

Conversation on How Ag Changes the Climate for the Better

By Julie Murphree, Arizona Farm Bureau Outreach Director

So, the national conversation is pivoting more intently to climate change. Granted some have been having the conversation more than others. And, in the broader conversation what I always find ironic is how few people outside agriculture realize farmers and ranchers have always had this conversation.

Yes, perhaps with a different slant, but you can't run into a farmer or rancher that doesn't track the weather and gauge how anticipated (or lack of) precipitation will impact his or her production for the year. To this day, my retired farmer dad daily records information from his digital weather station. Regarding rain, he can go back several years to report annual rainfall for a specific year.

As we continue the climate change conversation, I discovered Bruce A. Kimball, Ph.D., (Soil Physics major and Crop Physiology minor, 1970, Cornell University, Ithaca, NY.), retired Collaborator with U.S. Arid-Land Agricultural Research Center USDA-ARS in Maricopa, Arizona. He knows dad; they've had those broader conversations.

Though retired, he's currently vice president for the Greenleaf Group, a firm providing technical and scientific consulting services for clients. For most of Kimball's professional career, he's studied the effects of elevated CO2 concentrations on plant growth and water relations including assembling and analyzing the published literature on this topic, as well as the likely effects of global change on water resources. Initial warming improves crop yields, his research found and perhaps the reason Arizona grows such amazing crops.

Kimball led or co-led large cooperative multi-variate experiments using open-top chambers (OTC) and free-air CO2 enrichment (FACE) to expose field-grown crops to elevated CO2, including sour orange, cotton, wheat, and sorghum, all of this in Arizona. Besides his management role, he was responsible for the measurement of canopy microclimate, energy balance, and evapotranspiration. Kimball relates that dad, Pat Murphree, helped him with the FACE experiments.

And if you thought that was a lot, Kimball also established the feasibility of us-



Researcher Kimball is cautiously optimistic and concerned about what's happening with our climate. "Warming will be generally beneficial in present-day cool climates, but in warm climates where plants are now often growing at the upper ends of their optimum range, further warming will depress yields," he says.

ing arrays of infrared heaters to study the effects of global warming on open-field plots (T-FACE); led a 2-year Hot Serial Cereal experiment wherein wheat was serially planted every six weeks and exposed to infrared warming on some of the planting dates, thereby producing a dataset for wheat response to a huge range of natural and artificial temperatures under open-field conditions. He facilitated the use of the FACE and T-FACE data for validating crop growth models to extrapolate the knowledge gained to other locations and future times.

Most recently he helped other groups to start new T-FACE experiments to simulate global warming in various managed and natural ecosystems. He worked to improve aspects of plant growth models that involve canopy temperature, energy balance, and water use. This ongoing research helps develop strategies to adapt agricultural productivity in the U.S. and around the world to the increasing atmospheric CO2 concentration and associated global warming, and therefore it benefits to all consumers of food.

In our conversation below, we start with the basics moving to more in-depth questions as it relates to weather changes and future outlooks. Of note, there are solid scientists on each side of the climate change debate, Arizona Farm Bureau hopes to hear from all compelling and competing voices throughout the year.

Arizona Agriculture: Is there a difference between climate change and global warming and if so, what is it?

Kimball: To most people, I suspect there's not much difference. To me, an agricultural scientist studying the likely effects of the increasing atmospheric CO2 concentrations and warming on crop production, there are subtle differences. "Global warming" captures the increasing temperature and its world-wide extent. In contrast, "climate change", besides warming, captures changes in precipitation patterns, including changes in storm frequency and intensity.

I prefer the term "global change" because it implies all of the above, as well as the increasing atmospheric CO2 concentration, which has direct effects on plant growth in

See **CLIMATE** Page 2

Placing All the Right Bets

By Chelsea McGuire, Arizona Farm Bureau Government Relations Director

I've never been much of a gambler. Maybe it's my risk-averse personality, or maybe it's the fact that I've been an Arizona sports fan my entire life, which doesn't give me a lot of athletic events worth betting on. Either way, it's perhaps ironic that someone who isn't a fan of wagering on things beyond my control is now in a profession, a major part of which involves placing "bets" on the metaphorical horses running in a political campaign.

If we're comparing politics to horse racing, AgPAC of the Arizona Farm Bureau would be the right friend to take with you to the track. AgPAC's board of trustees puts each candidate running for statewide office in Arizona through a vetting process in which we interview candidates and analyze key votes, committee assignments, and leadership positions before deciding who is worthy of a contribution from our PAC. Of the 47 candidates to which Ag PAC contributed in 2020, 42 of them were successful in their races. (This includes several races that were geared as major long shots, such as Joel John's House race in LD4.) During the 2020 election cycle, three of our five Campaign Management Seminar participants were successful in their races for state legislative races and a town council seat. We are proud that we were able to place so many of the right bets this election cycle.

But of course, the resources we dedicate toward political candidates aren't bets – they're investments. Financial contributions to candidate committees help elect candidates who are well-versed in agricultural issues, dedicated to sound business policies, and committed to strengthening the agricultural industry. The time and resources that we spend hosting Campaign Management Seminars give candidates tangible tools to be successful in their campaigns, all while making Arizona Farm Bureau their go-to contact for political strategy and advice. And



See **BETS** Page 5

**in this
ISSUE**

We Won!
The Pinnacle is Ours
– Page 4

Policy is Set
AZFB Makes a
Difference – Page 4

A Time For Wine
Ongoing Series
Celebrating our
Centennial – Page 7

Climate *continued from page 1*

addition to the climatic effects. In my research, I have generally had a global perspective rather than focusing on Arizona, where the continuing urbanization indicates more interest in growing people than agricultural crops. That said, Arizona is a great place to do agricultural research because we experience a huge range in temperatures over which plants grow from a few freezes in winter to summertime temperatures that exceed what is projected for most of the Earth with global warming. Further, with our irrigation systems and little rain we have control of the water supply most of the time.

Arizona Agriculture: How are we able to know the greenhouse gas and temperature levels of the distant past?

Kimball: One way is that scientists have obtained long ice cores from ice sheets in Greenland and Antarctica that have an annual growth pattern related to seasonal changes in precipitation. There are bubbles encased within the ice cores that retain air from the time a particular layer was formed. By analyzing the air from these bubbles, a record of past CO₂ atmospheric concentrations was obtained. Further, the ratio between isotopes of oxygen in the bubbles gives a proxy for past temperatures.

Arizona Agriculture: What are the core disagreements between scientists on the climate issue?

Kimball: About 50 years ago, Earth was in a slight cooling trend, but then that turned around and began to rise. Thus, there were concerns about whether the warming trend was just a fluctuation or a real trend that would continue. However, it has continued, and the rate of rise is faster than historical fluctuations. Thus, there is no doubt now that global warming is real, but there are skeptics who yet question whether the warming is caused by man’s activities, especially the burning the fossil fuels. Besides the alarming rate of rise, the warming is consistent with projections from global climate models, so I think it is man-caused, and in any event, it is certainly prudent to presume so.

Arizona Agriculture: In Arizona, what’s the critical issue or issues we must face in agriculture?

Kimball: As always – water. The early climate models did a poor job of predicting how precipitation patterns will change, and there was little agreement among them. However, over the years, they have gotten better, and now they tend to agree that areas that are now wet are going to get wetter, while areas that are now dry like Arizona and southwestern U.S. likely will get drier. Further, warming will decrease high elevation snowpacks, so the free reservoir they represent will no longer retain as much water for slow release into summertime growing seasons.

With the Colorado River already over allocated, a drying trend will exacerbate the need to cut back on water usage. Further, Arizona farmers are low persons on the totem pole when it comes to competing with cities for the available water. Also, at the same time, warmer temperatures will increase irrigation water requirements of crops.

Arizona Agriculture: For most of your professional career, you have studied the effects of elevated CO₂ concentrations on plant growth and water relations. In a nutshell, what conclusions are you reaching? What would be interesting for our Arizona crop farmers to learn from you?

Kimball: Yes, I conducted experiments with elevated CO₂ on crops for about 25 years, as well as about another decade doing warming experiments. During the 1980s and early 1990s, my colleagues and I studied the effects of elevated CO₂ on cotton. We found that seed cotton yields were increased about 40% (lint yields even more) with an increase of CO₂ to about 550 ppm, a concentration expected by mid-century (410 ppm now). Increasing CO₂ also partially closed the stomata reducing water use per unit of leaf area, but with the large growth increase of the cotton, water use per land area did not change.

During the mid-1990s, we found that wheat yields increased about 15% with a similar increase in CO₂ concentration, while water use was reduced about 7%.

During the late 1990s, we found that sorghum yield did not increase at all with elevated CO₂ when it had ample water, although water use was reduced about 12%. The lack of a yield response of sorghum is because it is a so-called C4 crop (tropical grasses including corn, sugar cane, Bermuda grass) with a different photosynthetic pathway that concentrates CO₂, which contrasts with most crops called C3. Interestingly, when water was in short supply, the sorghum yields were increased by about 25% due to the water conservation, which could be important for rainfed agriculture.

We also did a 17-year-long experiment on sour orange trees (sour orange is a commonly used root stock in Arizona) with CO₂ enrichment to about 650 ppm. The orange trees were highly responsive, with annual yield increases averaging about 70% once the trees were mature.

All the above research was studying the effects of increasing atmospheric CO₂ without considering the possible effects of global warming which are occurring simultaneously. In the 2000s I devised a way to warm open-field plots using arrays of infrared heaters. My colleagues and I conducted a major field warming study on wheat (about 3°F in daytime and 6°F at night) where we also varied planting dates about every six weeks through two years. When the wheat was planted at the normal early December time for Arizona, warming had little effect on yields, whereas for late (March) planted wheat, yields were markedly reduced. Surprisingly, for early planted (September), the warming reduced the amount of frost damage compared to unheated plots. A large group of crop modelers took our data to improve the high-temperature aspects of their models, and using the models, they concluded that for every 2°F of warming, worldwide wheat production would be reduced about 6% (not considering the beneficial effects of elevated CO₂).

Arizona Agriculture: Can you highlight how technology has greatly improved agricultural emissions relative to the quantity of food produced?

Kimball: Well, I don’t think technology has “greatly” improved, i.e. reduced, emissions. When tractors replaced horses, emissions went up greatly. However, in recent years, there have been some improvements. One example is the adoption of conservation tillage, which has reduced the number of times equipment crosses the fields. Similarly, more effective methods of pest control have similarly reduced the numbers of sprays and associated number of times equipment is on the fields.

Arizona Agriculture: As a desert state we’ve already made remarkable technology adjustments to handle our climate challenges. But, what’s next for us to do in agriculture?

Kimball: Wow, this is a hard one, and I don’t have good answers. Of course, irrigation is the remarkable technology, and we need to continue to improve the efficiency of water use. Pressurized systems are more efficient, but they require more power and increase emissions. More adoption of conservation tillage, as well as fine tuning fertilizer applications will help. Continued plant breeding (aided by modern genetic techniques) can continue to improve yields and pest resistance. Genetic engineering, such as Bt cotton, will help.

Arizona Agriculture: In a recent video we produced on Arizona agriculture’s contributions to a better climate, NASA pointed out in 2014 that American agriculture during the peak growing season produces more oxygen than the Amazon rain forest. Can agriculture play a key role in improving our atmosphere?

Kimball: Of course, as described in the example, agricultural crops take CO₂ out of the air and replace it with the O₂ we animals need to breath. Further, to the extent the crops can sequester the C from the CO₂ in the soil or in the trunks of tree crops, agriculture can mitigate climate change.

continued on page 4

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Climate *continued from page 2*

Arizona Agriculture: If climate change is this big of an issue, from your scientific perspective, are you hopeful or concerned and if so why?

Kimball: I am somewhere between cautiously optimistic and concerned. Looking from the perspective of agriculture, the increasing CO₂ will be generally beneficial for agricultural productivity, but there are diminishing returns as concentrations rise above about 800 ppm. Warming will be generally beneficial in present-day cool climates, but in warm climates where plants are now often growing at the upper ends of their optimum range, further warming will depress yields. Thus, it appears that our northern tier of states (and Canada and Russia) will benefit, whereas the southern tier of states and low latitude countries will be hurt. The decreasing yields in low latitude countries that are least able to cope will increase political stress.

Arizona Agriculture: Finally, does carbon sequestering have potential in Arizona agriculture and to the degree it does in the Midwest? Please explain.

Kimball: No. In much of the Midwest, the original vegetation was prairie, and the soils had a high organic matter content. With the advent of the plow and other similar

tillage, much organic matter was oxidized, and the carbon was lost from the soil. Therefore, with conservation tillage, there is potential to re-build the higher organic matter concentrations and associated carbon sequestration.

In contrast, the desert soils in Arizona originally had little organic matter. Then the growing of irrigated crops added considerable root and plant residue material to the soil, which increased soil organic matter and carbon sequestration. If Arizona farmers switched to conservation tillage, there is some potential for increasing carbon sequestration here. However, the increase due to the start of irrigated cropping wasn't nearly as large as the higher concentrations of the Midwest, so the potential for conservation tillage to sequester carbon in Arizona is smaller. Furthermore, the acreage of irrigated agriculture in Arizona is small compared to the acreage of regular agriculture in any of the Midwest states.

Lastly, if water supplies are reduced so that land can no longer be irrigated, as it reverts back to desert, soil organic matter concentrations will decrease, and CO₂ will be released to the atmosphere. 🌱

To a Leader of Leaders: Thank You Sherry Saylor!

By Stefanie Smallhouse, Arizona Farm Bureau President

When Farm Bureau volunteers give of their time to advocate – the rest of us can work longer hours on the farm, take time with family, spend the day on the soccer field or the evening at a school board meeting. Volunteers are the backbone and the grassroots of this organization. The volunteer work of one member can help hundreds more.



At the opening of last year's legislative session (2020), Arizona Farm Bureau President Stefanie Smallhouse (left) and American Farm Bureau's Women's Leadership Committee's former Chair Sherry Saylor (far right) joined Senator Sine Kerr at the Arizona Legislature; all three Farm Bureau members sacrificing personal time for our time.

Sherry Saylor is one of those members. She and her husband Rick became Farm Bureau members in 1974 and after 30 years of service on the Women's Leadership Committee (WLC), including the last six as the national committee chair, Sherry chose to retire. This January at the 102nd annual convention of the

program. Over her many years of service, Sherry has inspired Farm Bureau members to lead, teach, learn, believe in themselves, believe in Farm Bureau, appreciate the past and mold the direction of the future. For Sherry, to LEAD means a focus on Leadership development, Engagement with the consumer, Advocacy and Do it daily. Through these words of wisdom, she will continue to impact members around the country far into the future.

In her closing remarks, Sherry emphasized faith, family and farming. With humility she expressed gratitude for the friendship and support of everyone around her and for the investment made by the Arizona and American Farm Bureau in her success. In her time serving the farm and ranch families of Arizona and the Nation, she has also been a school counselor for 36 years in Buckeye, Arizona; one of the fastest growing cities in the country with many families struggling to make ends meet and manage the stress of life. These families have also become a part of Sherry's family. There were many days when Sherry split her time between caring for the needs of what she refers to as, "my kids" and carrying out her responsibilities as the chair of one of the largest and most important farm organization committees. There is no limit to the expanse of her heart, her willingness to serve, her passion for farming and faith in God.

Whether you chat with Sherry over a cup of bad airport coffee in Reagan National, or listen to one of her insightful and fun speeches in a convention hall, you will always come away a better person. I consider Sherry to be a friend and mentor, and although difficult to keep up with, she always has time to listen or offer sage advice. Sherry and her husband Rick are guideposts for all of us, and fortunately, they plan to stay involved in Farm Bureau here at home.

There is no question, time is invaluable. As noted by author Shola Richards, "There is no amount of money in the world that can buy you one millisecond of time. Unlike money, time cannot be multiplied, borrowed, or recovered after you lose it. Time can only be spent. That's it." Thank you to Rick, Amy, Scott and that small herd of grandkids for sharing your very important person with all of us. The time she spent on our behalf, was time spent away from all of you. And Sherry, thank you for being that person who served for the greater good of our industry with thousands of volunteer hours, allowing each of us more time with our own families and the reassurance that you were leading the way to a more sustainable future for agriculture. 🌱

Arizona One of Three States to Win AFBF's Highest Award

Staff Reports

Arizona Farm Bureau came away with American Farm Bureau's highest award, the Pinnacle. One of only two other states, Arizona was recognized during The American Farm Bureau Federation Virtual Convention, which ran through Jan. 13. The awards recognize excellence in the implementation of outstanding member programs and membership achievement in 2020.

The Pinnacle Award, the highest honor a state can be awarded for program and membership achievement, was given to Arizona, Texas and Virginia.

"This is our first year in this membership group, a group which includes much larger Farm Bureau states, a great job," said Arizona Farm Bureau President Stefanie Smallhouse. "Our staff at Arizona Farm Bureau are relentless in their efforts to advo-

cate, communicate and educate on behalf of Arizona's farm and ranch families. The Pinnacle Award is the result of hard work, innovative ideas and dedication. Our volunteers are committed to a brighter future for agriculture and we welcome anyone to join the Farm Bureau family."

New Horizon Awards, honoring states with the most innovative new programs, were presented to Alabama, Indiana, Kansas, Massachusetts, New Mexico and Utah.

The Awards of Excellence recognize state Farm Bureaus that demonstrated outstanding achievements in four program areas: Membership Value; Advocacy; Leadership & Business Development; and Engagement & Outreach. 🌱

Arizona and Other Farm Bureau States Set National Policy at AFBF Convention

Staff Reports

Farmer and rancher delegates to the American Farm Bureau Federation's 102nd Annual Convention recently adopted policies to guide the organization's work in 2021. Key topics ranged from farm diversity to farm labor and dairy policy to livestock marketing. For the first time in AFBF history, delegates met and voted virtually due to COVID-19.

"Although the strength of Farm Bureau is our unified voice, we don't always agree on issues from one region or state to another," explains Arizona Farm Bureau President Stefanie Smallhouse. "Given that the next Farm Bill is right around the corner, it's very important that Arizona's voice is heard on farm policy issues. Even though we were not able to make all the changes Arizona would have liked to the national policy book regarding dairy, I am pleased that we were successful in amending some national policy to recognize Arizona's specific situation in that complex system of pricing and farmer representation. This can be quite difficult to accomplish. We were



For the first time ever, American Farm Bureau delegates from all over the country met virtually due to the pandemic. But these images of Arizona Farm Bureau President Stefanie Smallhouse during last year's delegate session give a sense of the commitment all our Farm Bureau volunteer leaders make to the organization's policy efforts.

also able to add important language to the AFBF policy book concerning food safety and liability. A concern that Arizona is certainly involved in addressing."

"Our Farm Bureau delegates showed that no challenge, not even a pandemic, will keep them from working to improve the lives of America's farmers and ranchers," said AFBF President Zippy Duvall. "Their work not only sets policy for 2021, it will also serve as a guide for AFBF as we prepare to work with a new president and a new Congress to ensure we continue to lead the world in producing healthy and safe food, fiber and fuel."

Recognizing the importance of broadening access to agriculture, delegates voted to encourage increased racial diversity in farming. This new policy calls for increased funding for USDA programs that make inheriting farms easier and increases funding to promote diverse farmland ownership.

Delegates updated labor policy, emphasizing the

See **POLICY** Page 5

Policy continued from page 4

importance of reforming the H-2A program by expanding the program to provide visa workers for both seasonal and year-round employment. An expanded program would address workforce shortages and extend the program to operations that do not currently qualify to employ guest workers, like dairy farms.

The Holcomb plant fire and the COVID-19 pandemic caused meat prices to skyrocket while the price paid to farmers dropped. AFBF delegates voted to provide stability in markets by supporting efforts to increase negotiated sales in fed cattle markets. Delegates also called for increased transparency in livestock pricing.

Milk price volatility was exasperated by the COVID-19 pandemic, resulting in financial damages to dairy farmers in excess of \$2.5 billion. Delegates updated dairy policy to call for re-examining the 2018 farm bill’s modification to the milk price formula, improving equity in USDA’s Federal Milk Marketing Order revenue sharing pools, and reaffirmed their support for allowing dairy farmers the opportunity to cast an individual and confidential ballot during milk order referendums.

There are new policies on crop insurance. Delegates called on the Risk Management Agency to improve hurricane protection coverage, including but not limited to, providing protection against both hurricane-force winds and excessive precipitation. Delegates also supported modifying specialty crop insurance to minimize food waste.

Beyond policy changes, delegates also elected members to serve on the AFBF board of directors and national program committees.

Nineteen state Farm Bureau presidents were re-elected to two-year terms to represent their regions on the AFBF board of directors including Arizona Farm Bureau President Stefanie Smallhouse in the Western Region.

Arizona Gets Another Volunteer on the National Program Committees

While American Farm Bureau Women’s Leadership Committee Chair, Sherry Saylor from Arizona, chose not to run again, Arizona did get another leader on a national committee. Maricopa County Farm Bureau member and women’s Leadership Committee chair for the county Shawn Wood was elected to represent the Western Region.

“I am honored to be elected to the Western Committee and excited to serve on behalf of Arizona agriculture,” said Shawn Wood. “Several committee members have reached out and it is an impressive set of individuals. I look forward to working together

to advocate and educate on agriculture issues at the national level.”

Reelected to two-year terms on the AFB Women’s Leadership Committee were Isabella Chism of Indiana, Marieta Hauser of Kansas and Lorenda Overman of North Carolina. Chism was elected chair and will serve on the AFBF board of directors; Overman was elected vice chair. Lou Nave of Tennessee, Lisa Wherry of Pennsylvania and Shawn Wood of Arizona were elected to two-year terms.



Maricopa County Farm Bureau Women’s Leadership Chair Shawn Wood was selected to represent the Western Region on the national level within the American Farm Bureau.

Jon Iverson of Oregon was elected as the new chair of the AFBF Young Farmers & Ranchers Committee for a one-year term beginning in March. He will also serve a one-year term on the AFBF board of directors. Jocelyn Anderson of California was elected vice chair and April Castle of Kansas was elected secretary. They will each serve one-year terms.

Stacey Lauwers of Michigan was elected chair of AFBF’s Promotion & Education Committee; Andrea Brossard of Wisconsin was elected vice chair. Both will serve two-year terms beginning in March.

AFBF thanks the more than 50 speakers and 8,200 attendees who helped make the 2021 Virtual Convention such a success. Registered attendees may view workshops and sessions on-demand on the convention

website for the next 90 days. For those who did not attend the convention, select sessions and workshops can be found on the AFBF webpage.

Planning for the American Farm Bureau’s 2022 Annual Convention and Trade Show has already begun. Mark your calendar to meet us January 7-12, 2022, in Atlanta, Georgia. 🚚

Bets continued from page 1

now, those investments will pay off as candidates, now elected officials, who align with Arizona Farm Bureau policy are sworn into office.

None of our horse racing successes would be possible without the generous contributions from members like you. Last year, AgPAC raised \$15,127 from 67 unique PAC members. Of that money, \$15,000 was matched with a corresponding contribution to our Educational Farming Company. And this year, we’re excited to announce that our matching campaign is back! For every dollar you contribute to AgPAC, the Arizona Farm Bureau will make a matching contribution in your name to the Educational Farm-

ing Company. Not only do you double your money, but you also help ensure the success of your business and the prosperity of our state at the same time.

While bets are placed for entertainment, investments are made for continued prosperity. Here’s to a new year of new horses, 42 of whom are running the race to the benefit of Arizona agriculture.

Editor’s Note: To contribute to AgPAC, go to azfb.org and select the “Public Policy” link at the top. You’ll find our “AgPAC” link to the left where you can contribute online. Contributions to AgPAC are not tax deductible as a business expense or as a charitable contribution. 🚚

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Mentor Program with NRCS to Benefit Producers and Proteges

By Julie Murphree, Arizona Farm Bureau Outreach Director

Arizona Farm Bureau and The National Resource Conservation Service (NRCS) recently partnered to engage in an exciting program that will aid NRCS employees in understanding Arizona agriculture at ground level.

NRCS's Arizona producer-employee mentoring effort will allow an organic partnership approach between the agricultural community and Natural Resources Conservation Service (NRCS). This effort will assist with the completion of national NRCS' goal of implementing a statewide new NRCS employees and local producers exchange of regionalized knowledge of production agriculture and local natural resources in Arizona.

The core goals for this partnership effort are that participating NRCS employees (Proteges) advance their professional expertise related to:

1. Production agriculture in their local areas
2. Local resource concerns
3. How NRCS and producers address local resource concerns.

The outcome will be a deeper awareness of the types of challenges and decisions our farmers and rancher face each day and enhance their local community relationships and capacity to provide excellent customer service.

Main Interactions and Efforts with Protégés

1. Producer Engagement with Arizona CAMP.
 - a. Includes a "Kick-off" Event (February/March 2021)
 - i. Bring Mentors and Protégé's together and provide an orientation into the program. Explain expectations for the program to all participants.
 - b. Include a Wrap-up Event (October/November 2022)
 - c. 6 to 12 producer/employee mentoring sessions per year (Based on 18-month CAMP principles)
 - d. The 6 to 12 interactions (especially one on one) can be with other farmers and ranchers in the area.
2. Partner Engagement & Involvement (exposure and involvement with 10 NRCS employees) with farming community. (Feb/March 2021-October 2022)
 - a. With 6 to 12 producer/protégé engagements, protégé will have an opportunity to understand the area's agriculture.
 - i. Engagements can be combination of "in the field" mentoring days and meet ups at industry and farm bureau events
 - b. Business and communication integration
 - c. Planned events
 - i. Registration fees paid for mentors and protégés through the program
 - d. County Farm Bureau Board meetings
 - e. County Farm Bureau Annual meetings
 - f. Ag in the Classroom events in the counties
 - g. County-based events/gatherings

3. Personnel/Programmatic Engagement (Showcase local NRCS personnel and conservation efforts) (Feb/March 2021-October 2022)
 - a. AZFB Publish 10 articles
 - b. AZFB Profile the protégé ... all 10 of them.
 - c. Proteges produce an article highlight their experience.
- The program will run for 18 months beginning this spring and ending with a graduation ceremony for the proteges involved. All farmer/rancher mentors have now been secured. However, if you'd like to host the proteges for a day on your farm, please contact Julie Murphree at juliemurphree@azfb.org. 🚗

AITC Expands Programming

Staff Reports

Ag in the Classroom is starting the new year with new programming! Nearly 5,500 3rd and 4th grade students will be participating in the STEM Ag Literacy Event this month. This engaging 45-minute presentation uses the 2020 American Farm Bureau Book of the Year, Full of Beans: Henry Ford Grows a Car, to highlight many of the innovations that occur every day in agriculture. Students will even get to try their hand at inventing! Due to flexing school formats this event is 100% virtual. Every classroom that signed-up for this FREE program received the book to keep in their classroom libraries and were delivered all the materials to participate right along with our AITC Team.

Be sure to follow us on social media @AZFB AITC for pictures from the event! 🚗

Webinar Wednesdays: What's Behind the Screen

By Elizabeth Rico, Arizona Farm Bureau Outreach Manager – Business and Leadership Development

Without a doubt American farmers, ranchers and agribusinesses are some of the most resilient people in this country. They're steadfast, adaptable, innovative and most importantly-they feed, clothe and provide essentials for the entire world. I'd even say they're superheroes.

But what tools can we give them when they want to home in their leadership and business skills? What resources are available to them to help them impact their communities and country? Knowledge. From being their liaison, helping elevate their voices at the state and national level, and empowering them in their hometowns the Arizona

Victoria Okula Joins Arizona Farm Bureau's Government Relations Team

By Chelsea McGuire, Arizona Farm Bureau Government Relations Director

The Government Relations team is proud to introduce our newest member, Victoria Okula.

Okula joined our team on January 4, 2021 as a Government Relations Manager. Okula will soon become a familiar face to our county Farm Bureau members, as she will spearhead our grassroots advocacy efforts, including policy development. She is well equipped for this position, Prior to coming on staff at Arizona Farm Bureau, she was a Public Affairs Specialist at state agency First Things First. There, she handled state government affairs and grassroots advocacy efforts, mobilizing diverse constituencies to communicate with their elected officials regarding relevant public policies that impacted their community. Okula will also take over our national affairs portfolio, something she is uniquely equipped to handle thanks to her time working as a District Representative for Congressman David Schweikert. Her time in that position informed a thorough understanding of National Affairs, Constituent services, and allowed Okula to foster relationships with federal agencies and staff members from other Congressional offices.



Victoria Okula joins Arizona Farm Bureau as the newest member of the Government Relations team.

Okula is a proud graduate of Arizona State University, where she obtained a Bachelor of Science in Political Science. She grew up in the West Phoenix Valley, where she spent many hours working in her family's small business, a restaurant in Glendale.

As a former member of the Future Farmers of America, Okula credits her FFA membership as the way she gained a passion for advocating for the farm and ranch community. "I wanted to work for the Arizona Farm Bureau to combine my understanding of government affairs with my passion for Arizona agriculture," Okula explained. "I am inspired by the membership and look forward to working on their behalf to improve public policy that impact their daily life."

In just the few short days that Okula has been with us, we've been immensely impressed with her proactive attitude and innovative ideas. We know that with her on the team, we're going to see continued success in growing our grassroots advocacy base and advocating for strong agriculture for a prosperous Arizona.

Welcome to the Farm Bureau family, Victoria! 🚗

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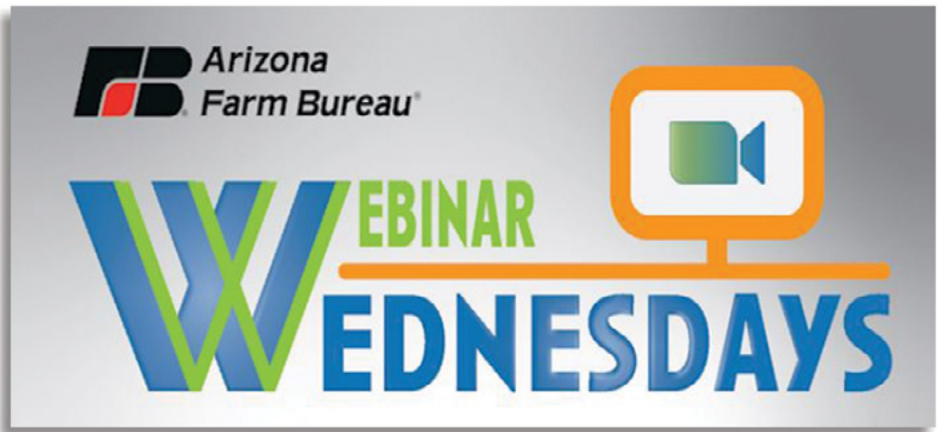
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Webinar *continued from page 6*

Farm Bureau wants to equip our members with the knowledge they need to be able to be an advocate for themselves, and their fellow agriculturalists.

Through our Webinar Wednesday series as part of our Leadership and Business development programming, we plan to host a series of webinars that will be available the last Wednesday of almost every month and are designed to cover topics that are relevant and on the forefront of our members' minds. We've designed a schedule of topics that we hope will be informative, start conversations, and help them grow personally and professionally.



We know that our members' schedules are tight, often with a longer to-do list than there are hours in a day, so the goal of this series is to address topics that are worthwhile and interesting. Virtual platforms are becoming more and more common and have the potential to be overused with the current situation, thanks to the pandemic. We are keeping that in mind. The sessions will be under an hour in length, recorded and available on the Arizona Farm Bureau website after they air live, to access later.

Some webinars will feature our very own Arizona Farm Bureau staff, as well as other guest speakers that we consider experts in their field. Attendees that participate in the live event can ask questions, gain clarity, and also interact with other Farm Bureau members. Some topics to look forward to include:

- Succession Planning for County Farm Bureau Leaders
- Arizona Transportation Laws-What You Need to Know
- The Challenges of Rural Mental Health

If any of these sound interesting, or if you have ideas on a topic that might gain traction or you'd like to learn more about, let us know at outreach@azfb.org

Editor's Note: To see previous webinars, go to azfb.org and select "News and Resources." To the left you'll see the "Webinars" link to select and see what we currently feature. The Webinar Wednesdays series began last fall as part of Arizona Farm Bureau's Annual Meeting speakers line up. If you'd like to see us cover certain business and leadership topics don't hesitate to contact Elizabeth at elizabethrico@azfb.org. 📺

A Time for Wine

Ongoing 2021 series celebrating Arizona Farm Bureau's 100 years and Arizona agriculture's growth.

By Erik Berg, Arizona's Wine Historian

Wine grapes are one of Arizona's newest and most exciting commercial crops, but their story begins long before Arizona was a state. Spanish settlers were growing grapes (and possibly making wine) near Tucson in the early 1800s, and later American settlers began planting table and raisin grapes in the Salt River Valley in the 1860s. Inspired by the success of California, a few farmers began experimenting with winemaking too. By the 1880s, Mesa had a small local wine industry led by Alois Cuber, John Jones, and the Bagley brothers. Near Sedona, farmer Henry Schuerman made a popular red wine for the thirsty miners of Jerome. But at the start of the twentieth century, alcohol regulations were sweeping the country and in 1915 (five years before national prohibition) Arizona enacted its own ban on the manufacture and sale of alcohol. Arizona's budding wine industry was instantly uprooted.



Robert Webb on the bottling line at his R.W. Webb Winery in Tucson (image courtesy of Robert Webb).

It would take more than half a century for commercial winemaking to return. In the 1970s, Dr. Gordon Dutt, a soil scientist at the University of Arizona, began

See WINE Page 8

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Wine continued from page 7

experimenting with wine grapes in southern Arizona. In 1980, his team published a landmark report extolling the Southwest’s potential for winemaking and identifying promising regions and grapes. Dutt started the first modern wine vineyard (Vina Sonoita Vineyards) and later helped organize the Sonoita Vineyards Winery. In Tucson, Robert Webb opened the state’s first modern winery in 1980 using grapes from California and later from his own vineyard at Willcox. Other pioneering winemakers included William Staltari near Camp Verde and Arturo Ocheltree of Nogales.

Arizona’s regulations still presented a huge challenge by requiring that wineries sell only through distributors. In 1982, the newly formed Arizona Wine Growers Association (AWGA) lobbied for an exemption that would allow them to open tasting rooms and sell direct to the public. Many in the liquor industry opposed the proposed law, but it passed with support from Arizona’s agriculture lobby. Two years later, Sonoita held the state’s first local wine festival and became the Southwest’s first designated American Viticultural Area (AVA). People new to farming led many of the early winegrowing ventures, but some large established agriculture businesses tried as well. One of the most prominent was veteran farmer Hollis Roberts whose Fort Bowie vineyard became an important source of grapes for local wineries.

Despite a rapid and promising start, the young Arizona wine industry struggled during its first two decades. Plant diseases, financial burdens, quality-control issues, and limited public awareness caused the downfall of many new enterprises. It would take trial and error to find the best combination of grapes and winemaking

techniques for Arizona’s unique conditions and longer still to break into the traditional wine markets. But as the quality and quantity of Arizona wine increased, people began to take notice. In the mid-1990s, influential national wine critic Robert Parker Jr. wrote rave reviews of Kent Callaghan’s Sonoita-based winery, bringing national attention to what the state had to offer.




Only with the start of the new century, did the Arizona wine industry truly take off. In Cochise County, the early Kokopelli Winery and Dos Cabezas Wine Works were joined by Sam Pillsbury, Coronado Vineyards, and Keeling-Schaefer. Famous Oregon winemaker Dick Erath boosted Arizona’s credibility by choosing Willcox for a new vineyard in 2005. Cochise County would eventually become the state’s largest wine grape producer. Some of the most explosive recent growth has occurred

in the Verde Valley. Jon Marcus started a small winery near Sedona in 1997, and in the early 2000s, Oak Creek Vineyards, Javelina Leap, and Page Spring Cellars sprang up near Cornville. Across the valley in Jerome, rock musician Maynard James Keenan opened the Caduceus Cellars Winery and would later start Merkin Vineyards and the Four Eight Wineworks co-operative. In 2007, Keenan partnered with Eric Glomski of Page Spring Cellars to found Arizona Stronghold Vineyards which quickly became the state’s largest, and most visible, producer.

Forty years after its modern rebirth, Arizona has over 50 active wineries and the industry is still opening new areas to agriculture and driving economic development. Nowhere is the impact more evident than Cottonwood where tasting rooms have revitalized the historic downtown and form the nucleus for a thriving center of shops, restaurants, and lodging. In 2009, Yavapai Community College recognized wine’s growing importance by starting the state’s first viticulture and enology programs. As the industry matures, Arizona winemakers continue to identify and exploit the region’s strengths. A wine’s flavor reflects the minerals, climate, and growing conditions of its source vineyard with each year’s vintage recording that season’s unique characteristics. Wine is farming in a bottle and the crop of wines produced by Arizona’s unique geology and climate are finding their way onto more local dinner tables and national awards lists.

Editor’s Note: As we celebrate Arizona Farm Bureau’s 100 years, we feature some excerpted stories from our history book, *A Century of Progress 1921-2021*. 🚗



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