



Action in Agroforestry

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M. Gold, H. Hemmelgarn, K. Stubblefield, editors

New Strides in Poultry Agroforestry Research at the University of São Paulo, Brazil

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New research conducted at the Luiz de Queiroz Superior School of Agriculture at the University of São Paulo, Brazil, assesses silvopasture benefits for poultry farming. Graduate student Nina Publio Camarero and Dr. Ciro Abbud Righi designed a free-range system in which laying hens are raised under rubber trees and have free access to pasture. The experiment aims to evaluate the development rate of the hens, to assess animal welfare, and to quantify egg production and quality. The results are compared to a control flock of laying hens raised in a cage-free housing system, also managed by the research team.

Although the study is still in progress, some interesting results have already been collected. In terms of animal welfare, the chickens within the silvopastoral system have expressed more natural behaviors than those in the cage-free housing system. Observational methods applied to both flocks' systems inform the scores of animal well-being.



As for egg production, the hens in the silvopasture system began a regular egg-laying cycle earlier than those kept in confinement. However, the eggs collected from the confined birds were slightly larger

and heavier, likely due to the higher body weight of these hens. The researchers suspect the higher body weights resulted from the housed hens not engaging in as many physical activities as the silvopasture hens.

There were no significant changes in egg quality, and researchers only noticed a small variation in the color



of the egg yolks. Silvopasture hens usually laid eggs with darker yellow yolks due to the greater food variety present in the agroforestry environment.

The first phase of the study was concluded at the end of 2019, and the research team is currently extending the investigation to free-range broiler farming (chickens raised for meat rather than eggs.) The new experiment is designed with rotational grazing, to guarantee access to fresh food for the animals and limit their degradation of pasture and soil.

**Manuela Pereira, UMCA Visiting Scholar, is a PhD Candidate in applied ecology at the University of Sao Paulo and Professor of Agroecology at the Federal University of Fronteira Sul. (Thanks also go to Dr. Ashley Conway for reviewing this article).*

Job Opening: Agroforestry Specialist-SILT

Sustainable Iowa Land Trust (SILT) is seeking research-oriented applicants passionate about expanding sustainable agroforestry practices on Iowa land. All qualified applicants welcome; farmers and members of under-represented groups are strongly encouraged to apply.

The Agroforestry Specialist is a half-time position that may become full-time as a result of successful outreach. The Specialist will research, analyze and write up reports related to funding sources that help landowners and farmers cash flow agroforestry projects and then assist in public outreach.

For details:

<https://silt.org/wp-content/uploads/2020/08/SILTAgroforestryJobPost.pdf>

COVID-19 Resources for Farmers and Entrepreneurs

Coronavirus resources can be found in [previous issues of E-News](#).

UMCA Fall 2020 Graduate Courses Available for Enrollment*

- ❖ FOREST 7385 Agroforestry I: Theory, Practice and Adoption
- ❖ FOREST 7390 Watershed Management and Water Quality
- ❖ NAT_R 8001 Diversity, Equity, and Inclusion in Agroforestry
- ❖ NAT_R 8300 Urban Biodiversity, Conservation, Planning
- ❖ NAT_R 8024 Program Development and Evaluation in Informal Settings
- ❖ BIOCHM 8120 Advanced Medicinal Plant Science
- ❖ AG_ED_LD 8250 Leadership Theory and Application
- ❖ AG_ED_LD 8540 Methods of Qualitative Research
- ❖ AG_ED_LD 8510 Research Methods and Design
- ❖ ***NAT_R 4001 Urban Agriculture and Agroforestry

*Syllabi available upon request from: goldm@missouri.edu ***Undergraduate course

KUDOS

Recent Publications

Hsieh HY, Lin CH, Hsu SY, Stewart GC. 2020. A Bacillus Spore-Based Display System for Bioremediation of Atrazine, Applied and Environmental Microbiology DOI: [10.1128/AEM.01230-20](https://doi.org/10.1128/AEM.01230-20)

Fibrich BD, Maphutha J, Oosthuizen CB, Twilley D, Ho K-V, Lin C-H, Vincent LP, Shilpa TN, Deepika NP, Duraiswamy B, Dhanabal SP, Kumar SM, and Lall N. 2020. Chapter 4: Aquatic Plants Native to America Aquatic Plants In: Aquatic Plants: Pharmaceutical and Cosmetic Applications, edited by Namrita Lall, CRC Press 366 pages. DOI: 10.1201/9780429429095-4

Ho TL, Nguyen TTC, Vu DC, Nguyen NY, Nguyen TTT, Phong TNH, Nguyen CT, Lin C-H, Lei Z, Sumner LW, and Le VV. 2020. Allelopathic Potential of Rice and Identification of Published Allelochemicals by Cloud-Based Metabolomics Platform. *Metabolites*. 2020 10(6): 244. DOI: 10.3390/metabo10060244

Congratulations to Dr. Ashley Conway for being awarded a 2020 North Central SARE Research and Education Grant for her proposal “Investigating the Potential of Woodland Silvopasture Systems: Prevalence, Practices, Perceptions and Performance.”

UPCOMING EVENTS

A Virtual Field Workshop: Silvopasturing at UMass

August 18, 2020 | 9:00-11:00am | Tri-State SARE | Free Webinar

This free virtual event is a webinar offered by Tri-State SARE, featuring a tour of the silvopasture work at the UMass Agricultural Learning Center in Amherst. Participants will have an online tour of UMass Extension silvopasture with Nikki Burton. This silvopasture includes sheep within a chestnut grove. The tour will be followed with questions and discussion. <https://attra.ncat.org/event-calendar/a-virtual-field-workshop-silvopasturing-at-umass/>

Inventory and Design Opportunities for Pollinator Habitat on Working Lands

August 18, 2020 | 2:00-3:30pm | NRCS Science & Technology | Free Webinar

This free, 90-minute webinar is the first in a two-part series presented by USDA NRCS Science and Technology. Planners will learn about inventory tools and whole-farm conservation planning approaches to enhance pollinator and other wildlife habitat. Presenters will give an overview of key pollinator habitat elements and tools available to help planners evaluate current conditions, and then discuss a variety of opportunities for incorporating habitat for pollinators and other agriculturally beneficial insects (natural enemies of crop pests) into a wide range of landscapes and practices. <https://attra.ncat.org/event-calendar/inventory-and-design-opportunities-for-pollinator-habitat-on-working-lands/>

Acres U.S.A. Healthy Soil Summit

August 25-26, 2020 | Acres U.S.A. | \$100-\$175 Online Event

The 2020 Acres U.S.A. Healthy Soil Summit will gather growers for intensive learning on strategies to create over-all farm resilience, starting from the soil up. Instructors are real farmers who practice what they teach, such as tactics to build soil resilience, increase water storage capacity, and decrease costly inputs and programs. Online event attendees will have unique opportunities to meet fellow attendees through networking, breakout discussions, and Soil Innovation Hours. Plus, the keynote address and session speakers will be even more accessible to answer your individual questions via this online event format. <https://attra.ncat.org/event-calendar/acres-u-s-a-healthy-soil-summit-2/>

Farm, Family, & ME - Summit For Women

September 3, 2020 | 9:00am-12:00pm | MU Extension | Free Online Event

The 2020 FFM Summit is a free virtual event focusing on building resiliency. Topics will include dealing with financial and farm stress, self-care, and mental well-being. The event also includes a panel of farm women who will discuss the different ways they balance their lives and work in agriculture.

Register online and a Zoom link will be emailed to you later. <https://extension2.missouri.edu/events/farm-family-me-summit-for-women-1596489812>

Elderberry Harvest webinar with Terry Durham and Chris Patton, Midwest Elderberry Cooperative

September 7, 2020 | 5:00pm CDT | Savanna Institute | Free Webinar

This webinar will focus on proper harvesting techniques for elderberry, the de-stemming process and equipment needed, proper storage techniques for small scale and commercial elderberry production. <http://www.savannainstitute.org/events.html>

Silvopasture with Steve Gabriel, Wellspring Forest Farm

September 15, 2020 | 6:00pm CDT | Savanna Institute | Free Webinar

This webinar will focus on incorporating animals and food production safely and common questions and answers for producers. <http://www.savannainstitute.org/events.html>

Virtual Missouri Chestnut Roast

October 3, 2020 | MU Horticulture and Agroforestry Research Center | Free Online Event

This year, the Horticulture and Agroforestry Research Center will host a virtual version of the annual Missouri Chestnut Roast.

https://calendar.missouri.edu/event/missouri_chestnut_roast_894?utm_campaign=widget&utm_medium=widget&utm_source=Mizzou+Events#.XzISbvhKi8p



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