

Agroforestry Academy  
July 20-24, 2015  
Columbia, MO

### **Evaluation Report**

The University of Missouri Center for Agroforestry (UMCA) hosted its' 3<sup>rd</sup> annual Agroforestry Academy, July 20th - 24th, 2015, on the MU Campus and at a diversity of nearby farms that demonstrate agroforestry practices. Pre- and post-Academy surveys were completed by all trainees to help evaluate the impact of the week-long training.

During the Agroforestry Academy week, 24 trainees spent Monday through Friday 8am-12pm on-campus in the classroom for presentations given by specialist professionals in key focus areas of agroforestry. A relaxing campus lunch followed each morning's classroom presentations. From ~1-6pm each day, the group traveled to nearby farms to learn from landowners who are currently practicing agroforestry. The group returned to campus for dinner each day, which enabled further discussion and collaboration. All trainees also participated in a case study agroforestry design plan, presented in small groups to the case study farm landowner at the close of the week. Design groups met in the evenings to apply what they had learned each day to their case study plan. Compared to previous Agroforestry Academies which focused on "training the trainer" with natural resource education professionals, the 2015 Academy was organized to engage a greater number of farmer-landowners. In particular there was a special focus on providing agroforestry training to US military veteran farmers.

A Dropbox account has been established for the continued sharing of documentation of the week's presentations, as well as ongoing documentation of trainees' experiences in agroforestry. The Training Manual for Applied Agroforestry Practices 2015 Edition, and Handbook for Agroforestry Planning & Design, which were made available in print for Agroforestry Academy participants, are also available digitally on the Center for Agroforestry website.

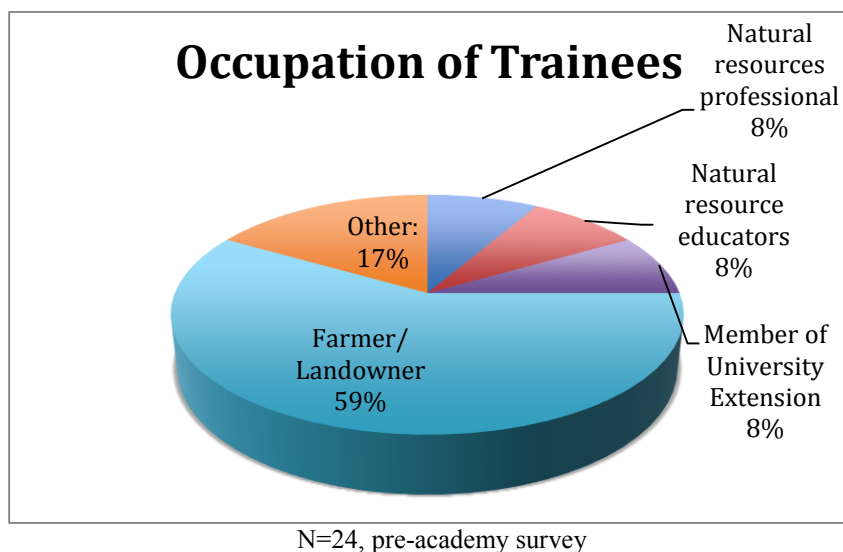
At the onset of the Academy, all participants were asked to complete a survey designed to assess their motivation to participate and their level of perceived knowledge in the topics scheduled for presentation during the week. At the end of the final day of the Academy, a second survey was administered to assess overall reaction to the content and organization of the Academy, perceived change in knowledge of agroforestry practices, and future interests, opportunities, and barriers to agroforestry adoption.

Objectives of the evaluation surveys are to:

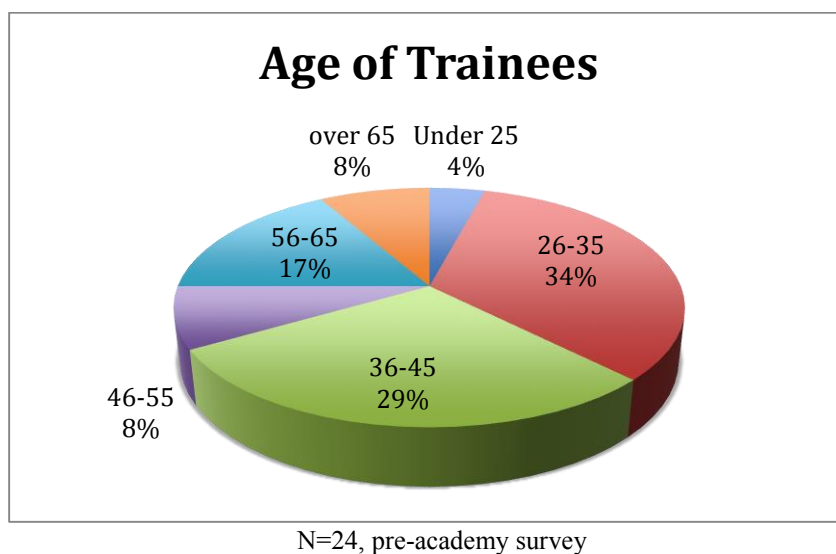
1. Document the demographic characteristics of the Agroforestry Academy trainees,
2. Identify participants' motivation to attend the Academy,
3. Evaluate participants' reaction to the content and organization of the Academy,
4. Assess the perceived level of knowledge before the Academy related to specific topics and compare this with the level of knowledge after the Academy in order to estimate the perceived gain,
5. Obtain suggestions that will help better organize similar events in the future,
6. Obtain participants' input related to the implementation of agroforestry practices (e.g. drivers and barriers for agroforestry adoption, training and assistance needs).
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## Objective 1: Document the demographic characteristics of the Agroforestry Academy trainees.

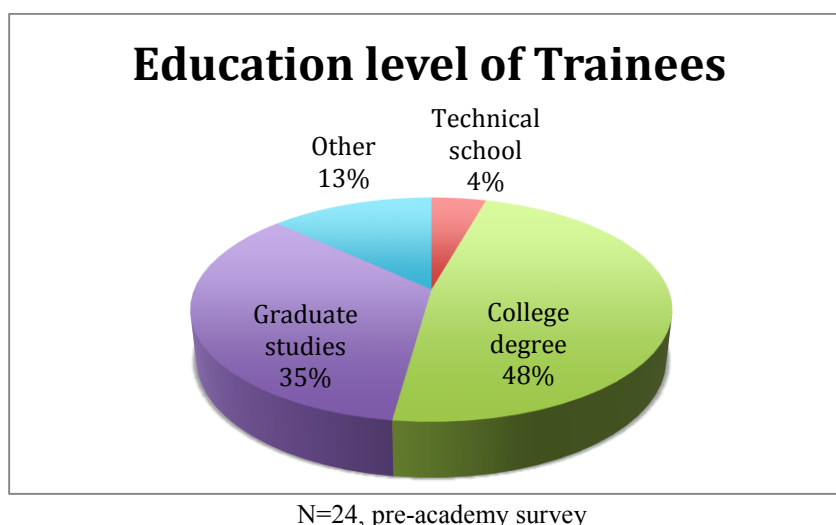
The July 2015 Agroforestry Academy attracted 24 trainees: natural resource professionals (8%), natural resource educators (8%), members of University Extension (8%), farmers/ landowners (59%), and other (17%) from 10 states and 1 province of Canada: MO (12), KS (3), IL (2), CO (1), OR (1), IN (1), IA (1), MI (1), CT (1), CA (1), ON (1).



The demographic characteristics of the trainees, based on the surveys collected at the beginning of the program are represented as follows: 4% of respondents were younger than 25, 34% between 26 and 35 years old, 29% between 36 and 45 years old, 8% between 46 and 55 years old, 17% between 56 and 65 years old, and 8% over 65 years old. This shows a relatively diverse age range compared with past agroforestry academies, which were weighted more heavily in the 26-35 year old range (48% in 2013).

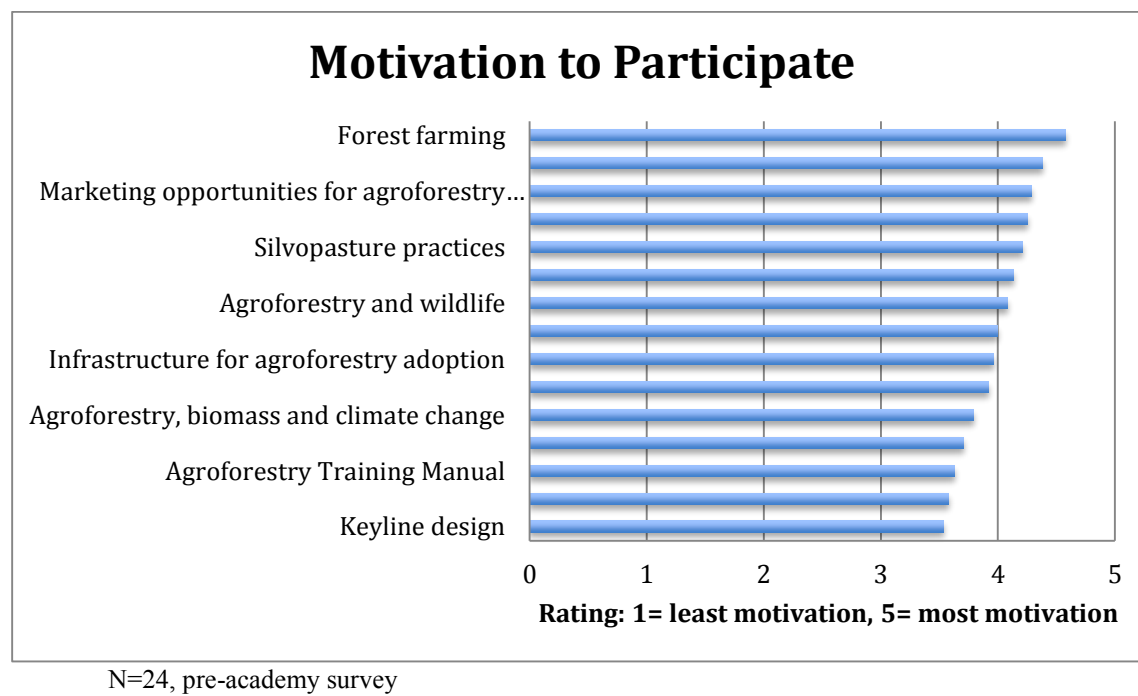


4% of respondents attended a technical school, 48% held a college degree, 35% completed a graduate degree, and 13% stated an "other" education not listed. At the 2013 academy, 61% of participants held graduate degrees, again reflecting a more diverse landowner demographic in 2015.



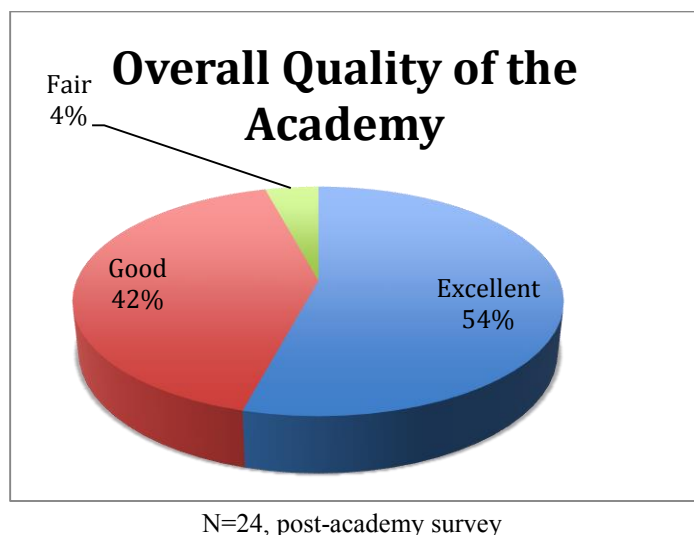
#### Objective 2: Identify participants' motivation to attend the Academy.

In the pre-academy survey, 83% of participants were strongly motivated to participate by the topics to be presented. Location, speakers, and organizers of the Academy were ranked as somewhat influential in motivation to attend. Of the topics scheduled, forest farming drew the most appeal. Farm visits, marketing opportunities, and financial tools also ranked high as motivation to participate. Keyline design was rated lowest overall, however some respondents remarked on their surveys that they were not already familiar with the topic, and others who were presumably more familiar with keyline design, noted that it was a very strong motivation to participate.



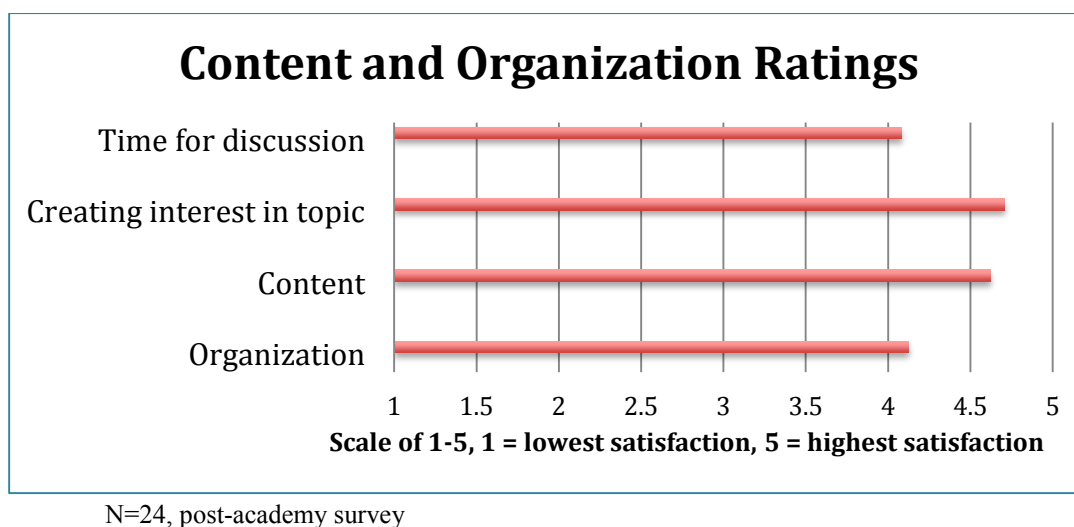
### Objective 3: Evaluate participants' reaction to the content and organization of the Academy.

Overall, trainees expressed that they were very satisfied with the program. 54% of respondents rated the quality of the Academy as "Excellent", 42% rated the Academy "Good", and 4% rated the Academy "Fair". The average rating on a scale of 1 (unsatisfactory) to 5 (excellent) is 4.5.



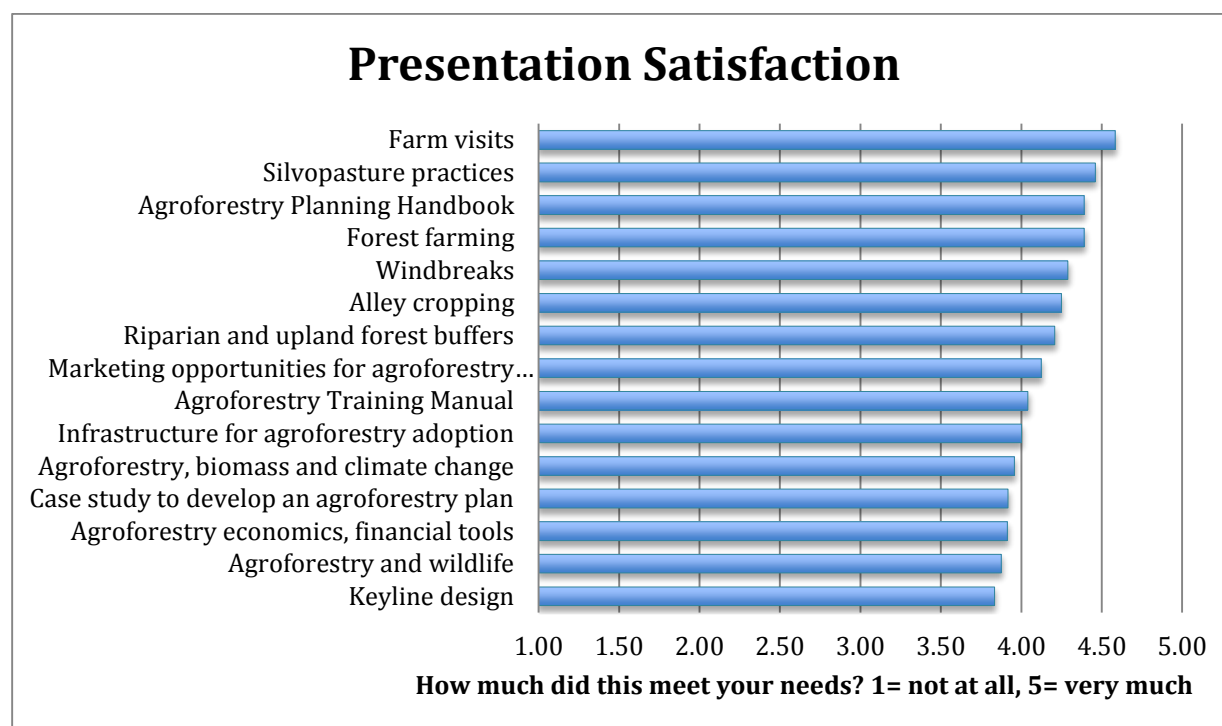
The post-academy survey also allowed trainees to rate essential aspects of the weeklong program. 75% of respondents gave a highest satisfaction score to the "creating interest in topic" aspect, while there appears to be some room for improvement in providing enough "time for discussion". Because there is such a large quantity of content to cover in 5 days, in order to free more time for discussion, some content may need to be removed in future Agroforestry Academies.

On a scale of 1 (lowest satisfaction) to 5 (highest satisfaction), creating interest in topic scored an average of 4.71, content scored an average of 4.63, organization scored an average of 4.13, and time for discussion scored an average of 4.08.



The post-academy survey asked trainees to rate how much each topic met their needs on a scale of 1 (not at all) to 5 (very much). Similar to past Agroforestry Academies, the farm visits (avg. rating 4.58) stand out as being very useful to participants' needs. The Agroforestry Planning Handbook is also rated well

(avg. rating 4.39). Among the presented topics, silvopasture practices (avg. rating 4.46), forest farming (avg. rating 4.39), windbreaks (avg. rating 4.29), alley cropping (avg. rating 4.25), and riparian and upland buffers (avg. rating 4.21) scored among the most useful to trainees.



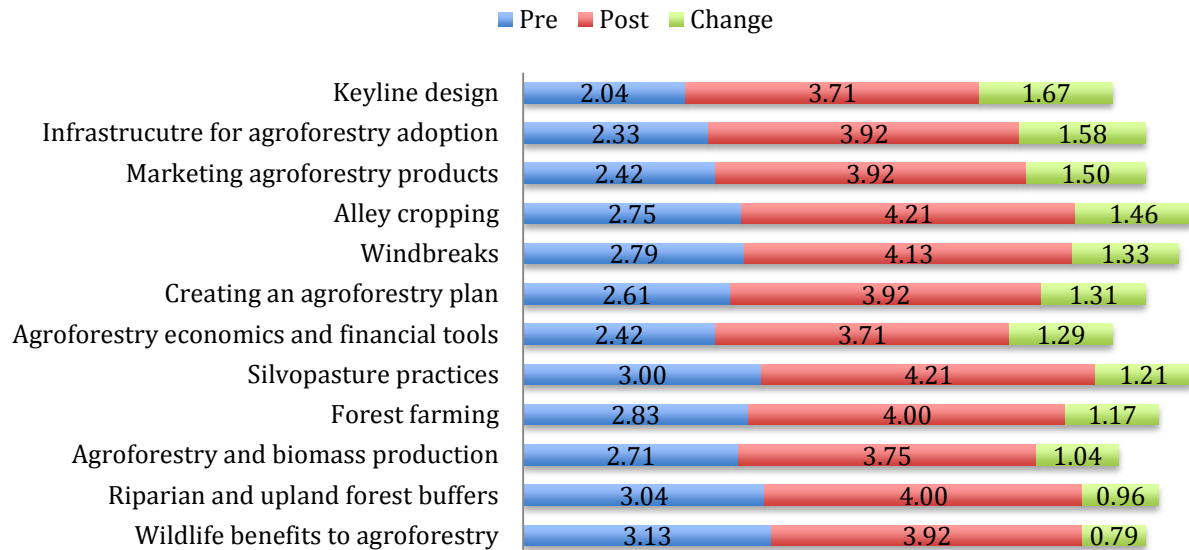
N=24, post-academy survey

**Objective 4: Assess the perceived level of knowledge before the Academy related to specific topics and compare this with the level of knowledge after the Academy in order to estimate the perceived gain.**

We estimated participants' perceived knowledge gain by comparing the stated level of knowledge of each trainee before and after the academy. Trainees rated their perceived knowledge on a scale of 1 to 5, where 1= nothing, 2= very little, 3= some, 4= quite a bit, and 5= a lot. Before the academy, participants' rating of their knowledge of agroforestry topics ranged from 2.04 - 3.13, whereas after the academy, knowledge ratings ranged from 3.71 - 4.21. Averages of the group's knowledge before, after, and amount gained are presented here.

A significant gain in knowledge was achieved for every topic presented. 100% of participants also answered that they "gained information about agroforestry practices" in the post-academy survey. 96% of participants responded that they "gained motivation to disseminate information about agroforestry practices" and "gained resource materials I can use". 88% of respondents answered that they "gained motivation to continue learning about agroforestry practices" and "gained motivation to get my organization more involved in agroforestry" according to the post-academy survey.

## Participants' Perceived Change in Knowledge



N=24, post-academy survey and pre-academy survey

### Objective 5: Obtain suggestions that will help better organize similar events in the future.

The Center for Agroforestry intends to continue hosting annual Agroforestry Academies, and the information we gain from survey evaluations aids in the ongoing improvement of these intensive programs. The post-academy survey asked a series of questions regarding how the content and organization of the academy could be improved.

#### "What wasn't covered in this academy that you expected?"

- ✓ *Aquaculture*
- ✓ *Agroforestry planning and design process; Economic/ Market Feasibility of varied agroforestry practices; keyline design seemed to be an afterthought*
- ✓ *More comprehensive hands-on practice*
- ✓ *More technical aspects of Ag forestry practice*
- ✓ *More clarity on keyline design*
- ✓ *I would have liked more keyline design*
- ✓ *More detail on tree species and cultivars. I love data, give me all the data you can.*
- ✓ *More information about forest farming opportunities and markets*
- ✓ *This academy was well planned. It enhanced all the senses which create an environment for conducive learning*
- ✓ *Tree and plant guilds and how to match the trees to the conditions - I am not a forester*
- ✓ *More detailed info on permaculture needed*
- ✓ *More in depth keyline design talks*
- ✓ *It is all good - much packed into a week*
- ✓ *Windbreaks on farms?*

"Do you have any comments / recommendations regarding the content or organization of this academy that can help us in the organization of future events?"

- ✓ *I loved it! It was very well organized and the farm visits gave everyone a chance to see agroforestry practices in place.*
- ✓ *Mostly focused on the national agroforestry practices success stories and how international agroforestry practices can be incorporated and shared.*
- ✓ *"Dissertation Defenses" aren't very useful - keep the theory in the grad courses - focus on application.*
- ✓ *Transportation could be more organized to save time*
- ✓ *Form groups based on their areas of interest*
- ✓ *Would like a greater depth in content rather than just definitions, benefits and reasons to do agroforestry*
- ✓ *Map out routing to the farms better*
- ✓ *Timeline management was a problem. Maybe build more time for student discussion into your agenda.*
- ✓ *I really enjoyed the farm visits; I think they're an integral part of the academy.*
- ✓ *I really enjoyed the collaboration between students and sharing of ideas - continue to encourage discussion!*
- ✓ *It may be helpful in the future to have a mathematical component that explains how to calculate when planning agroforestry*
- ✓ *Better driving instructions - maybe have drivers visit the sites before the class goes - line up gas and bathroom stops.*
- ✓ *Very long days. Adjust to provide 2 classes at once, then shorten or change the Case Study time.*
- ✓ *Spend an entire day with Grant Schulz and Greg Judy. Marketing was good class. Hard to say topics were interesting but never had time for in depth looks.*
- ✓ *Well-balanced - classroom / field*
- ✓ *The case study while interesting, requires MORE TIME*
- ✓ *Visit windbreaks* ✓
- ✓ *Two weeks for course, a day break between each class day to rest and explore and think*

**Objective 6: Obtain participants' input related to the implementation of agroforestry practices (e.g. drivers and barriers for agroforestry adoption, training and assistance needs).**

What, in your opinion, still needs to be done to increase landowners' awareness, acceptance and adoption of agroforestry?

- ✓ *Outreach (covered at end of conference) of Profit models, and practices.*
- ✓ *Need to get the message into the mainstream as an integral and foundational element of every farm plan.*
- ✓ *More outreach and education*
- ✓ *The diverse knowledge on the environment and its impacts on the surrounding environment, sustainable maintenance of the biodiversity should be looked into.*
- ✓ *Maximize use of media to increase awareness of your programs*
- ✓ *Building relationships ("befriending") landowners!*
- ✓ *Education and awareness*
- ✓ *Incentive/ education benefits*
- ✓ *The fifth "P": profit* ✓
- ✓ *Content in publications would increase knowledge at the Center's existence*
- ✓ *Prove the economics of the practice and convince them of the need to be more sustainable.*



- ✓ *Government and University assistance in developing markets for agroforestry products and studying cultivars*
- ✓ *Need more people knocking on doors – e.g., Extension, make it more of a grassroots effort.*
- ✓ *Just get the info out there and the ones willing to learn new things will listen*
- ✓ *Agroforestry groups need to impress upon higher government officials the importance and need for adoption of agroforestry practices*
- ✓ *Unfortunately proven success, I believe if you can say, hey you need to spend less money on off farm inputs to increase profits, it can peak interest*
- ✓ *On-ground demos (broader out-of-state opportunity); Continue trainings for landowners/ professionals/ ag groups; grants for above*
- ✓ *I think a few standard designs for common land types and soils; and guidelines for planting/ management/ harvest/ markets as well as plant sources might be great templates to work off of, and would reduce entry barriers*
- ✓ *Education* ✓ ✓
- ✓ *Dissemination of agroforestry benefits*
- ✓ *Publicity and fun events that teach agroforestry to all ages*

What might be barriers or concerns standing in the way of landowners' awareness, acceptance and adoption of agroforestry?

- ✓ *Incentives and lack of incentives. Some people do not want to be tied to 10yrs and contracts with a government agency while others will only implement plans if there is a taxpayer handout*
- ✓ *Unwillingness to change and try something new; they have done it the same way their entire life and are reluctant to try new ideas.*
- ✓ *The transfer of property from grandfather and father along with agroforestry practices to their son's and grandson and unwillingness to adopt the change.*
- ✓ *Your capabilities aren't advertised by resources farmers view as "go to" like SWCD, NRCS, extension offices*
- ✓ *Lack of understanding/ lack of financial incentives*
- ✓ *Others around them are not practicing ag forestry; the time scale that ag forestry operates under (greater time to returns)*
- ✓ *Lack of understanding or need* ✓
- ✓ *Costs of tree establishment/protection might be too high for people already using fields for cattle production. They probably can't afford to cage each tree nor can they afford to not run cattle on the property*
- ✓ *Lack of knowledge and existing social norms. Agroforestry is not a "mainstream" thing yet, so many will be reluctant to adopt it.*
- ✓ *Limited markets for niche products, general skepticism of untested ideas*
- ✓ *Local and state agencies need to be more informed about agroforestry.*
- ✓ *"This is the way it's always been done" attitude. Funding- if there's a funding program for it people will try it*
- ✓ *Need to change the "norm" or mindset of the typical landowner to be more open to agroforestry concepts/ practices*
- ✓ *It is different and involves change and the time it takes to implement*
- ✓ *You named several in class - landowner culture (the way we've always done things); local professional awareness at various gov't offices; outreach*
- ✓ *Knowledge of what to plant, where, and how, and why/how does this benefit me and my land.*
- ✓ *Personal values* ✓ ✓
- ✓ *Skepticism over perceived benefits of AF; Not knowing how to adopt and practice AF; In many cases, not knowing what AF is.*



- ✓ Tradition, knowledge of old ways and equipment.
- ✓ Costs of practices and lack of comfort in trying something different or new.

What will it take for you and your organization or farm to increase participation in this effort?

- ✓ I will be implementing the practices on my farm as I am able to afford to do so.
- ✓ Sharing this knowledge with others using the materials I received at the academy.
- ✓ Make your programs known
- ✓ Meeting with local landowner/farmers, introducing agroforestry, involving local academia
- ✓ Already going to participate
- ✓ I am SOLD on it ✓
- ✓ I love the idea, I just can't afford the infrastructure
- ✓ We are pretty heavily invested at VersaLand but there are always financial barriers - taking land out of production - buying trees and planting them...
- ✓ Infrastructure improvements, capital projects, market research
- ✓ More workshops ✓
- ✓ I'm already doing it ✓
- ✓ Push from high government officials to participate
- ✓ For me some time and money. That said, this week aligned with many of my ag goals.
- ✓ It's already opening awareness for me for opportunities
- ✓ Knowledge, money, and land
- ✓ Help from NRCS and other gov. org. with funding and suitability studies of soil and environm area.
- ✓ E-mail and web advertising

What information, training or other assistance is needed?

- ✓ I look forward to having dept. personnel visit my property and consult a comprehensive plan.
- ✓ Practical knowledge on agroforestry with regard to the local environment.
- ✓ Consulting/ design assistance in the planning process.
- ✓ further detailed research into tree species
- ✓ Promotions to increase the trend
- ✓ Maybe a demonstration on actually planting trees or information about when/how to plant them
- ✓ More research on multifunctional, especially food trees and shrubs. Identify cultivars and production practices.
- ✓ Next step, developing a plan with my local NRCS agent
- ✓ The information in this workshop is helpful
- ✓ I need more info on the trees themselves and what maintenance is required and when for each situation
- ✓ Individual, more detailed class on each main practice/ topic
- ✓ More information about plants.
- ✓ Just continued time to continue to grow (balance between various obligations - work and home)
- ✓ The importance of diversity in agroforestry
- ✓ Extension workshops on AF, seminars to other universities and departments, tax incentives for AF practices

What barriers or concerns stand in the way of you and your organization or farm becoming more active in promoting agroforestry?

- ✓ *It is more a public/ social issue*
- ✓ *The only barriers are for implementation. Promoting is easy.*
- ✓ *none*
- ✓ *Less interaction with the agroforestry stakeholders*
- ✓ *Time and money.*
- ✓ *Lack of knowledge; tradition*
- ✓ *Funding, experience*
- ✓ *A working successful model*
- ✓ *none*
- ✓ *Time, we're waiting for systems to establish, then I think it'll sell itself.*
- ✓ *Concern about profitability of agroforestry products*
- ✓ *Money and time*
- ✓ *Honestly the connections to conventional strategies such as synthetic fertilizers and pest or herbicides*
- ✓ *Funding will have to be provided - local networks to spread awareness, on-the-ground demonstration projects*
- ✓ *None, if I had some money and land.*
- ✓ *none*
- ✓ *Only costs*

The information gathered from the 2015 pre- and post-academy surveys are an essential tool for the future success of Agroforestry Training Academies and for the continued education and adoption of agroforestry practices in North America.

In 2015, the University of Missouri Center for Agroforestry (UMCA) Agroforestry Training Academy prepared 24 trainees to be informed representatives of agroforestry benefits, and to be better prepared for implementing agroforestry practices on their own farms. Of these 24 participants, 9 were US military veterans who benefitted from a scholarship to attend.

As the network of agroforestry voices grows in the context of intensive trainings, we anticipate stronger connections between landowners and agencies, and an increased potential for support from agencies toward landowner adoption of agroforestry and other perennial land management practices.