



# echo news

Hope Against Hunger | volume 45 | issue 2



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David Erickson, President/CEO

***“...be ready to do whatever is good, to slander no one, to be peaceable and considerate, and to show true humility towards all men.”***

***Titus 3:1-1***

Dear Friends,

There's a LOT going on! As I previewed this issue of *ECHO News*, I came away with a fresh awareness of the many needs, challenges, and opportunities facing small-scale farming families – all of which give rise to many options and considerations. While it is great to have choices, making them (or not making them) entails risk. For most small-scale farming families, the margin for error is tiny, and the consequences are huge.

And so, it is incumbent on us that we do everything we can to improve the options and reduce the risks!

We need to listen well, understand their realities, honor their objectives, and offer appropriate and reliable solutions. Our capacity to do this effectively is enhanced by partnering with people like Mike Fennema, and thousands of others, whose hearts, heads, efforts, and passions are aligned with the people they are serving. In concert with them, our engagement can be more knowledgeable, thoughtful, and effective.

As we engage small-scale farming families, their communities, and development partners with humility and respect, we also reflect well the hope of the Gospel that extends from our present realities on to eternity. This is the fullness of *Hope against Hunger* that we hold forth as, with you, we serve women, men, and children around the world.

With gratitude,

A handwritten signature in black ink, appearing to read 'D. Erickson'.

David Erickson, President/CEO





ECHO exists to follow Jesus by reducing hunger and improving lives worldwide through partnerships that equip people with agricultural resources and skills.



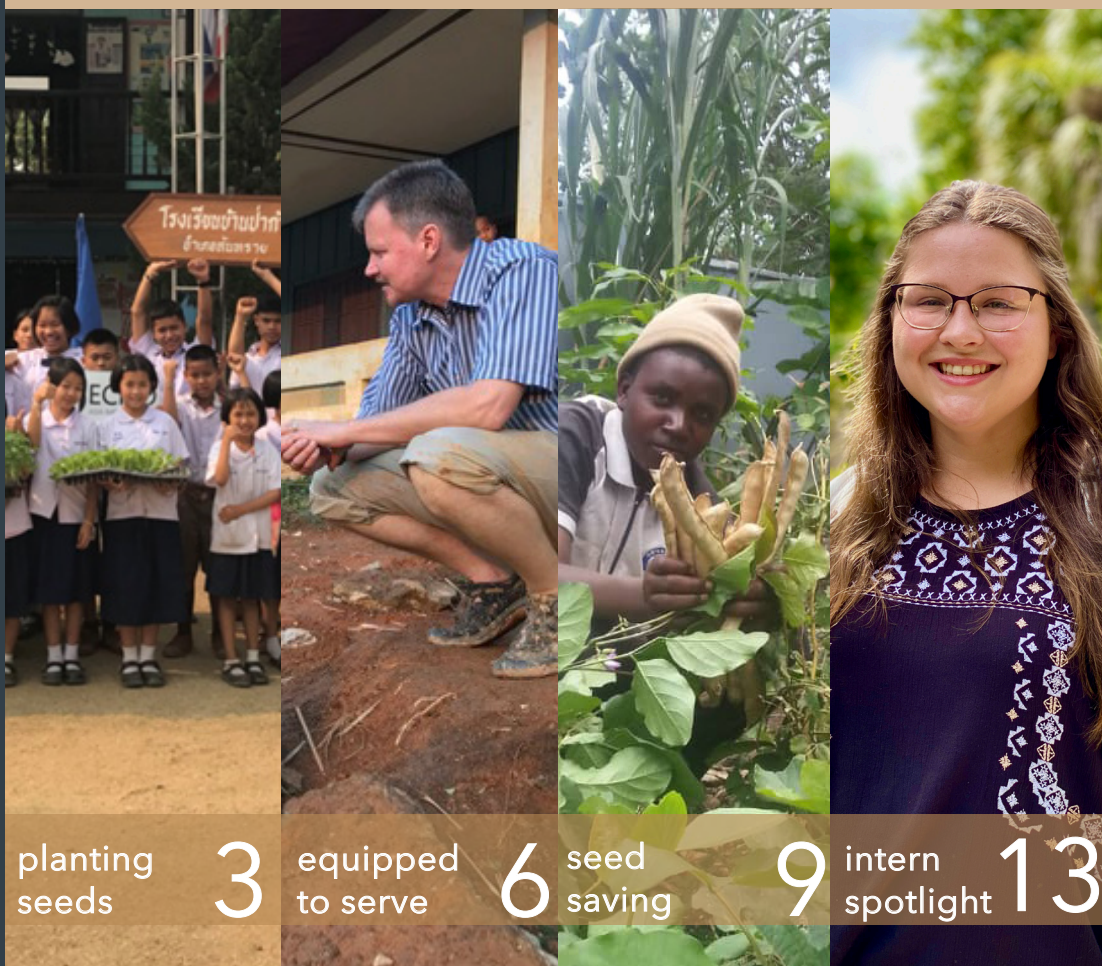
Cover photo:  
Hands-on training in Farm-Generated Feeds, April 2022. Trainees learned to make feeds from fermented banana stem, black soldier fly larvae and other low-cost, locally available materials.

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Please share your comments about *ECHO News*. Write: 17391 Durrance Road, North Fort Myers, Florida, 33917, e-mail: [info@echonet.org](mailto:info@echonet.org), or call: 239-543-3246.

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## First Intern Cohort Earns Graduate Certificate

The first cohort of ECHO Interns in the newly accredited program complete their program this month and receive Graduate Certificates in Tropical Agricultural Development.

Three of ECHO's first intern cohort will continue to serve with ECHO through our Impact Centers. Chrissy and John are headed to Thailand, while Grace will be serving with ECHO in Senegal.

Please join us in prayer for all of the interns as they leave ECHO Florida and begin this new chapter in their lives.

The next intern cohort will begin May, 31st, 2022. 🌱



ECHO's 2021  
Intern Cohort



# Planting Seeds of God's Love

By Soraya Keiser

*ECHO's Asia Impact Center teams up with local schools to provide seeds for students to grow vegetables and learn about Jesus. Patrick Trail, who works at the ECHO Asia Impact Center, recently described what a precious resource seeds are to the small-scale farmers, development workers and missionaries ECHO serves. "What I think is really amazing is that long after we are gone, those seeds are still there," he said. "Those literal seeds and, as we are diligent to share the gospel, those eternal seeds are there too."*

For many school children in rural Thailand, the Kid Farmers Club at school provides them with an introduction to God's love, a sense of purpose, and delicious fresh vegetables.

now have raised garden beds that students take care of from seed to harvest. While doing so, they continue to learn more about the Gospel.

When the world went into lockdown in early 2020 due to the COVID-19 pandemic, ECHO's Regional Impact Centers adapted their resources and training in order to continue serving with impact under COVID restrictions. During this time, when one missionary in rural northern Thailand reached out asking for seeds to create school gardens, ECHO was up for the task. Thus, the *Seeds of Hope* project was born.

Because of this project, which provided the seeds and the training needed to successfully grow vegetables, multiple schools in the area

"We want the children to learn from their direct experience of growing plants and relate this experience to their life," Khruu Lawan, a teacher at one of the participating Thai schools, said.

***"Every step of our journey and life, God is looking after us. Caring for tiny plants is a really beautiful example of how God cares for us."***

Each child in the Kid Farmers Club plays an integral role in the growing of the vegetables because they are involved in every step of the process.

Students germinate seeds in cups and transplant the sprouts into the raised beds. They also practice healthy watering, harvest their crop and maintain the soil afterwards before starting the process over again.



Right: PaKang Primary School Garden is now providing fresh foods for the children and their families

Below: Wachirawit High School students celebrate a visit by ECHO Asia Extension Coordinator Patrick Trail



"The students really love the connection between the care that God has for us, and the care that you put into growing plants," ECHO Asia's Office Manager Daniela Riley said. "Every step of our journey and life, God is looking after us. Caring for tiny plants is a really beautiful example of how God cares for us."

ECHO's Asia Impact Center in Chiang Mai plans to expand this project to involve even more schools

and create even more Kid Farmers Clubs. Thailand is more than 93% Buddhist, so these schools and clubs are often children's first introduction to the Gospel message.

Just like a small seed can become a large tree, the small act of sharing seeds can make a big impact in these student's lives. 🌱



# In Their Own Words: **Ruth Charles Kirimbai:**

*In 2018, ECHO was looking for collaborators to test biogas technologies in Tanzanian homes. Ruth Charles Kirimbai was a willing innovator, eager to try a digester on her farm. Four years have passed since her biogas system was installed. In March 2022, the ECHO team visited her and learned about her experience in using the biogas system.*

“I have known about ECHO since 2018 when your team visited me for the first time to help me install this digester. I’m a farmer and for many years I was mainly using firewood, charcoal, and LPG gas for my domestic cooking.

From the time we installed this biogas system it has become my main source of energy for domestic cooking. Very rarely I use other sources of energy. I’m not good in keeping records but I see it has saved me money. It keeps my compound clean, and it is easy to use.

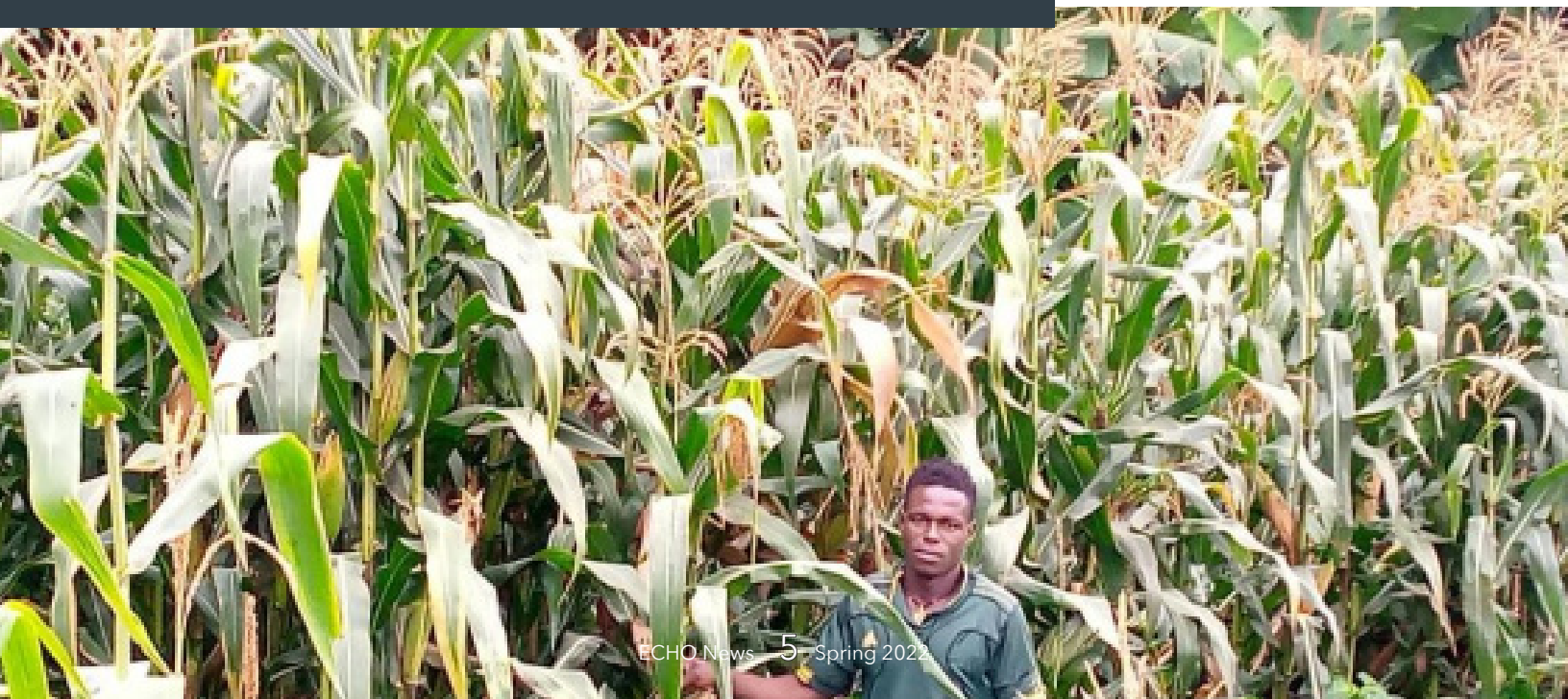
When we were installing the system, I didn’t know that it would last so long. This is the fourth year since it was installed. My bio-digester is still perfect, and it has been giving me more benefits as the time goes.

Following your training, we have been applying bio-slurry from the digester to our farm. We are seeing great changes. Our plants are healthy.

Our neighbors and friends have been visiting us and seeing our bio-digester. We are giving them information about how we benefit from the system, and many are interested.

The most exciting thing is realizing that I have a cheap source of energy which is readily available anytime and for many years. Thank you very much for introducing this technology to us and may GOD bless you.” 🌍

**A neighbor stands in Ruth’s cornfield showing the effect of bioslurry on plant health and yield.**





# Equipped to Serve

By Makenzi Johnson

*Past ECHO intern, Mike Fennema, reflects on his year spent working on the ECHO Florida farm and how that has influenced the past 30 years of his life and his work.*

Growing up on a dairy farm in Canada, Mike Fennema's father had hoped he would take over the farm one day, but the lifelong calling to serve others sent him in a different direction.

"God had always put it on my heart to be involved in development work overseas," Fennema said.

While studying temperate agriculture at Dordt University in Iowa, a staff member from ECHO came to speak at the university. Fennema was immediately interested in learning more about an organization that was combining agriculture and missions. The desire to be involved in what ECHO was doing grew after speaking with the staff member. In 1990, Fennema became the first Canadian to ever intern at ECHO Global Demonstration and Research Farm in Florida.

When he arrived at ECHO Florida, Fennema did not have a lot of experience with tropical agriculture. The process of learning how to work in this new environment was foreign yet exciting.

"One of the most important things of my time at ECHO was getting a deeper understanding of tropical agriculture," Fennema said. "It was a good experience of getting exposure to a wide variety of innovations."

In addition to the knowledge of tropical agriculture, the connections and relationships built were an influential

legacy of his year with ECHO. For years, ECHO has helped farmers all over the world by answering the agricultural questions that they submit. It wasn't until after leaving ECHO that he fully realized just how important those connections are... and would be for years to come.

***"God had always put it on my heart to be involved in development work overseas"***

Fennema began to work with World Renew, an organization dedicated to ending global poverty. Upon meeting his colleagues, one of the names sounded familiar: Tom Post. Fennema realized that Post was someone who had submitted a question he and other ECHO colleagues had answered. Now years later, Post was Fennema's boss.

"It was one of those full circle moments," Fennema said. "A reminder that one of the really neat things about working with ECHO is being exposed to such a wide variety of different people, working and doing different things with agriculture around the world."

Fennema continues to put his heart into what God has called him to do. He will always be grateful for the experience he gained in tropical agriculture and the connections made with people all over the world because of ECHO. 🌱

**Since his ECHO internship, Fennema has served for more than 30 years with farming families around the world.**





# what's happening



Bernadette Thibodeau, four years old, paints a pinecone to create long-lasting "upcycled" zinnia craft flowers at ECHO's Global Food and Farm Festival in March.

#echofightshunger



Follow us on Instagram for pictures of ECHO's work all around the world. #echofightshunger



Trainees at ECHO Asia's Biosand Water Filtration Workshop gather fuel for the biochar kiln. Biochar acts as a low-cost alternative for activated charcoal and is responsible for removing chemical contaminants. This technology can treat 300-liters of water per day without using electricity.

## Surplus Biogas for Sale



A partner organization recently invented a valve which allows biogas above the specified pressure to be released to a surplus bag. In March, the ECHO East Africa team installed 4 in the community for testing.



# g at ECHO



## Compost in Zai Holes

At a Bible School in Benin, West Africa, 310 pastors and student pastors gathered to hear from an ECHO team about bio-pesticides, compost, and methods to improve their field crops. Hands-on lessons and Biblical connections made the content easy to retain and share in their home villages and future communities.

## Learning While Doing



Interns at ECHO East Africa learn while contributing to seedling production and garden management in Tanzania.



## On-Farm Feeds Training

A training in Southeast Asia shared techniques to produce animal feeds from on-farm resources. Eager to participate, a son is lifted up by his father to see as they prepared banana stalk silage and various chicken feeds.



# Seed Saving: Not Just a Tradition

By Makenzi Johnson

In 1981, Dr. Martin Price saw that there was a lack of access to seeds of underutilized tropical food plants, a need that was already felt all over the world by small-scale farmers. To meet this need, the first ECHO Seed Bank was born. Forty years later, providing seeds of underutilized and neglected crops to small-scale farmers, development workers, and missionaries has remained one of ECHO's main priorities.

What started as a humble collection of seeds on ECHO's campus in Florida, has grown into a worldwide source of impact.

The first intern Dr. Price selected after he arrived at ECHO was Elise Hansen Tripp. She shared the bottom floor of an A-frame house with an office and a start at a collection of relevant books. Seeds that were little known at the time were collected and grown on the original five-acre property. Dr. Price, his wife Bonnie, and Tripp started storing seeds in Tripp's refrigerator, which was the first Seed Bank. Only the three of them were there to sort and store the first varieties of seed by hand, but they made it work.

"I remember harvesting the seeds and putting them into envelopes," Tripp said. "We talked about how to store seeds well, and that 'we're going to need some seed storage in the future.'"

In the late 1990s, the Seed Bank was growing to be too large for the refrigerator in the A-frame. A donation made it possible for ECHO to receive a larger capacity refrigerated storage container to properly house the seeds.

A climate-controlled area is one of the factors in storage that help best preserve the thousands of seeds ECHO holds. Other factors include pest control, appropriate containers, and annual germination testing. ECHO's storage facilities are kept at 45 degrees Fahrenheit with 45% humidity, airtight containers are used for the storage of seeds, and germination testing is done annually to determine if a specific batch of seeds is still able to be used and sent out.

In 2002, ECHO purchased a neighboring property and acquired the garage that has now become the Seed Bank. The storage container was attached to the garage, making space for seed packaging and offices.

Forty years from the first Seed Bank, staff and volunteers are still sorting seeds by hand to carefully preserve, package, and send them out throughout the world. A large walk-in refrigerator, a processing and packing room, and more office space allow for ECHO to do more with seed banking training, dozens of volunteer sorters, and germination testing.

ECHO now also has regional seed banks which act as genetic banks for many varieties of underutilized seeds, depending on what seeds are appropriate for the geographical

***"People have received one seed packet of moringa with just ten seeds, and that crop spreads throughout the community just from the one seed packet... it's a small thing that has a huge impact."***



**Left: The refrigerated storage container that housed the seed bank for more than a decade.**



area. Each year, development workers can request ten packets of seeds for free. The ten packets help farmers test out the various crops, and those seeds bring substantial change.

"People have received one seed packet of moringa with just ten seeds, and that crop spreads throughout the community just from the one seed packet... it's a small thing that has a huge impact," Holly Sobetski, ECHO's Florida Seed Bank manager, said.

Seed saving is taught so farmers can store their own seeds while being able to control pests and increase the viability of their seeds for future planting seasons.

"We want them to be self-sufficient and sustainable," Sobetski said, "as much as we can teach people how to do this on their own, it's going to help them."

ECHO seed banks have been around for 40 years and have grown to meet the needs of those it serves. Across cultures and continents the mission and goal of the seed banks have remained the same – to preserve seeds of underutilized crops for the benefit of small-scale farmers.

With improved seed saving, a farmer can improve their health and nutrition, increase their profit at the market, and ultimately increase their livelihood for years to come. 🌱

**Top to Bottom: The Swedish Ambassador to Tanzania visits ECHO East Africa Seed Bank; Volunteers in Thailand sort seeds by hand to assist the ECHO Asia Seed Bank as they provide seeds across the Region; Canavalia seeds provided by ECHO grow well in Tanzania, can contribute to soil health as a cover crop, and are edible as young pods; ECHO Staff members Stacy Swartz and Holly Sobetski share hundreds of seed bundles at the ECHO International Agricultural Conference in Florida each year.**





# Meet the Hard Working Animals of ECHO Florida

By Josh Eller & Hawken Sawyer

*If it has been a while since you visited the ECHO Global Farm in Florida, you may not have met our local residents and “workhorses”. Animals are integral to small-scale farming systems worldwide and help interns gain valuable husbandry experience at ECHO Florida.*

ECHO evaluates and shares how each of the animals on the farm can be useful to small scale farmers around the world. One easy way to think about their uses is with the Five M’s: Milk, Money, Muscle, Meat, and Manure.

## MEET JUSTINE!

Justine is a turken and lives in the monsoon area of the farm. She likes to lay eggs alongside her friends in the coop.

Turkens or naked neck chickens are a breed of chicken that have featherless necks and overall have about half the feathers of other chickens. They are well suited to hot climates as they place more energy into producing eggs and meat rather than producing feathers.

Turkens can be used for meat, but that isn’t their primary purpose on the farm. They are a steady source of eggs, manure, and muscle in the form of weeding and tilling.

## MEET BEATRICE!

She looks and acts just like her fellow ducks so she can be hard to distinguish. Beatrice doesn’t enjoy being held and will run to avoid people, swimming with her flock to the other end of the lake.

Ducks, like turkens, lay eggs that can be eaten or sold by small-scale farmers.

Ducks can also be used for meat but this isn’t their main use on the farm. Instead, they help sustain the life of the pond by providing manure that feeds the algae and aquatic plants the tilapia eat. When they aren’t roaming free at the pond, they are kept in an enclosure above the water where their valuable manure is washed into the pond below.

Helping farmers to create these sustainable systems is an important aspect of ECHO’s training and equipping mission. Our ducks give the interns and other trainees experience in creating and maintaining these beneficial systems.





## MEET THE TILAPIA

Tilapia serve as a vital part ECHO's pond demonstration. The fish can be harvested throughout the year providing small-scale farming families with essential nutrition.

The fish share a pond with the ducks. Duck manure naturally fertilizes the tilapia's main source of food: a small plant called phytoplankton. This system provides a home to ducks, plants, beneficial microbes and the tilapia!

Tilapia can handle temperatures ranging from 55 to 100 degrees Fahrenheit, making them versatile for international applications of harvest and hydroponic gardening. They also require less oxygen than other species of fish – allowing them to better function in these systems.

## MEET COOKIE

She is one of the two moms in ECHO's herd of Nigerian dwarf goats and is due to give birth any day now! If you hear a goat snorting happily while she munches on forage, it is most likely our Cookie.

All five goats at ECHO have names and distinct personalities. Besides Cookie there is Rosy, Curry, Cabo and Fez. The youngest member, Curry, was born in early 2021.

The goats are free to graze on the grasses and weeds in three enclosed pastures at ECHO. The intern in charge of the goats supplements their diets with a small amount of grain and lots of freshly chopped forage.

Goats provide constant and direct fertilization to the earth as they help manage the grass and weeds. Thanks to the high quality of their milk and the protein from their meat, they are useful for small-scale farmers to keep or sell as a source of income.

Whether fish, bovid, or fowl, the wonderful animals at ECHO are helping ECHO to train and equip families all around the world. You can help too! To share animal husbandry techniques



with missionaries or development workers that you know around the world, visit <http://www.echocommunity.org> and search "small animal production resources." 🌐

**Opposite Left:** Justine the Turken perches inside of our locally made chicken coop at ECHO Florida. Eggs are collected from nesting boxes morning and evening. **Opposite Right:** Beatrice and the other ducks at ECHO Florida roam the ponds during the day and gather in the coop at night.

**Above, top:** Cookie moves between her pasture and various protected areas of the farm. Cookie is due to give birth in Spring 2022. **Above, bottom:** Interns and staff manually pass a net across the pond to harvest tilapia each year.



# Intern Spotlight

## Grace Brinsfield

I'm Grace Brinsfield, the Monsoon intern. Agriculture has been an important part of my life growing up on a vegetable and grain farm in Maryland. I studied agronomy and soil science at the University of Maryland in College Park. Through Baptist Campus Ministries, I was able to do a two-month mission trip with other students to Cambodia.

With that first exposure to cross cultural ministry God was inviting me to be devoted to him rather than myself. I was teaching at an English school for Khmer children. The teachers and administrators used their platform to build relationships and share the Gospel in the community. This challenged me to care for others more holistically.

My time here at ECHO Florida has been marked by sweet friendship within the intern cohort, challenging conversations with people from

***"My time here at ECHO Florida has been marked by sweet friendship within the intern cohort, challenging conversations with people from different backgrounds, and great growth in how I relate to God and his people"***

different backgrounds, and great growth in how I relate to God and his people. On top of a busy farm schedule, I have been able to get involved with Chi Alpha, a campus ministry at Florida Gulf Coast University. The first semester was full of making relationships with those within the ministry and during the second semester I have been able to pray and share the gospel with students on campus.

Next, as I explore what ministry may look like for me, I will be going on a six-month field experience with ECHO in Senegal. During this time, I will assist with training events for local farmers, learn about how to repurpose waste streams and help set up a seed bank. Your prayers for this time would be greatly appreciated. Please pray that I could show the light of Jesus to the Wolof and Serer peoples. 🌍



farm-grown flowers



Grace Brinsfield, Monsoon Intern



rolling jab planter





# Extraordinary Plants: Tamarind

While bearing large quantities of delicious fruit, the tamarind still remains one of the lesser known tropical fruit trees in Florida.

While its origin is tropical Africa, many consider it indigenous to India due to its long heritage there. From India the tamarind traveled to the Persians and Arabs. There it was called "tamar hindi", meaning Indian date, because the ripe pulp appears similar to the date. From this term its species name, *Tamarindus indica*, was derived. Today the tamarind is naturalized throughout most subtropical and tropical regions including southern Florida.

This evergreen tree bears cinnamon-brown velvety bean-like pods. The pods are usually 3-6" long and 3/4" wide. Upon ripening, the pulp turns brown and the skin becomes brittle. As the pulp dehydrates in the pod it turns into a sticky paste and shrinks away from the shell.

The ripened fruit is eaten fresh and has a delightful tangy flavor. The pulp is commonly used in chutneys, curries, and sauces. Tamarindo is a refreshing drink made with ripened pulp, water and sugar. The fruit is high in calcium, iron, phosphorous, and vitamin B. In Florida, tamarind pods usually ripen between April and June.

Tamarind will grow in a wide variety of soil types but does poorly in waterlogged areas. Though slow-growing it can become impressively large, up to 50' tall with a spread of 35'. It is both drought and wind resistant. To learn more, call ECHO's Global Bookstore & Nursery at 239.567.3304 🌐

## Estate Plans *for those without an "estate"*

If you're like most Americans, having an estate plan isn't a top priority. According to a Gallup poll, only 46% of adults in the United States say they have a will. Even if you haven't accumulated physical wealth, an estate plan is a simple way to make your wishes known.

### 4 REASONS TO CREATE AN ESTATE PLAN

1. **Help your loved ones avoid probate and lower tax liability** - Using beneficiary designations and living trusts helps to minimize the lengthy probate process. If you fail to properly identify beneficiaries in an Estate Plan, you have no say in who gets what. Any assets that you gift to a charity such as ECHO can be excluded from your taxable estate, reducing the tax liability.
2. **Care for dependent children** - Instead of letting the courts decide for you, an estate plan allows you to name a future guardian for your dependent children.
3. **Prepare for future medical conditions** - If your health declines unexpectedly, and you haven't prepared an estate plan, your family will be asked to make decisions on your behalf. You can set up provisions in your plan to make sure your wishes about medical care are understood.
4. **Effectively communicate** - You can also use your estate plan to make sure everyone knows your final wishes. Do you want to be an organ donor? Knowing these wishes, your loved ones can easily honor your final intentions.

For questions on charitable gifts to ECHO, please call Glenn Hornbuckle at 239.567.3327 or email [ghornbuckle@echonet.org](mailto:ghornbuckle@echonet.org) 🌐

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# Pruning for Future Growth

In January, we practiced Farmer Managed Natural Regeneration (FMNR) on three Apple Ring Acacia trees here at our Florida campus.

This management process of selecting the strongest stems, and culling out the rest, allows for the tree's energy to be focused on growing those specific stems, leading to faster and straighter growth for poles or firewood. The prunings can then be fed to livestock as nutritious forage, used for mulch, and/or used to make thorny fences.

Cultivating 2, 3, or 4 stems demonstrates different management choices. Selecting for fewer stems leads to larger-sized wood harvested less frequently, while having more stems means harvesting smaller diameter wood more often.

FMNR helps regenerate a sustainable wood source for the small-scale farmer. Soil fertility is generally higher under these trees because they

fix nitrogen in partnership with microbes in the soil. They attract animals to their shade who in turn deposit their urine and manure to the field.

Documentation on FMNR is available on [ECHOcommunity.org](http://ECHOcommunity.org) in Spanish, French, Swahili, and Portuguese. 🌍



**Unpruned**



**4 Stems Selected**

**Intentional pruning can help farmers grow an ongoing source of firewood and building materials.**