated the spatial correlation between significant changes in LSTs and NDVI from 2000 to 2016 during the month of May. Overall, urban LSTs were consistently greater than non-urban LSTs; however, the rate of increase in temperature was higher outside the urban area. Furthermore, significant changes in NDVI values over time were more widespread and not spatially coincident with the significant changes in LST values. These results provide insight into systematic planning of open and green areas, and construction of new infrastructure in peripheral areas, as well as highlight the challenges in applying traditional UHI methods to rapidly developing urban areas in Kathmandu, Nepal.

Keywords: Kathmandu, LST, MODIS, NDVI, Nepal, UHI

Your Contribution to NAPA is Tax Deductible

Effective January 6, 2016, Internal Revenue Service of the United States government has determined NAPA as an entity exempt from federal income tax under Internal Revenue Code (IRC) Section 501(c)(3). Now any contributions made to NAPA will be tax deductible under IRC Section 170.

**Tillage and Cover Crop Effects on
Soil Organic Matter Dynamics under Dryland
Corn-Sorghum Rotation**

Vesh R. Thapa* and Rajan Ghimire
New Mexico State University, USA

First author's e-mail: veshraj@nmsu.edu

***Honorable mention**

Reducing tillage and increasing crop diversity could enhance short-term nutrient cycling and improve soil organic matter (SOM) accumulation in agroecosystems. This study aimed to evaluate the nitrogen (N) and carbon (C) dynamics and other soil properties under dryland cropping systems with different tillage management and cover cropping in Eastern New Mexico. The study was established in 2013 at New Mexico State University Agricultural Science Center Clovis with no-tillage (NT) and strip-tillage (ST) management in corn (*Zea mays*)-sorghum (*Sorghum bicolor*) rotation. Cereal rye (*Secale cereal* L.) cover cropping treatments (cover cropping and no-cover cropping) were nested within each tillage system in 2016/17 and 2017/18. All treatments were replicated three times. Soil samples were collected in February, May and October 2017 from 0-15 cm depth. All soil samples were analyzed for soil available nitrogen (N), potentially mineralizable carbon (PMC) and N (PMN), permanganate oxidizable carbon (POXC), soil moisture content, wet aggregate stability (WAS), pH and electrical conductivity (EC). Data showed that ST significantly increased available N and PMN content compared to NT in both crop rotation phases in the May sampling. The PMC content was significantly higher in cover cropping treatments than no-cover cropping in sorghum in the October sampling. Soil pH was not significantly different among treatments at all sampling dates. Soil EC was significantly greater under ST than under NT in sorghum for May sampling. Soil moisture content for all dates, and WAS and POXC in February and May samplings were not statistically different among treatments. Results from this study suggested that diversifying the cropping system and reducing soil disturbance can support C and N accumulation in the soil and thereby support sustainable crop production.

Keywords: cover cropping, nutrient cycling, no-tillage, soil organic matter, strip-tillage

कृषि कविता प्रतियोगिता विजेताहरू

प्रथम पुरस्कार संगीता कार्की



यदि माटो बोल्ने भए

यदि माटो बोल्ने भए ऊ रुन्थ्यो, कराउथ्यो, चिच्याउथ्यो होला
आफ्नो पुरिएका घाउ देखाई ऊ बेहोसीमा बर्बराउथ्यो होला।
तर ऊ त मौन छ आज, चुपचाप गुमनाम सहिरहेछ
बोलोस पनि कसरी ऊ त लाटो हौं निशब्द सबै हेरिरहेछ।।

भोको नाङ्गो तिमी हुदा उसले अज्जुली भरको बाला दियो
आज ऊ आफै नाङ्गोदा तिमिले सर्पले जस्तै छाला फेर्यो।
चिरहरण आज उसको हुदैछ, बनाउदैछो उसलाई द्रौपती
माटो बिनाश गरी आज तिमो गर्दैछो आफ्नै दुर्गती।।

अमृतरूपी बिष छर्केर तिमी हजारौं पेट भर्न खोज्दै होला
मनग्य फलको आशमा तिमो भोलिको कालो दिन रोच्दै होला।
मस्त निद्रामा डुबेका हे कलियुगी कुम्भकर्णहरु
माटोको जीवन नष्ट पारी तिमो आफ्नै चिता सजाउदैछो बरु।।

जाग हे जगत प्रिय जगाउ अबुझी मानवहरुलाई
नरसंहार गर्नबाट रोक हे यी मनुष्यरूपी दानवहरुलाई।
आज तिमो केवल आफ्नो पेट भरे भोलि उसले के खाला?
दिगो कृषि गर बरु पिलाऊ माटोलाई जैविक प्याला।।

न कुनै त्रास न चिन्ता न कुनै व्यथान खति
जैविक कृषिका गुण छन् हेर लाभ झन् कति कति।
सूक्ष्म जिवाणु, बोट, मनुष्य सबै सामिप्यतामा रहे
मुस्कुराई आभारी हुन्थ्यो होला यदि माटो बोल्ने भए।।

द्वितीय पुरस्कार शैलेस भट्टराई



माटोको बेदना "हो! म चाडै मर्दै छु"

कहिले बर्षोको खडेरिले सुकेको पोखरको पिध झै
धजा धजा भई फाटका छन मन र तन आज
त कहिले महिनोको पर्खाइमा निशब्द उभिने जन झै
अबिरल बर्षाले निसासिएका छन शब्द छातिभित्रै नै
आत्मा उडेको मुटु शरीर झै भएको छु आज
हराउनेछु तिम्रो भौतिक संसारको माझ
(हो! म चाडै मर्दै छु)२

थिए जब रुपकारी यौवनको मातमा
पूर्ण थिए सम्पूर्ण जिब जिबाणुको साथमा
माना फाल्यो तिमो, दिन्थे भर्न भकारीमा
पाली पोशी एक आमाले झै कोखमा
मनलाग्दा छोप्यो त अमनमा नागो भए
सुनेनो तिमिले तर म भित्र भित्रै रोइरहे
तिम्रो हरेक प्रहारमा आज गल्दै छु
(हो! म चाडै मर्दै छु)२

जवानी थियो लालीले मत्त भएकी गुरास झै रुप
दिन, बार, महिना नगनी गथ्यो कर्म खुब
जब गथ्यो गोडमेल, दिन्थ्यो मल र जल
तब फलाइ दिन्थे तिम्रै लागि मिठा मिठा फल
गर्न छाड्यो स्याहार, हुँदै गए म मा हाश
भाको छु आज लाली बिनाको गुरास
मृत्यु सैयामा एकलै छटपटाइरहेको छु
(हो! म चाडै मर्दै छु)२

हालथ्यो रिशमा बिषका फोहोरा जब
कती मरे, कती छटपटाए बिचरा ति साना जिव
एकलो छु आज, तर्साउछन सारा ति दुखी आत्माले
सुन बुझ मानव माने छ तिमोलाई तिम्रै आफ्नो सपनाले
दुक्छ मुटु, दुक्छ टाउको, भाको छ रे क्यान्सर
(त्यै पिरले छाड्दैछ मेरो आत्माले संसार)२

त्रितिय पुरस्कार लक्ष्मण अधिकारि



" बा म त कृषक बन्छु"

सबैले खाने अन्न बाली उब्जाउदै
बिस्वबाटै भोकमरी अन्त्य गर्ने महत्वाकांक्षा बोकेर
किरा-फट्याङ्ग्रा र चरा-मुसालाइ समेत खुसी पाउँ
प्रकृति र पारिस्थितिक बाताबरण सन्तुलनमा राख्न
बा म त कृषक बन्छु ।

आजै देखि कृषि सिपको तालीम सीकेर
बैज्ञानिक र आधुनिक प्रणाली अपनाउदै
उन्नत जातका बिउ लगाएर धेरै फलाउछु
बिकसित नस्लका गाई भैसी र बाखा पाल्छु
बा म त कृषक बन्छु ।

परिवारको साथ लिएर माछा, मौरी र कुखुरा पनि पाल्छु
अन्न, दूध, माछा, मासु र मह बेच्छु
बिदेशको प्रचंड गर्मीमा घर जाने दिन गनेर भन्दा
आफ्नै खेत बारी र कान्ता खनेर पसीना बगाउछु
बा म त कृषक बन्छु ।

कुनै दलको झोला बोकि दलाली गरेर एक छाक पनि खात्र
चन्दा उठाएर खानकै लागि चक्काजाम र क्रान्ति गर्न जान्न
बरु आफ्नै करेसा बारीमा तरकारी लगाउछु
खाएर बचेको तरकारी नजिकैको बजारमा पुर्याउछु
बा म त कृषक बन्छु ।

स्वाभिमानी आत्मनिर्भर र सफल कृषक बन्दै
परिवार समाज र देशको आर्थिक उन्नतिमा टेवा पुर्याउछु
सबैले सिक्न र अनुशरण गर्न लायक बनेर
कृषि क्रान्ति मार्फत समाज र देशको मुहार फेर्न लागि पर्छु
बा म त कृषक बन्छु ।

Various Events at NAPA First Biennial Conference 2018

Blood donation charity

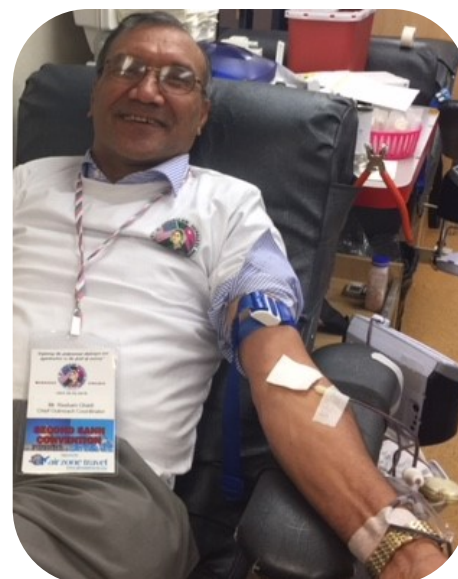


NAPA First Biennial Conference organizing committee also hosted a blood donation drive as part of the NAPA's mission to serve humankind through charitable activities. Past foreign travel history allowed only a few NAPA members to make blood donation. Nevertheless, the event collected 8 pints of blood that potentially can save 24 lives in need. NAPA President Dr. Lila B. Karki, General Secretary Dr. Pradeep Wagle, NAPA member Laxman Adhikari, NAPA Student Coordination Committee Chair Shankar Gaire (2 pints) and three other community members donated blood on May 27, 2018 amidst the Oklahoma conference. President Dr. Karki announced the event amidst the conference appealing the participants to save lives through blood donation and then congratulated all life savers. Notably, Dr. Karki was the former President of Blood Donors of America, where he worked tirelessly and expanded its network to all 50 states of America and beyond. For his outstanding community service, Dr. Karki was awarded the President's Volunteers Service Award with a Gold Pin and congratulations letter endorsed by the former president of the USA, Barack Obama.

NAPA Members are also donating blood in other various occasions



NAPA Vice President and life member Dr. Megha Parajulee and Joint Member Sharmila Parajulee donated blood on the World Blood Donor Day (June 14, 2018) in Lubbock, Texas. NAPA member and Vice President of Blood Donors of America, Resham Gharti had coordinated the event.



NAPA member, Resham GT is a frequent blood donor. He donated on July 22, 2018 at Manassas, VA during the SANN confer-

Let's extend our gratitude to these life savers!

Wellness walk and run



A recreational bout of walk and run was organized at Eldon Lyon Park in Oklahoma City in the morning of May 27, 2018 prior to the second-day conference session. Twenty-three participants outfitted in NAPA T-shirts and hats cheerfully took part in the bout.

Cultural Night

A post-conference cultural episode on May 27, 2018 entertained the conference participants bustling with cheers and amusements. Honorary Consul General Prem Raja Mahat was the Chief Guest and the lead for the cultural event.



Joint Members' Roundtable Discussion at NAPA Conference



The attendees discussed about expanding the joint membership and engaging them in creative roles to contribute to and complement NAPA activities. The contemporary socio-economic issues pertaining to rural agriculture in Nepal and how joint members can contribute to various NAPA activities were discussed. While joint members have no agricultural education background, they recognize the membership's enormous role in bringing networking talents to NAPA. The discussion emphasized that the Joint Members shall play leading roles on charity, social and cultural programs, and networking activities for NAPA.

Appeal for donation for Scholarships and Endowment Funds



With the donation received from sponsors, NAPA has established a Scholarship Fund for awarding meritorious students of Nepal (<http://napaamericas.org/napa-scholarships-sponsors.php>) and an Endowment Fund for awarding emergency relief and charitable support (<http://napaamericas.org/endowment-fund-announcement.php>). NAPA extends gratitude to the past donors and appeals to the potential donors for their generosity.

ANNUAL GENERAL MEETING

NAPA President Dr. Lila Karki introduced AGM Chair Dr. Khusi R. Tiwari to the audience. Dr. Tiwari welcomed everyone in the conference and provided a brief history and milestones of NAPA. He greatly appreciated the progress NAPA made in a short period of time and congratulated NAPA executive team for their time and commitments for all the hard work for the last 2 years. After a short introductory speech, Dr. Tiwari facilitated progress reporting by the NAPA officials and discussions among the members. Highlights of the AGM are in order:

1. Dr. Lila Karki provided an overview of NAPA activities undertaken for the last two years.
2. General Secretary Dr. Prem Bhandari elaborated on the NAPA activities and responded to key comments pertaining to NAPA bylaws.
3. Treasurer Ms. Ambika Tiwari presented the financial report.
4. The participants discussed about how NAPA can reach out to and address the interests of non-professional stakeholders such as potential agricultural entrepreneurs and students.
5. Dr. Nanda Joshi, Chief election commissioner announced the election results, congratulated the incoming EC members and provided them with the certificates of election.
6. Finally, Dr. Tiwari thanked everyone and concluded AGM session.



Thank you to the outgoing EC

The Annual General Meeting of NAPA held in Oklahoma City on May 26-27, 2018 amidst the First NAPA Biennial Conference marked the transition of the NAPA leadership from the first EC (2016-2018) of the organization to the newly elected EC (2018-2020). The outgoing committee accomplished numerous activities and laid the foundation of the NAPA's organizational development, hence deserves great applause. The outgoing EC was composed of the following members:

President: Dr. Lila B. Karki
 Vice President: Dr. Megha N. Parajulee
 General Secretary: Dr. Prem B. Bhandari
 Joint Secretary: Dr. Pradeep Wagle
 Treasurer: Ms. Ambika Tiwari
 Member: Dr. Ramesh C. Khanal
 Member: Dr. Lekha N. Paudel
 Member: Dr. Dilip R. Panthee
 Member: Dr. Raju R. Pandey
 Member: Dr. Durga D. Poudel
 Member: Mr. Surendra Osti

Congratulations to the New Executive Committee (2018-2020)!



Book Publication Committee (BPC)

Dr. Drona P. Rasali
Editor-in-Chief

Dr. Prem B. Bhandari
Managing Editor

Editors:

Dr. Megha N. Parajulee

Dr. Ram Acharya

Dr. Uma Karki

Dr. Raju Adhikari

Global Journal of Agricultural & Allied Sciences (GJAAS)

Editorial Board:

Dr. Megha N. Parajulee
Editor-in-Chief

Editors

Dr. Krishna P. Paudel

Dr. Chakra Budhathoki

Dr. Kalidas Subedi

Dr. Nabaraj Devkota

Dr. Rajendra Shrestha

Dr. Toya Baral

Dr. Prem B. Bhandari

Dr. Dharma Raj Dangol

Dr. Keshav L. Maharjan

Dr. Jagadish Timsina

Dr. Upendra M. Sainju

Dr. Uma Karki

Dr. Pradeep Wagle

Research/Policy Brief (RPB)

Dr. Ramjee Ghimire
Editor-in-Chief

Editors:

Dr. Suman Rimal
Gautam

Dr. Lila K. Khatiwada



Update on Book Publication

NAPA Book Publication Committee's (BPC) progress on publication of the forthcoming book, "**Sustainable, Sufficient, Safe and Healthy Food in Nepal: Principles and Practices of Food Security**" is moving in full swing. At this stage, chapters are being reviewed by the editors and external reviewers. Some authors have already received feedback on their chapters and have already incorporated. Other chapters are being reviewed. We plan to get back to all the authors as soon as possible. Despite the voluntary responsibility, the progress is moving smoothly and we plan to publish this book by December, 2019.

BPC is pleased to share that its progress was shared to participants of recently concluded NAPA Biennial Conference in Oklahoma. The audiences were highly excited to hear about the progress and the mission itself. BPC is now short-handed in the absence of Dr. Shanthi Johnson, one of the editors of this book. While we congratulate Dr. Johnson in her new responsibility, our team is committed to accomplish the mission in time. For information, Dr. Johnson has recently joined as a Dean of the School of Public Health, University of Alberta, Canada.



Dr. Rasali, Editor-in-Chief of the BPC presenting about the progress of the book at NAPA Biennial Conference in Oklahoma, USA.

Agri-Connection Newsletter is an excellent medium to reach out to the world through your articles, essays, informative collections and literary creativities. Send them anytime !

Global Journal of Agricultural and Allied Sciences (GJAAS)

Request for Paper Submission

Dear Prospective Authors,

NAPA is in the process of publishing the *Inaugural Issue* of its flagship publication, **Global Journal of Agricultural and Allied Sciences (GJAAS)** (Online ISSN 2575-1670 and Print ISSN 2575-1662). We cordially invite you to submit your original (not published, submitted or under consideration elsewhere) research article(s) on any topic related to agricultural and allied sciences to the journal for publication consideration. Refer to <http://napaamericas.org/journal-authors-guidelines.php> for authors guidelines. All submitted papers are subject to double-blind peer review.

We expect to publish our INAUGURAL ISSUE BY MAY 31, 2019; therefore, we look forward to receiving your submission for this issue by DECEMBER 31, 2018. Authors can cite their publication as soon as the online version of the manuscript is published. We also encourage you to submit articles throughout the year for consideration in future issues. The inaugural issue will be published at no cost to the contributing authors while the expectation is to set a high standard of the journal through the quality and scientific reputation of the authors. Therefore, it is our hope that you would strongly consider contributing your great science to this issue.

Please send your inquiry to: gjaasjournal@gmail.com or mparajulee@tamu.edu for further details.

Kind regards,
Megha N. Parajulee,
PhD
Editor-in-Chief,
GJAAS



<http://napaamericas.org/journal-editorial-board.php>

Celebrating the Success: Members' Achievements



Dr. Prem Bhandari is Recognized as an Outstanding Reviewer

Dr. Prem B. Bhandari, Immediate Past General Secretary (2016-2018) of NAPA and Managing Editor of NAPA Book Publication Project was awarded a **Certificate of Outstanding Contribution in Reviewing** by the Editors of World Development, Elsevier, Amsterdam, The Netherlands. **Congratulations to Dr. Bhandari on his recognition!**

Mrs. Ambika Tiwari is Promoted to Senior Research Associate Position

Mrs. Ambika Tiwari, Immediate Past Treasurer and Membership Drive Committee Chair (2016-2018) of NAPA got promotion to Senior Research Associate position at the Mississippi State University, Delta Research and Extension Center at Stoneville, MS. **Congratulations to Mrs. Tiwari on her achievement!**



Dr. Prakash Malla Joins 2018 Class of TAPPI Fellows

Honorary title given to extraordinary contributors!



Congratulations to NAPA Member, Dr. Malla for his outstanding technical or service contributions to the industry and/or the Association. He is the Director of the Research & Development at Thiele Kaolin Company, where he has been working for over 25 years.

TAPPI is the leading association for the worldwide pulp, paper, packaging, tissue and converting industries and publisher of Paper360°, Tissue360° and TAPPI Journal. Visit www.tappi.org for further information.

NAPA Student Essay Writing Contest Winners Receive Prizes



Award distribution ceremony of the 2018 NAPA's Student Essay Writing Contest was organized on July 27 in Kathmandu, Nepal. Dr. Ishwari Prasad Dhakal, Vice-Chancellor of Agriculture and Forestry University and NAPA Adviser, and Dr. Bimala Rai Paudyal, Member of National Assembly at Federal Parliament of Nepal, former member of National Planning Commission and NAPA Associate Member handed recognition certificates and cash prizes of \$300.00 and \$200.00 to the first place winner Mr. Prashant Bhandari, B.Sc. Student, Agriculture and Forestry University and second place winner Mr. Santosh Pathak, M.Sc. Student, Institute of Agriculture and Animal Science, Tribhuvan University, PG Campus, Kritipur, respectively. Mr. Kiran Ojha, Country Director of Lutheran World Relief and NAPA Associate Member organized the program. NAPA Associate member, Dr. Laxmi N. Prasad Sah also attended the program. Thanks to Mr. Ojha for his excellent coordination. **Congratulations to the winners!**



Mr. Laxman Adhikari Receives NAAIC 2018 Student Award

Mr. Laxman Adhikari, a NAPA student member, and Ph.D. student at University of Georgia, USA received North American Alfalfa Improvement Conference (NAAIC) 2018 Award.

Congratulations to Mr. Adhikari on this achievement!

Ms. Sadikshya Sharma Receives 1st Place Poster Prize

Ms. Sadikshya Sharma, a NAPA student member, and Master's student at University of Florida, Gainesville, USA won First Place in poster competition for Master's level at American Society for Horticultural Science (ASHS) 2018 Annual Conference - Washington, DC.



Congratulations to Ms. Sharma on this achievement!

Mr. Pramod Pantha Receives Two Scholarly Awards

Mr. Pramod Pantha, NAPA student member, Graduate student at Louisiana State University received Best Oral Presentation Award from American Society of Plant Biologist-Southern Section (ASPB-SS), March 24-26, 2018. Mr. Pantha also received American Society of Plant Biologist (ASPB) Travel Award of \$900 to attend ASPB, July 14-18, 2018, in Montreal, Canada, where he presented a poster entitled "Insights into plant responses and adaptations to k^+ toxicity gained by comparing the extremophyte, *Schrenkiella parvula*, to *Arabidopsis thaliana*. (<https://blog.aspb.org/announcing-the-2018-travel-grant-winners/>).

Congratulations to Mr. Pantha on his achievements!

USA President's Volunteers Service Award

The following NAPA Officials were awarded with President's Volunteers Service Award from the White House for the outstanding voluntary service:



Dr. Lila B. Karki: President's Volunteers Service Award with a Gold Pin

Dr. Prem Bhandari: President's Volunteers Service Award with a Gold Pin

Dr. Megha N. Parajulee: President's Volunteers Service Award with a Silver Pin

Dr. Pradeep Wagle: President's Volunteers Service Award with a Silver Pin

Ms. Ambika Tiwari: President's Volunteers Service Award with a Silver Pin

Congratulations to the NAPA founders on the prestigious recognitions!



Congratulations New Graduates



Mr. Sanjok Poudel Graduates with his Master's Degree

Mr. Sanjok Poudel, NAPA Executive Committee Member graduated with Master's in Animal and Poultry Science from Tuskegee University with a recognition as an Outstanding Student in the graduate school.

Congratulations to Mr. Poudel on his academic accomplishment!



Mr. Ashish Karki Graduates with his Bachelor Degree

Mr. Ashish Karki, son of NAPA member Dr. Thakur Karki graduated with Bachelor degree in Computer Science, from East Carolina University, Greenville, North Carolina, USA.

Congratulations to Mr. Karki on his academic accomplishment!



Dr. Swagat Parajulee Graduates to become Resident Physician

Dr. Swagat Parajulee, son of NAPA Vice President Dr. Megha Parajulee and Joint Life Member Ms. Sharmila Parajulee, graduated with Doctor of Medicine from Texas Tech University Health Science Center (TTUHSC) Paul L. Foster School of Medicine in El Paso. He is currently a Resident Physician at TTUHSC-Lubbock.

Congratulations to the graduate and the Parajulee family!



Mr. Ashish Bhandari Graduates with his Master's Degree

Mr. Ashish Bhandari, son of NAPA former General Secretary Dr. Prem Bhandari and joint member Usha Bhandari graduated with Master of Architecture from Taubman college of Architecture and Urban Planning, University of Michigan, MI.

Congratulations to the graduate and entire Bhandari family on this academic achievement!



Member's Publications and Presentations



- Wagle, Pradeep***, Prasanna. H. Gowda, Brian. K. Northup, Ken. E. Turner, James. P. S. Neel, Priyanka. Manjunatha, and Yuting. Zhou. 2018. Variability in Carbon Dioxide Fluxes among Six Winter Wheat Paddocks Managed Under Different Tillage and Grazing Practices. *Atmospheric Environment* 185: 100-108.
- Wagle, Pradeep***, Prasanna. H. Gowda, Jerry E. Moorhead, Gary W. Marek, and David K. Brauer. 2018. Net Ecosystem Exchange of CO₂ and H₂O fluxes from Irrigated Grain Sorghum and Maize in the Texas High Plains. *Science of the Total Environment* 637-638: 163-173.
- Bajgain, Rajen***, Xiangming. Xiao, Jeffrey Basara, **Pradeep Wagle***, Yuting Zhou, Hayden Mahan, Prasanna Gowda, Heather R. McCarthy, Brian Northup, James Neel, and Jean Steiner. 2018. Carbon Dioxide and Water Vapor Fluxes in Winter Wheat and Tallgrass Prairie in Central Oklahoma. *Science of the Total Environment* 644:1511-1524.
- Doughy, Russell, Xiangming Xiao, Xiaocui Wu, Yao Zhang, **Rajen Bajgain***, Yuting Zhou, Yuanwei Qin, Zhenhua Zou, Heather McCarthy, Jack Friedman, **Pradeep Wagle***, Jeffrey Basara, and Jean Steiner. 2018. Responses of Gross Primary Production of Grasslands and Croplands under Drought, Pluvial, and Irrigation Conditions during 2010-2016, Oklahoma, USA. *Agricultural Water Management* 204:47-59.
- Khanal, N***, Schellenberg, M., & Biligetu, B. (2018). Agro-morphology and forage nutritive value of white prairie clover (*Dalea candida* (Michx.) Willd.) populations native to Canadian prairies. *Canadian Journal of Plant Science*, (ja). Published on the web 01 June 2018.
- Li Z., G. J. Wan, L. Wang, Y. F. Zhang, **M. N. Parajulee***, Z. H. Zhao, and F. J. Chen. 2018. Effects of seed mixture sowing with resistant and susceptible rice on population dynamics of target planthoppers and non-target stemborers and leafhoppers. *Pest Management Science* 74: 1664-1676.
- Ganjugunte, G. K., J. A. Clark, **M. N. Parajulee***, J. Enciso, and S. Kumar. 2018. Evaluation of sulfur burner for salinity management in irrigated cotton fields in the arid west Texas. *Agrosystems, Geosciences & Environment* 1:180006 (doi:10.2134/age2018.04.0006).
- Fleming, D., F. Musser, D. Reising, J. Greene, S. Taylor, **M. Parajulee***, G. Lorenz, A. Catchot, J. Gore, D. Kerns, S. Stewart, D. Boykin, M. Caprio, and N. Little. 2018. Effects of transgenic *Bacillus thuringiensis* cotton on insecticide use, heliothine counts, plant damage, and cotton yield: A meta-analysis, 1996-2015. *PLoS ONE* 13: e0200131 (<https://doi.org/10.1371/journal.pone.0200131>).

* NAPA Member

Welcome New Members On Board



New NAPA Members



Student Member

Mr. Bidur Paneru, Tuskegee University, Alabama

Ms. Binita Subedi, Tuskegee University, Alabama

Mr. Binod Gyawali, Tennessee State University, Tennessee

Regular Life Member

Dr. Pradeep Wagle, Oklahoma

Dr. Monika Ghimire, Oklahoma

Joint/Family Life Member

Mrs. Sharmila Parajulee, Texas

Welcome to NAPA Family

Appeal to Submit Articles for Research/Policy Brief

Dear valued NAPA members,

We are excited to share with you that NAPA will continue publishing Research/Policy Brief (RPB). The RPB is intended to be the summary of the research, and/or the gist drawn from the literature review, and case studies, among others. We would like to request all NAPA members to spend some time developing policy briefs and sharing that with us so that we can publish them in upcoming online RPBs and NAPA webpage <http://napaamericas.org/research-policy-brief-editorial-committee.php>. Please send your contributions to the RPB Editor-in-Chief at ramghi@gmail.com. A brief overview and guidelines on how to write RPB is attached for your kind reference.

We highly appreciate your continued cooperation and contribution.

Best Regards,



Dr. Ramjee Ghimire
Editor-in-Chief
Research/Policy Brief

<http://napaamericas.org/research-policy-brief-editorial-committee.php>.

साहित्यिक कुना

कृषि कविता
पिताम्बर दाहाल



भण्डारणमा बीषरहित कीरा नियन्त्रण

बीषरहित भण्डार गर्ने, ज्ञान शीप छ रे/
ध्यान मग्न भै सुनु सबै, कटु सत्य हो रे //
मंसिरका अन्नागेडा, धेरै चीसा हुन्छन्/
ढीकुटीमा चीसो राख्दा, दुशी कीरा रम्छन् //

पन्ध्र% पानी भए, दुशी रमाउछ /
दश देखि चौध सम्म, कीरा मौलाउछ //
चौध % पानीमात्रा, धानमा राखन सक्दा/
ढिकी मीलमा कुट्टा धान, चामल बन्छ सग्ला /

बीउकोलागी दश देखि बाह्र % सम्म/
पानी मात्रा हुनुपर्यो, प्राण बच्छ डम्म //
बढिचीसो बन्दि भए, बीउ छिट्टै मर्छ/
ओषिलो अन्न प्याकिंग गरे, दुशीले बीष पार्छ //

दश देखि चौध सम्म, पानी मात्रा हुँदा/
बन्दिभका कीरा मरछन्, तड्पी गुम सिदा//
कसोरी पो नापन गर्नु, अन्न मा भाको पानी/
भन्नु होस कृषि बिज्ञ, नगरी आनाकानी //

ढिकी जाँतो गर्न योग्य, अन्न सुकाएर /
राख्नु पर्छ अन्न अब, हवाबन्दी बनाएर //
एउटा बानी बदलने, उचित मौका आयो/
भण्डार गर्ने भाँडो भने, फेरै पर्ने भयो //

बोराभिन्न हवा पानी, नछिर्ने पो गरी/
दबाईको प्याकिंग जस्तै, अनाज राखनु भरी //
सुखायामका अन्नहरु, अति सुखा हुन्छ/
हवा बन्दि बोरा खोजी, प्याकिंग गरे पुग्छ //

बर्षा याममा सुकाउन, पक्कै गारो हुन्छ/
सुकाउने मसीन को, प्रयोग गर्नु पर्छ //
कोल्डस्टोर नचाहिने, नौलो ज्ञान हो यो /
बुद्धस्थलमा प्रयोग भाको, सरल उपाय हो //

सुखा अन्न बिगार्नेता, पानी पो रहेछ /
भण्डारको कीरा मार्न, सरल्यो भएछ //

Heartfelt Condolence



2000/12/25 - 2075/03/24 BS

With heavy heart, we express our condolence to Dr. Narayan Khadka, Legal Advisor of the NAPA Advisory Council and his bereaved family for the loss of his father Harka Bahadur Khadka at the age of 75. May the departed soul of beloved father rest in the heavenly peace !

Join NAPA:

Blend your professionalism with philanthropy

Visit <http://napaamericas.org/join-napa.php> for membership information and procedure for paying membership fees. The following are NAPA membership categories with corresponding eligibility:

Regular or General Membership (\$50.00 for two years): Bachelor degree or equivalent qualifications in agriculture or related field.

Student Membership (\$25.00 for two years): Current students of agriculture or related areas who are at good standing.

Life Membership (\$200.00 one time and for eligible spouse: \$100 one time): Eligible regular/general member who pays defined dues at a time.