

ADEL H. YOUKHANA

Lecturer / Researcher

Department of Natural Resources and Environmental Management (NREM)

College of Tropical Agriculture and Human Resources (CTAHR)

University of Hawai‘i at Mānoa (UHM)

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Education

<u>Degree</u>	<u>University</u>	<u>Major</u>
PhD	University of Hawai‘i at Mānoa	Natural Resources and Environmental Management
MS	University of Mosul, Iraq	Silviculture
BS	University of Mosul, Iraq	Forestry

Professional Appointments

<u>Title</u>	<u>Employer</u>	<u>Dates Employed</u>
Jr. Researcher	Dept. Natural Resources and Environmental Management (NREM), University of Hawai‘i at Mānoa	Sept 2023 to Present
Lecturer	NREM, University of Hawai‘i at Mānoa	Aug 2018 to Present
Jr. Researcher	Dept. Tropical Plants & Soil Sciences, University of Hawai‘i at Mānoa	Apr 2016 to Aug 2017
Lecturer	Geography, University of Hawai‘i at Mānoa	Jan- May 2015
Jr. Researcher	NREM, University of Hawai‘i at Mānoa	July 2011- Mar 2016
Post-Doctoral Researcher	NREM, University of Hawai‘i at Mānoa	Sept 2010 to July 2011
Program Assistant	USAIS-funded Portal Program (Portal program for Iraq and Afghanistan Provincial Reconstruction Teams) NREM, University of Hawai‘i at Mānoa	2006 to 2007
Coordinator	Agricultural Higher Education and Development (AHEAD), University of Hawai‘i at Mānoa	2003-2004

Assistant Professor	Forestry Department, College of Agriculture and Forestry, University of Mosul, Nineveh, Iraq	2000-2004
Consultant	National Program for Developing and Restoring Forest Sector in Northern Iraq, Nineveh County, Iraq	1999-2000
Librarian/Manager	College of Agriculture and Forestry, University of Mosul, Niniveh, Iraq	1997-1999
Lecturer	Forestry Dept., College of Agriculture and Forestry, University of Mosul, Niniveh, Iraq	1992-1997
Chair	Forestry Research Station, State Board of Agricultural and Water Resources Research, Niniveh, Iraq	1990-1992
Manager	Forestry Research Station, State Board of Agricultural and Water Resources Research, Niniveh, Iraq	1989-1990
Research Associate	State Board of Agricultural Research and Water Resources, Baghdad, Iraq	1987-1989

Courses Taught

Course ID and name (credits)

University of Hawai'i at Mānoa

NREM 301	Natural Resources Management (3)
NREM 310	Statistics in Agriculture and Human Resources (3)
NREM 480	Applied Forest Ecology (3)
NREM 492	Internship Experiences (3)
NREM 691	Sustainable Agroforestry Systems (3)
GEOG 101	Natural Environment (3)

University of Mosul

FOR 310	Principle of Silviculture (3)
FOR 350	Forest Nurseries (3)
FOR 401	Forest Trees Improvement (3)
FOR 422	Practice of Silviculture (3)
FOR 520	Experimental Design and Analysis (3)
FOR 650	Advanced Silvicultural Systems (3)

Publications (reverse chronological order)Book Chapters

Youkhana, A. and Idol, T. (2018): Chapter 22: Cut-and-carry for sustaining productivity and carbon sequestration in agroforestry system: *Coffee-Leucaena* example. *In: Dagar J., Tewari V. (eds) Agroforestry. Springer, Singapore*

Wells, J., Crow, S., Meki, M., Kiniry, Carlos Sierra, J., **Youkhana, A.**, Carlson, K.M., Richardson, D. and Deem, L. (2017): Chapter 7: Maximizing Soil Carbon Sequestration: Assessing Barriers to Carbon Management in Cultivated Tropical Perennial Grass Systems. *In: Book Title: Recent Advances in Carbon Capture and Storage 2017:151-169.*

Refereed Journal Publications

Honda, H.D., **Youkhana, A.**, Idol, T., and Borthakur, D. (2022): A maceration treatment of leucaena foliage improves its nutritional value by reducing mimosine concentration. *Tropical Grasslands-Forrajés Tropicales* (2022) Vol. 10(1):1–14.
doi: [10.17138/TGFT\(10\)1-14](https://doi.org/10.17138/TGFT(10)1-14)

Crow, S., Wells, J.M., Sierra, C.A., **Youkhana, A.**, Ogoshi, R. M., Richardson, D., Glazer, C.T., Meki, M.N., and Kiniry, J. R (2020): Carbon flow through energycane agroecosystems established post-intensive agriculture. *Global Change Biology Bioenergy*, May 27, 2020.
<https://onlinelibrary.wiley.com/doi/abs/10.1111/gcbb.12713>

Idol, T. and **Youkhana, A.** (2020): A rapid visual estimation of fruits per lateral to predict coffee yield in Hawaii. *Agroforestry Systems* 94, 81-93.
<https://link.springer.com/article/10.1007%2Fs10457-019-00370-y>

Idol, T. and **Youkhana, A.** (2019): Vegetative and microprogenation of *Leucaena*. *Tropical Grasslands-Forrajés tropicales (Forrajés Tropicales)* 7(2): 87-95.
doi: <https://www.tandfonline.com/doi/full/10.1080/01904167.2016.1240188>

Morgan, T., **Youkhana, A.**, Turn, S., Ogoshi, R., and Garcia-Pérez, M. (2019): Review of Biomass Resources and Conversion Technologies for Alternative Jet Fuel Production in Hawai'i and Tropical Regions. *Energy & Fuel* 33, 4, 2699-2762.

Youkhana, A.H., Ogoshi, R.M., Kiniry, J.R., Meki, M.N. Nakahata, M.H., and Crow, S.E. (2017): Allometric models for predicting aboveground biomass and carbon stock of tropical perennial C₄ grasses in Hawaii. *Frontiers in Plant Science* 8:650.
<https://www.frontiersin.org/articles/10.3389/fpls.2017.00650/full>

Crow, S., Pawlowski, M., Meki, M.N., Kiniry, J.R., Taylor, A., Ogoshi, R., **Youkhana, A.**, and Nakahata, M. (2017): How can we make biofuels more climates friendly? *Environmental Science Journal for Teens*, Nov 2017:1-4. <http://www.sciencejournalforkids.org/>

Meki, M.N., Ogoshi, R.M., Kiniry, J.M., Crow, S.E., **Youkhana, A.H.**, Nakahata, M.H., and

- Littlejohn, K. (2017): Performance evaluation of biomass sorghum in Hawaii and Texas. *Industrial Crops & Products* 103: 257-266.
- Pawlowski, M. N., Crow, S., Meki, M. N., Kiniry, J. R., Taylor, A., Ogoshi, R., **Youkhana, A.**, and Nakahata, M. (2017): Field-Based Estimates of Global Warming Potential in Bioenergy Systems of Hawaii: Crop Choice and Deficit Irrigation. *PLoS ONE* 12(1): e0168510.
- Youkhana, A.** and Idol, T. (2016): *Leucaena* mulch addition increase growth, yield and soil C and N in a managed full-sun coffee system in Hawaii. *Agroforestry Systems* 90 (2): 325-337.
- Meki, M., Kiniry, J., **Youkhana, A.**, Crow, S., Ogoshi, R. and Nakahata, M. (2015): Two-year growth cycle sugarcane crop parameter attributes and their application in modeling. *Agronomy Journal* 107(4): 1310-1320.
- Youkhana, A.** and Habte, M. (2011): Evaluation of controlled-release fertilizer and arbuscular mycorrhizae inoculation for the production of *Leucaena leucocephala* container seedlings in a soil-based medium. *Journal of Pacific Agriculture and Natural Resource* 3:1-7.
- Youkhana, A.** and Idol, T. (2011): Allometric models for predicting aboveground and belowground biomass and carbon sequestration of *Leucaena-KX₂* in shaded coffee agroecosystems in Hawaii. *Agroforestry Systems* 83: 331-345.
- Youkhana, A.** and Idol, T. (2011): Addition of *Leucaena-KX₂* mulch in a shaded coffee agroforestry system increases both stable and labile soil C fractions. *Soil Biology and Biochemistry* 43: 961-966. [doi:10.1016/j.soilbio.2011.01.011](https://doi.org/10.1016/j.soilbio.2011.01.011)
- Youkhana, A.** and Idol, T. (2010): Growth, yield and value of a managed coffee agroecosystem in Hawaii. *Pacific Agriculture and Natural Resources* 2: 12-19.
- Youkhana, A.** and Idol, T. (2009): Tree pruning mulch increases soil C and N in a shaded coffee agroecosystem in Hawaii. *Soil Biology and Biochemistry* 41(12): 2527-2534. <http://dx.doi.org/10.1016/j.soilbio.2009.09.011>
- Idol, T.W. and **Youkhana, A.** (2009): Managing shade trees for coffee can benefit the soil. Hanai'Ai/The Food Provider, December. The CTAHR Sustainable and Organic Agriculture Program. <http://www.ctahr.hawaii.edu/sustainag/news/>
- Youkhana, A.** & Idol, T. (2008): First-year biomass production and soil improvement in young *Leucaena* and *Robinia* stands under different pollarding systems. *Journal of Tropical Forest Science* 20(3): 181-187.

Grant Support

Title of Grant: Hawaii- Iraq partnership for revitalizing Agricultural Higher Education And Development (AHEAD)

Source of Grant: USAID

Total Dollar Value (Your share of the grant value): \$3,770,724.00

Dates of Grant: September 2003- December 2005

Role: Member of the AHEAD Advisory Committee and Primary Field Liaison with the University of Mosul College of Agriculture and Forestry.

Presentations at Conferences

Title: The Potential of Seedless Leucaena Hybrids for Silvopasture Systems in the Tropics and Subtropics of the US

Authors (put an asterisk on the presenter): Idol, T., Youkhana, A., Santiago, RP.

Name of Conference: Society of American Foresters National Convention

Location: Baltimore, MD

Date of Presentation: September 20-24, 2022

Title: Vegetative and Micropropagation of Leucaena

Authors (put an asterisk on the presenter): Idol, T., Youkhana, A., Santiago, RP.

Name of Conference: International Leucaena Conference

Location: Brisbane, Australia

Date of Presentation: November 01-03, 2018

Title: Soil C and N in a shade coffee agroecosystem in Hawaii

Authors (put an asterisk on the presenter): Youkhana, A., Idol, T.,

Name of Conference: International Leucaena Conference

Location: Brisbane, Australia

Date of Presentation: October 2018 (Contributed poster)

Title: The impacts of tillage and irrigation on microbial communities and carbon dynamics in the rhizosphere of bioenergy feedstocks

Authors (put an asterisk on the presenter): Richardson, D., Youkhana A., J. Moore-Kucera, and S. E. Crow

Name of Conference: 29th Annual CTAHR and CoE Student Research Symposium

Location: University of Hawai'i at Mānoa

Date of Presentation: April 7-8, 2017 (awarded as: CTAHR MS Student Poster Presentation Award of Merit)

Title: Rhizosphere microbial community and activity of zero-tillage grasses cultivated for biofuel feedstock in Hawai'i

Authors (put an asterisk on the presenter): Richardson, D., S. E. Crow, Youkhana A. and M. Nakahata

Name of Conference: 28th Annual CTAHR and CoE Student Research Symposium

Location: University of Hawai'i at Mānoa

Date of Presentation: April 2016 (Contributed poster)

Title: Allometric models for predicting aboveground biomass, carbon and nitrogen stocks in potential biofuel crops in Hawaii

Authors (put an asterisk on the presenter): Youkhana, A., S. E. Crow, R. Ogoshi, J. R. Kiniry, M. N. Meki, D. Richardson, and M. Nakahata

Name of Conference: ASA, CSSA, and SSSA International Annual Meetings

Location: Minneapolis, MN

Date of Presentation: November 2015 (Contributed oral)

Title: Projecting global warming potential of production systems for tropical perennial C4 grasses cultivated for biofuel feedstock in Hawaii

Authors (put an asterisk on the presenter): Crow, S. E., M. N. Meki, J. Kiniry, R. Ogoshi, A. Youkhana, M. Pawlowski, and M. Nakahata

Name of Conference: ASA, CSSA, and SSSA International Annual Meetings

Location: Minneapolis, MN

Date of Presentation: November 2015 (Contributed poster)

Title: Root biomass and microbial response to irrigation deficit treatments in the rhizosphere of biofuel feedstock cultivation in Hawaii

Authors (put an asterisk on the presenter): Richardson, D., S. E. Crow, A. Youkhana, J. Moore-Kucera, R. Ogoshi, M. N. Meki, J. R. Kiniry, and M. Nakahata

Name of Conference: ASA, CSSA, and SSSA International Annual Meetings

Location: Minneapolis, MN

Date of Presentation: November 2015 (Contributed poster)

Title: Above- and belowground biomass and carbon dynamics under ratoon and plant crop practices for biofuel feedstock production in Hawaii

Authors (put an asterisk on the presenter): Youkhana, A., S. E. Crow, J. R. Kiniry, M. N. Meki, R. Ogoshi, and M. Nakahata

Name of Conference: ASA, CSSA, and SSSA International Annual Meetings

Location: Long Beach, CA

Date of Presentation: November 2014 (Contributed poster)

Title: Spatial and temporal distribution of soil moisture in drip irrigated tropical grasses grown in Hawaii

Authors (put an asterisk on the presenter): Kabalan, R., R. Ogoshi, and A. Youkhana

Name of Conference: ASA, CSSA, and SSSA International Annual Meetings

Location: Long Beach, CA

Date of Presentation: November 2014 (Contributed poster)

Title: Biomass yield response to temperature for three tropical grass species

Authors (put an asterisk on the presenter): Ogoshi, R., A. Youkhana, R. Kabalan, and M. Nakahata

Name of Conference: ASA, CSSA, and SSSA International Annual Meetings

Location: Long Beach, CA

Date of Presentation: November 2014 (Contributed poster)

Title: Belowground biomass and C dynamics in sugarcane and ratoon in generycane cultivated as biofuel production in Hawaii

Authors (put an asterisk on the presenter): Youkhana, A., S. E. Crow, J. R. Kiniry, M. N. Meki, R. Ogoshi, and M. Nakahata

Name of Conference: ASA, CSSA, and SSSA International Annual Meetings

Location: Tampa, FL

Date of Presentation: November 2013 (Contributed poster)

Title: Mulch addition increase growth, yield and soil C and N in a managed full-sun coffee system in Hawaii

Authors (put an asterisk on the presenter): Youkhana, A. and T. Idol

Name of Conference: ASA, CSSA, and SSSA International Annual Meetings

Location: Tampa, FL

Date of Presentation: November 2013 (Contributed poster)

Title: Key crop parameters for almanac modeling of high biomass energy sorghum growth and productivity

Authors (put an asterisk on the presenter): Meki, M. N., J. R. Kiniry, A. Youkhana, M. Nakahata, R. Ogoshi, and S. E. Crow

Name of Conference: ASA, CSSA, and SSSA International Annual Meetings

Location: Tampa, FL

Date of Presentation: November 2013 (Contributed oral)

Title: Nitrogen-fixing tree mulch increases labile and stable soil C fractions in an agroforestry system

Authors (put an asterisk on the presenter): Youkhana, A. and T. Idol

Name of Conference: ASA, CSSA, and SSSA International Annual Meetings

Location: Cincinnati, OH

Date of Presentation: October 2012 (Contributed poster)

Title: Parameterization of the almanac model to evaluate novel high biomass crops on Maui Island

Authors (put an asterisk on the presenter): Meki, M. N., J. R. Kiniry, A. Youkhana, M. Nakahata, S. E. Crow, and R. Ogoshi, and J. Steiner

Name of Conference: ASA, CSSA, and SSSA International Annual Meetings

Location: Cincinnati, OH

Date of Presentation: October 2012 (Contributed poster)

Title: Carbon sequestration in soil size fractions after the addition of Leucaena leucocephala-KX2 residues in shaded coffee agroecosystem in Hawaii

Authors (put an asterisk on the presenter): Youkhana, A. and T. Idol

Name of Conference: 22nd Annual CTAHR, Student Research Symposium

Location: University of Hawai'i at Mānoa

Date of Presentation: April 2010 (Contributed poster awarded as NREM best PhD student presentation)

Title: Biomass and soil carbon sequestration in Coffee-Leucaena agroforestry systems in Hawaii

Authors (put an asterisk on the presenter): Youkhana, A. and T. Idol

Name of Conference: Hawaii Conservation Conference

Location: Honolulu, HI

Date of Presentation: June 2009 (Contributed poster)

Title: Aboveground and belowground biomass and carbon sequestration in a shade coffee agroecosystem in Hawaii

Authors (put an asterisk on the presenter): Youkhana, A.

Name of Conference: 21st Annual CTAHR, Student Research Symposium

Location: University of Hawai'i at Mānoa

Date of Presentation: April 2009 (Contributed poster)

Title: Carbon sequestration and productivity of Coffee-Leucaena agroforestry systems in Hawaii

Authors (put an asterisk on the presenter): Youkhana, A. and T. Idol

Name of Conference: Bi-Regional NAFSA Conference (Association of International Educators, Region 1 and 12)

Location: Honolulu, HI

Date of Presentation: November 2008 (Oral)

Title: Tree pruning residues increase soil carbon and nitrogen in shade and full-sun coffee agroecosystems in Hawai'i. Session: U.S. Agriculture's role in soil carbon sequestration and greenhouse gas mitigation

Authors (put an asterisk on the presenter): Youkhana, A. and T. Idol

Name of Conference: Joint Annual Meeting, (GSA, SSSA, ASA, CSSA, GCAGS & HGS)

Location: Houston, TX

Date of Presentation: October 2008 (Contributed poster)

Title: Carbon cycle in coffee agroecosystems in Hawaii

Authors (put an asterisk on the presenter): Youkhana, A. and T. Idol

Name of Conference: Hawaii Conservation Conference

Location: Honolulu, HI

Date of Presentation: June 2008 (Contributed poster)

Title: Allometric models for estimating biomass and predicting carbon sequestration of Leucaena leucocephala plantation in Hawaii

Authors (put an asterisk on the presenter): Youkhana, A. and T. Idol

Name of Conference: 19th Annual CTAHR, Student Research Symposium

Location: University of Hawai'i at Mānoa

Date of Presentation: April 2007 (Contributed poster and awarded as NREM best PhD student poster presentation)

Title: Nutrient and soil improvement of two legume trees under two pollarding systems in Northern Iraq

Authors (put an asterisk on the presenter): Youkhana, A. and T. Idol

Name of Conference: 18th Annual CTAHR, Student Research Symposium

Location: University of Hawai'i at Mānoa

Date of Presentation: April 2006 (Contributed oral)