



Students, faculty grow hemp plants for industrial project

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For the past six months, a team of graduate students, undergraduate students and faculty members have been growing hemp for a plant pathology study, working to improve crop production of industrial hemp plants.

Hannah Zima, a senior, has helped with the project since the beginning of this school year. Currently, she is shadowing different members of the team during their research as she continues her undergraduate studies.

“I’m excited about

this project because this is a new area of research for the university and Dr. Correll is super positive about the project,” Zima said. “I just want people to just understand that there’s more to marijuana than the THC content and that there’s so much more to this plant than just getting high.”

Once the second semester begins, Zima will begin to conduct her own research in greenhouse studies or molecular lab work.

Researchers for the hemp project include professor Jim Correll and his team Dr. Chunda Feng, Dr. Braham Dhillon, Dr. Bo Liu, Maria Villarroel-Zeballos, Pauline Ficheux and Hannah Zima.

“We breed for disease resistance, we look at different management practices to try to reduce the impact of diseases on agricultural production, in this case, hemp diseases,” Correll said. “It also involves plant breeding as well as developing varieties that are beneficial for production.”

Feng said they are trying to discover how to control the viruses and bacteria that contaminate the hemp in order to prevent economic loss for growers.

“Since this is a new crop (growers) have to get the hemp seeds from somewhere else, and the plants need to adapt to the environment,” Feng said. “That’s why we want to develop a crop that’s good for this environment and has the high CBD that growers are looking for.”

Growers are also looking for the bud in hemp plants, which contains a more concentrated level of CBD, Feng said. During the production of the hemp, UA researchers are attempting to separate male plants to prevent fertilization from occurring.

“If they get fertilized and produce seeds, the energy goes into seed production and not oil production,” Correll said. “So under commercial conditions, you only want to grow female plants.”

Correll said this problem occurs when buying a variety of hemp seeds from a company because it often can contain both male and female seeds. To prevent this from occurring, they are aiming to produce

molecular markers that can distinguish male and female plants at an early stage before production.

Feng said they have also used a chemical that acts as a plant hormone to reverse the sex of a female plant into a male plant.

Researchers are developing molecular tools to breed disease-resistant plants with oils that are beneficial to human health, Correll said.

The development of this project began in May after the Agriculture Improvement Act of 2018, also known as the farm bill, passed last year, Correll said.

The bill passed in the Senate Dec. 11, 2018, and in the House Dec. 12. Eight days later, the president signed it into law Dec. 20, 2018.

In the new Farm bill passed in 2018, section 7606 allows the growth of hemp for commercial uses under the supervision of the United States Department of Agriculture.

“Hemp is defined as the same plant but the THC level has to be below .3%. If it’s above .3% it’s considered cannabis and illegal, at least in Arkansas, unless it’s for medical purposes,” Correll said.

Different parts of hemp plants that are below the .3% THC level can be used for food, cosmetics, fabrics and therapeutic products, according to the Congressional Research Services.



Jay Webb Staff Photographer
Dr. Chunda Feng shows a leaf of one of the hemp plants being grown as part of a plant pathology study Oct. 24.



Jay Webb Staff Photographer
Professor Jim Correll (left), program associate Dr. Chunda Feng (middle) and technical assistant Pauline Ficheux stand with hemp plants that are being grown as part of a plant pathology study Oct. 24.



Jay Webb Staff Photographer
Students and faculty are growing hemp as part of an ongoing study of how to improve crop production of industrial hemp plants.

UA transgender student finds support

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Chris remembers telling a friend while playing on the playground in the third grade that he wished he could be a boy.

“They looked at me all weird and I was like ‘Nevermind. I’m not talking about that anymore.’ And then I just forgot about it,” said Chris, who is only identified by his first name because he has not come out to his mother.

Chris, now 18 and a freshman who lives on a girls’ floor in Holcombe Hall, has identified as a man for two years, he said.

Before his freshman year of high school, Chris told a few friends that he was questioning his gender identity, and they told him they just wanted him to feel comfortable.

“I was like, ‘Man, I want to feel this way every time someone talks to me.’ So I started telling other people,” Chris said. “And it ended up being okay.”

When Chris told his mom he was gay in 2014 and tried to come out as transgender in 2015, his mom’s reaction made him question his identity, he said.

In high school, Chris was careful about who he told about being transgender because his mom worked at his school, he said.

“It was really taxing mentally because I was like ‘Damn, I can be who I am, but not really.’ It’s like I have this big secret, and I feel like I’m doing something wrong,” Chris said.

All of Chris’s friends at the UofA have only ever known him as Chris, he said.

Sarah Quinomes, a freshman and Chris’s roommate, has known Chris since Quinomes’ sophomore year of high school, so living together felt natural, she said.

Quinomes thinks the people who live on Chris’s floor are accepting of him being transgender, she said.

Rooms are assigned based on the genders students indicate in the admissions process, Alisha Gilbride, associate director for administrative services, said in an email.

If a student wants to move to the floor of their preferred gender, they can fill out the Declaration of Gender Designation Change on the Office of the Registrar website.

Despite feeling comfortable living on his floor, Chris still struggles with being physically comfortable, especially when wearing a chest binder, he said.

Chris began wearing a chest binder in 2019 after his friend gave him one, so he would not have to wear two sports bras everyday, he said.

“Wearing

binders sucks,” Chris said. “I couldn’t wear it (Oct. 30) because I was going hiking with my friends. We walked six miles, and I would have actually passed out because it constricts respiratory function a little bit and I already have asthma.”

Wearing a chest binder can result in bruises, rib fractures, back pain or overheating, according to the National Center for Biotechnology Information.

Chris hopes to receive gender confirmation surgery and start hormone replacement therapy (HRT), he said.

To qualify for this surgery and start HRT, Chris said he has to go to a therapist that specializes in helping people understand their gender identity. Chris would have to talk to his mom about going to a therapist, and he is not ready to do that yet.

Although Chris feels accepted by his peers, he is still hurt when his mom refers to him using feminine pronouns, he said.

“I still kind of cry about it sometimes because she’ll refer to me as feminine things and I’ll just get really sad because I’m like, ‘I can’t be your perfect little daughter. I just can’t,’” he said.

Chris said that he is comfortable in who he is now and is happy that he can be himself while attending the UofA.

“I can’t sit here every night and cry myself to sleep because I can’t lie about who I am anymore,” Chris said. “And that’s why I told my mom, and then when she freaked out, it was just more confirmation that I was wrong in who I was. But I know different now. There’s nothing wrong with being who I am.”

NWA residents respond to eco-anxiety

Beth Dedman
Contributing Reporter

A volunteer with the Fayetteville Citizen’s Climate Lobby makes presentations to politicians, travels across the country and speaks to crowds about a solution for climate change. Despite all of this work, Keaton Smith still sometimes fears that his efforts will not be enough to maintain a world fit for his 2-year-old daughter’s future.

Many people, like Smith, are dealing with eco-anxiety, a term for the psychological impacts of the gradual change of the climate, such as weather patterns and rising sea levels, according to the American Psychological Association. Eco-anxiety can cause symptoms such as depression, anxiety, aggression, violence and feelings of helplessness, fear and fatalism.

Rachel Weber, a therapist with Ozark Guidance who also operates her own practice, thinks there can be many contributing factors to people’s fears, and dramatized information on the internet can increase anxieties, she said.

“I would help them explore where their anxiety is coming from,” Weber said. “Information that you can receive from the internet can increase anxiety because you don’t know what’s accurate, inaccurate, embellished and not embellished. That contributes to it.”

Chris Bolas, one of the speakers at the Fayetteville Citizen’s Climate Lobby meeting Oct. 9, is from the Republic of the Marshall Islands.

“I originally got involved because I saw how this issue affects my family,” Bolas said. “Every single person in my family can tell you how this issue would affect them and that just scares the s*** out of me.”

If global warming continues, the Marshall



Beth Dedman Contributing Reporter
Cora, Megan and Keaton Smith sit down for dinner in their home Nov. 5. All of the work the Smiths put into preventing climate change is for the sake of creating a better future for their daughter.

Islands, and other small island countries, are at risk of “increased saltwater intrusion, flooding and damage to infrastructure” caused by rising sea levels, according to the Intergovernmental Panel on Climate Change. This places the people of the Marshall Islands “at a disproportionately higher risk of adverse consequences with global warming of 1.5°C and beyond.”

Rachael Foster, who is majoring in nursing at the UofA, has lived with the negative effects of anxiety brought on by climate change, she said.

“The more you learn about it, the more you feel like there isn’t anything you can do about it,” Foster said.

To try to limit her own impact on carbon emissions, Foster began following a vegan diet in 2016. However, following such a strict diet increased Foster’s anxiety and developed into an eating disorder in 2017.

“I had a lot of pent up anxiety about the environment that I started to control food to another level that you shouldn’t,” Foster said. “I wound up having to go to treatment, and I realized that for me personally, I can’t be vegan without it putting my brain in a bad place.”

Foster thinks that finding other people and becoming more educated about climate change is a good step to coming to terms with eco-anxiety, she said.

Cameron Simpkins, the

founder of the non-profit organization Youth Guardians of Conservation NWA, tries to use her anxiety about climate change for good.

“Of course climate change makes me a little anxious,” Simpkins said. “I have ways of coping with that anxiety and one of those is making a point to come and support anything that is going on that is solution-oriented around this problem that is our Earth.”

While some people can experience these anxieties and turn them into fuel for positive change, eco-anxiety can be debilitating for others and can keep people from “properly addressing the core causes of and solutions for our changing climate, and from building and supporting psychological resiliency,” according to the APA.

“It is more important for those of us who aren’t in survival mode day-to-day to do what we can, even if that’s having a conversation or educating ourselves or educating someone else about how we can make things better,” Simpkins said.

The long timeline of this slow emergency and the global complex nature of it can make fighting climate change seem futile, but Smith would encourage people to fight their eco-anxiety by being a part of the solution, he said.

“Hope itself is a political act,” Smith said. “That is one crucial piece to motivating oneself to action.”



Elizabeth Green Photo Editor
Hundreds of people attended and participated in the NWA Pride festival and parade on Dickson Street on June 15.