ARIZONA STATE HOUSE OF REPRESENTATIVES
RESEARCH STAFF

Paul Bergelin
Committee on Land, Agriculture and Rural Affairs
Telephone: (602) 926-3458

TO: JOINT LEGISLATIVE AUDIT COMMITTEE

DATE: January 25 , 2023

SUBJECT: Sunset Review of the Arizona Grain Research and Promotion Council

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Attached is the final report of the sunset review of the Arizona Grain Research and Promotion Council which was conducted by the Senate Natural Resources, Energy & Water and House Land, Agriculture & Rural Affairs Joint Committee of Reference.

This report has been distributed to the following individuals and agencies:

Governor of the State of Arizona
The Honorable Katie Hobbs

President of the Senate
Senator Warren Peterson

Speaker of the House of Representatives
Representative Ben Toma

House Members
Representative Lupe Diaz, Co-Chair
Representative Michele Peña
Representative Michael Carbone
Representative David L. Cook
Representative Gail Griffin
Representative Consuelo Hernandez
Representative Lydia Hernandez
Representative Mariana Sandoval
Representative Keith Seamen

Senate Members
Senator Sine Kerr, Co-Chair
Senator Frank Carroll
Senator Brian Fernandez
Senator David Gowan
Senator Juan Mendez
Senator Thomas "T.J." Shope
Senator Priya Sundareshan

Arizona Grain Research and Promotion Council
Arizona State Library, Archives & Public Records
House Republican Staff
House Democratic Staff
House Research Staff

Senate Resource Center
Senate Republican Staff
Senate Democratic Staff
Senate Research Staff
Office of the Auditor General

Senate Natural Resources, Energy & Water and House Land, Agriculture & Rural Affairs Joint Committee of Reference
Sunset Review of the Arizona Grain Research and Promotion Council

Final Report
January 2023

House Members
Representative Lupe Diaz, Co-Chair
Representative Michele Peña
Representative Michael Carbone
Representative David L. Cook
Representative Gail Griffin
Representative Consuelo Hernandez
Representative Lydia Hernandez
Representative Mariana Sandoval
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Senator Thomas "T.J." Shope
Senator Priya Sundareshan

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Report 2023

Background

Pursuant to A.R.S. § 41-2953, the Joint Legislative Audit Committee assigned the sunset review of the Arizona Grain Research and Promotion Council (Council) to the Senate Natural Resources, Energy & Water Committee of Reference and the House Land, Agriculture & Rural Affairs Committee of Reference.

The Council was established to promote and develop Arizona's grain industry. It assesses a fee on grain produced in the state at a rate of up to five cents per hundred weight, which is then deposited into the Arizona Grain Research Trust Fund. The Council annually sets this fee. Fund monies are held in trust and are used for grain research projects and marketing programs (A.R.S. §§ 3-584, 3-587 and A.R.S. § 3-590). The Council consists of seven members appointed by the Governor to three-year terms (A.R.S. § 3-582). The Arizona Department of Agriculture provides administrative support for the Council (A.R.S. § 3-588).

The Council is statutorily set to terminate on July 1, 2023, unless legislation is enacted for its continuation (A.R.S. § 41-3023.04).

Summary of Committee Activity

The Senate Natural Resources, Energy & Water Committee of Reference and the House Land, Agriculture & Rural Affairs Committee of Reference jointly met on January 19, 2023, to evaluate the Council's response to the sunset factors and receive public testimony.

Committee Recommendation

The Senate Natural Resources, Energy & Water Committee of Reference and the House Land, Agriculture & Rural Affairs Committee of Reference jointly recommended that the Council be continued for eight years until July 1, 2031.

Appendix A:

January 19, 2023 Senate Natural Resources, Energy & Water Committee of Reference and the House Land, Agriculture & Rural Affairs Committee of Reference Minutes and Reference Materials

Interim agendas can be obtained via the Internet at http://www.azleg.gov /Interim-Committees

ARIZONA STATE LEGISLATURE

INTERIM MEETING NOTICE
OPEN TO THE PUBLIC

SENATE NATURAL RESOURCES, ENERGY & WATER AND
HOUSE LAND, AGRICULTURE & RURAL AFFAIRS
JOINT COMMITTEE OF REFERENCE

Date: **Thursday, January 19, 2023**

Time: **1:30 P.M. or upon recess or adjournment of Senate Floor**

Place: **HHR 1**

Members of the public may access a livestream of the meeting here:

https://www.azleg.gov/videoplayer/?clientID=6361162879&eventID=2023011022

AGENDA

1. Call to Order
2. Roll Call
3. Sunset Review of the Arizona Grain Research and Promotion Council
   - Presentation by Arizona Grain Research and Promotion Council
   - Public Testimony
   - Discussion and Recommendation

4. Sunset Review of the Arizona Outdoor Recreation Coordinating Commission
   - Presentation by Arizona Outdoor Recreation Coordinating Commission
   - Public Testimony
   - Discussion and Recommendation

5. Sunset Review of the Arizona State Parks Board
   - Presentation by the Arizona Office of the Auditor General
   - Response by the Arizona State Parks Board
   - Public Testimony
   - Discussion and Recommendation

6. Adjournment

Members:

Senator Sine Kerr, Co-Chair
Senator Frank Carroll
Senator Brian Fernandez
Senator David Gowan
Senator Juan Mendez
Senator Thomas "T.J." Shope
Senator Priya Sundareshan

Representative Lupe Diaz, Co-Chair
Representative Michele Peña
Representative Michael Carbone
Representative David L Cook
Representative Gail Griffin
Representative Consuelo Hernandez
Representative Lydia Hernandez
Representative Mariana Sandoval
Representative Keith Seaman

~~01/12/2023~~
01/17/2023
RA

People with disabilities may request reasonable accommodations such as interpreters, alternative formats, or assistance with physical accessibility. If you require accommodations, please contact the Chief Clerk's Office at (602) 926-3032 or through Arizona Relay Service 7-1-1.

ARIZONA STATE LEGISLATURE

Senate Natural Resources, Energy and Water and House Land, Agriculture and Rural Affairs Joint Committee of Reference

Minutes of the Meeting
January 19, 2023
1:30 P.M., HHR1

Members of the public may access a livestream of the meeting here:
https://www.azleg.gov/videoplayer/?clientID=6361162879&eventID=2023011022

Members Present:

Senator Sine Kerr, Co-Chair
Senator Frank Carroll
Senator Brian Fernandez
Senator David Gowan
Senator Thomas T.J. Shope
Senator Priya Sundareshan

Representative Lupe Diaz, Co-Chair
Representative Michael Carbone
Representative David L Cook
Representative Gail Griffin
Representative Consuelo Hernandez
Representative Lydia Hernandez
Representative Michele Peña
Representative Mariana Sandoval
Representative Keith Seaman

Members Absent:
Senator Juan Mendez

Staff:
Rachel Andrews, Senate Natural Resources, Energy and Water Research Analyst
Fausto Burruel, Senate Natural Resources, Energy and Water Assistant Research Analyst
Stephanie Freeman, Senate Natural Resources, Energy and Water Research Intern
Paul Bergelin, House Land, Agriculture and Rural Affairs Research Analyst
Abigail Hobson, House Land, Agriculture and Rural Affairs Research Intern

Co-Chair Kerr called the meeting to order at 1:53 p.m. and attendance was taken.

SUNSET REVIEW OF THE ARIZONA GRAIN RESEARCH AND PROMOTION COUNCIL

Presentation by Arizona Grain Research and Promotion Council

David Sharp, Chairman, Arizona Grain Research and Promotion Council, distributed and explained a handout entitled "Arizona Grain Research & Promotion Council, Annual Newsletter, Spring 2022" (Attachment A). Mr. Sharp answered questions posed by the Committee.

Public Testimony

No public testimony took place.

Discussion and Recommendation

No further discussion took place.

Representative Diaz moved that the Senate Natural Resources, Energy and Water Committee of Reference and the House Land, Agriculture and Rural Affairs Committee of Reference recommends that the Arizona Grain Research and Promotion Council be continued for eight years. The motion CARRIED by a voice vote.

SUNSET REVIEW OF THE ARIZONA OUTDOOR RECREATION COORDINATING COMMISSION

Presentation by Arizona Outdoor Recreation Coordinating Commission

Brittany Hudson, Legislative Liaison, Arizona State Parks and Trails, distributed and explained a PowerPoint presentation entitled "Arizona Outdoor Recreation Coordinating Commission (AORCC)" (Attachment B). Ms. Hudson answered questions posed by the Committee.

Representative Griffin distributed and explained handouts entitled "Federal Public Land Surface & Subsurface" (Attachment C) and "Private Lands in Arizona" (Attachment D).

Public Testimony

No public testimony took place.

Discussion and Recommendation

No further discussion took place.

Representative Diaz moved that the Senate Natural Resources, Energy and Water Committee of Reference and the House Land, Agriculture and Rural Affairs Committee of Reference recommends that the Arizona Outdoor Recreation Coordinating Commission be continued for eight years.

Representative Griffin offered an additional recommendation that the Arizona Outdoor Recreation Coordinating update reporting to the Committee on Land acquisition every four years to this Committee.

Representative Diaz moved that the Senate Natural Resources, Energy and Water Committee of Reference and the House Land, Agriculture and Rural Affairs Committee of Reference recommends that the Arizona Outdoor Recreation Coordinating Commission be continued for eight years and they update reporting to the Committee on

Spending and acquisitions in four years to this Committee. The motion CARRIED by a voice vote.

SUNSET REVIEW OF THE ARIZONA STATE PARKS BOARD

Presentation by the Arizona Office of the Auditor General

Lindsey Perry, Auditor General, distributed and explained a PowerPoint presentation entitled "Arizona State Parks Board" (Attachment E).

Jeff Gove, Director, Performance Audit Division, Arizona Office of the Auditor General, continued with the PowerPoint presentation (Attachment E). Mr. Gove answered questions posed by the Committee.

Response by the Arizona State Parks Board

Bob Broscheid, Executive Director, Arizona State Parks Board, expressed the Board's gratitude with the Arizona Office of the Auditor General's Sunset Review.

Public Testimony

No public testimony took place.

Discussion and Recommendation

The Committee offered comments.

Representative Diaz moved that the Senate Natural Resources, Energy and Water Committee of Reference and the House Land, Agriculture and Rural Affairs Committee of Reference recommend that the Arizona State Parks Board be continued for eight years. The motion CARRIED by a voice vote.

There being no further business, the meeting was adjourned at 2:46 p.m.

Respectfully submitted,

Brisa Roman
Committee Secretary

(Audio recordings and attachments are on file in the Secretary of the Senate's Office/Resource Center, Room 115. Audio archives are available at http://www.azleg.gov)

ANNUAL
NEWSLETTER
SPRING 2022

ARIZONA
Grain Research &
Promotion Council

DESERT DURUM

Chairman's Report *By David Sharp*

Drafting this AGRPC chairman's report and comments for this newsletter regarding Arizona's impending 2022 barley and wheat crops has involved dealing with new fantasies as well as a bunch of both hot and cold realities. After several seasons characterized by Desert Durum® grain price offerings that challenged any real monetary profit potential, the 2022 picture appeared much rosier last summer-early fall contracts at $375-400/ton, even with water reduction issues in central Arizona. However, unless a grower has owned a large carry-over stock of nitrogen fertilizer for this crop, a lot of the potential profit from those nice prices or likelihood of realizing such has been tarnished by fertilizers doubling in price. So, thanks be to the value of durum as a rotational crop with produce, in appropriate situations.

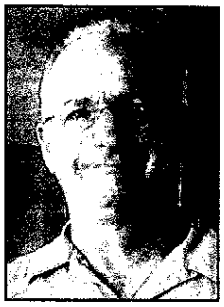
All of this local scenario is playing out as total U.S. durum-production acreage has dwindled in recent years – while Arizona's recent durum acreage has been barely half of some recent crop totals. Several factors have led to this decline in acreage and/or production from reduced acreage in the main northern U.S durum-producing region. Growers in those regions have increasingly enjoyed new crop kind options as shorter-season corn and soybean varieties have become available. Weather extremes in 2021 also severely reduced yields and quality of much of the U.S. and Canadian crops. In Arizona, of course, water restrictions in central counties impact planting decisions. And these developments have occurred at a time when pasta consumption rose substantially, likely due to the Covid pandemic. In the short term, these situations likely led to the recent spike in cash durum prices jumping to the mid-to-high teens per bushel.

We are told that recent large carryover durum grain stocks have been depleted as a result of dwindling northern acreages. Also, U.S. buyers are well-positioned for several months but not so much for the end of the year. And we understand that our Desert Durum® crop that matures in early summer provides a "bridge" over the several months needed for industry to access the new season's northern durum crop harvest. So, this situation provides our growers a chance to enjoy a surge in demand and the higher prices should have boosted our durum plantings for the upcoming season. However, current fertilizer prices are like a knife poking our backs as some of us face newly reduced irrigation water availability as well as probable price discounts if we don't fertilize to required grain quality needs. So, this upcoming 2022 season promises to provide theater that contains a number of different acts and audience reactions!

USDA's Prospective Plantings Report, released on March 31, puts Arizona's 2022 durum crop at 60.000 acres, which is up 13% from 2021 harvested figure of 52,000 acres. However, our state's

Chairman – *Continued on page 4*

UA Agronomist Mike Ottman Retires



Dr. Michael J. Ottman, Extension Specialist in grain and forage crops at the University of Arizona, has retired following a 36-plus year career during which he conducted numerous field studies on barley and wheat that were supported by AGRPC grant funds. And he was a routine attendant at AGRPC quarterly meetings.

A tally of the research funding that Ottman has received from wheat and barley growers via the AGRPC shows $433,940 awarded to projects for which he was the primary researcher and $689,521 for all projects in which he was involved. These funds encompassed 102 individual grants beginning in 1987.

All the funded research met the terms of A.R.S. § 3-584(C)(5) which states that the AGRPC may make grants for financing appropriate studies, research projects and programs to assist in the: **1.** Reduction of fresh water consumption; **2.** Development of new grain varieties; **3.** Improvement of production and handling methods; and **4.** Research and design of new or improved harvesting and handling equipment. These general topics are intended to improve the profitability of growing barley and wheat in Arizona.

Mike Ottman's thoughts about his Arizona research and raising grains in Arizona

The AGRPC posed some questions to Mike, seeking his thoughts in several topic areas pertaining to his UA career and growing small grain crops in Arizona.

What did you think were the most pressing extension and research needs in the industry when getting to AZ in 1985?

When I arrived, I thought late planting was the single most significant factor suppressing wheat and barley grain yields. Of course, the late planting was because wheat and barley are often grown in rotation with cotton and vegetables, so planting at a more optimum time was not always practical.

Actually, a more pressing need was how to produce durum with acceptable protein consistently. This prompted my work with nitrogen fertilizer.

How do you describe the most substantial changes or evolution in producing grains in AZ during your tenure?

The biggest change I have seen is that wheat and barley are grown more intensively with higher seeding rates, more fertilizer, and more frequent irrigation.

Ottman – *Continued on page 5*

What's Inside.....

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ATTACHMENT A

A message to Arizona's barley and wheat grain growers

The Arizona Grain Research and Promotion Council was created in 1986, by the Arizona legislature, to be a producer-funded and producer-directed program to assist in developing the state's grain industry to be more productive and profitable. The council participated in the State's sunset review re-authorization process during 2012 and 2013. The 2013 Arizona legislature passed legislation, signed by the governor, which has extended the council's existence and assessing authority until 2023.

Programs and projects in which the council may engage include:

1. Cooperation in state, regional, national or international activities with public or private organizations or individuals to assist in developing and expanding markets and reducing the cost of marketing grain and grain products.
2. Research projects and programs to assist in reducing fresh water consumption, developing new grain varieties, improving production and handling methods and in the research and design of new or improved harvesting or handling equipment.
3. Any program or project that the council determines appropriate to provide education, publicity or other assistance to facilitate further development of the Arizona grain industry.

The council consists of seven members appointed by the governor for three-year terms. Members must be residents and producers in the state and they serve without compensation. Producers seeking consideration for appointment to the council may contact the Arizona Department of Agriculture's council administrator.

The council has established a check-off fee of $.02/cwt. ($.40/ton for 2022) on the barley and wheat of all classes that is produced in Arizona and sold "...for use as food, feed or seed or produced for any industrial or commercial use." Thus, all grain of these kinds is subject to the assessment when it is first sold to a buyer or "first purchaser."

Check-off fees are collected by the "first purchaser" and remitted to the council, in care of the Arizona Department of Agriculture. While producers bear primary responsibility for paying the fee, this liability is discharged if the fee is collected by the first purchaser.

Producers may request a refund within 60 days of paying the fee by submitting the appropriate refund request form available from the council.

The council's quarterly meetings are open to the public. Meeting dates and agendas can be obtained from the ADA council administrator's office.

Producers of grain in Arizona are urged to contact any council member with comments or ideas pertaining to the council's mission or activities.

like us on facebook.

Promotional & Service Contributions During the 2021 Calendar Year

- Wheat Foods Council ($500) – Annual "Supporter" membership
- Southwest Ag Summit ($1,000) – Student activities sponsorship
- Summer Ag Institute ($1,000) – Sponsorship of the annual teachers' educational week program
- Arizona Farm Bureau ($2,000) – Annual Gold Sponsorship
- U.S. Durum Growers Association ($100) – Annual "Supporter" Membership
- Arizona AgriBusiness and Water Council Roundtable ($286)
- Racin' Bacon Derby Dinner – Swag bag sponsor to raise funds for FFA Foundation's virtual Blue and Gold Gala ($1,000)

This annual report and newsletter of the Arizona Grain Research and Promotion Council was edited and published by the AGRPC's contracted executive director, Allan B. Simons. E-mail: simons42ab@gmail.com. Phone: 520-429-1221. Contact the Arizona Department of Agriculture to obtain remittance and refund forms. 1688 W. Adams St., Phoenix, AZ 85007. Lisa James, Council, Board, and Commission Administrator. E-mail: ljames@azda.gov. Phone: 602-542-3262.

AGRPC Members

(All terms expire Jan. 31 of year noted)

David Sharp, Roll (2022-reapplied)
Chairman
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Michael Edgar (2023)
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Thomas Wuertz (2023)
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AGRPC's FY 2021* Financial Statement	
Beginning Funds Balance	$87,008
Income items:	
Total Assessments	70,360
Investment Income	442
Less refunds to producers	(3,974)
Net Income	$66,828
Total Operating Funds Balance	$153,836
Expenses	
Executive Director	$15,000
AZDA Administration	7,500
U.S. Wheat Associates	8,000
Travel & Meeting	1,981
Desert Durum® Quality Survey	2,576
Annual Newsletter	686
Promotion & Service	6,947
Research Projects	25,561
Total Expenses	**$68,251**
Ending Funds Balance	**$85,585**
Encumbered Misc. Funds	(12,241)
Unencumbered Funds Balance	**$73,344**

*Fiscal year: July 1, 2020 - June 30, 2021

Access all AGRPC research reports here: https://tinyurl.com/agrpcresearch

Albert E. Carleton Passes - Was a Significant Player in Desert Grain Breeding

Albert E. (Al) Carleton, 81, co-founder of the private plant breeding firms Western Plant Breeders (WPB) and Arizona Plant Breeders (APB), passed away in Pinal County, AZ on November 3, 2021. He had been inactive in the breeding world for several years but continued to spend winters in Arizona and summers in Montana.

Carleton, born in 1940, was a native of Carlsbad, NM, where he learned to love agriculture. After a BS degree from New Mexico State University in 1962, he earned MS and PhD degrees from Oregon State University before joining the Montana St. U. faculty in 1966 as a forage breeder.

He became a partner in a firm named Montana Seeds in Conrad, MT in 1972, breeding forage and barley varieties. Montana Seeds collaborated with a major grain company to rapidly develop new barley varieties by counter-season shuttle breeding between MT and AZ. Meanwhile, the late Bill Corpstein, owner of Valley Seed Company in Phoenix, also collaborated with the same firm. Eventually, Carleton and Corpstein joined up to form Western Plant Breeders (WPB) in 1974 and later brought in Southwest Marketing of El Centro, CA. WPB was sold to a French firm in 1984 and Carleton departed the firm in 1988, moving to Arizona to form APB in partnership with Corpstein and Arizona Grain, Inc. in 1989.

Serendipitous fate led to modern "desert durum"

After forming WPB, Carleton and Corpstein decided to continue the seasonal shuttle breeding on their own and convinced Kim Shantz, an assistant in the U of A's grain breeding program, to join WPB in 1976 to operate the Arizona-based program in the Chandler area.

Meanwhile, WPB had established a major durum crossing effort in the Imperial Valley of California, one that crossed short-stemmed varieties originating from the CIMMYT program in Mexico with numerous genotypes being grown in the northern U.S. durum regions. Among the progeny of those crosses was a line that possessed a much stronger gluten trait than was typical of the southwestern desert varieties of the era, based on USDA testing. The line was named 'WestBred 881' (WB 881) as it was the 881st cross in that program's efforts, according to Carleton. It received a PVP certificate in 1982.

Carleton and Corpstein took samples of WB 881 to Italy in 1981 to show to a major Italian pasta company, which quickly led to larger production contracts of that variety from that firm and others. By the spring of 1983, about 18.000 acres of WB-881 were growing in Arizona, with another 10-12,000 acres also being grown in the Imperial Valley, as cited in a lengthy article in the April 1983 issue of *Arizona Farmer-Ranchman* magazine. WPB's breeding program continued during the 1980s and then the 1990's under the ownership of Barkley Seed Co. of Yuma, which purchased the program from the French owners. This was the beginning of the rather unique "varietal identity preservation" practice that exists today.

Meanwhile, Carleton continued an active grain breeding career with APB, located in Arizona City, from its formation until stepping away in 2017. Numerous durum varieties released from the program carried on the quality traits first exhibited by WB 881. He also served as executive director of the AGRPC from 1990 – 1994.

Al Carleton's family plans to hold a Celebration of Life service for him in the summer of 2022 in Conrad, Montana.

Comments of colleagues

A career of the length (50+ years) and nature of Carleton's was bound to foster strong impressions and those expressed by colleagues and friends of Carleton are no reception.

AGRPC member Eric Wilkey interacted with Carleton during his own 32 years of involvement with, and eventual supervision of, APB affairs. He states that Carleton's approach to plant breeding and business details was "simple, direct and practical" and he understood that his work must produce results that were financially viable. Carleton focused on outcomes that enhanced results for both producers and end-users in terms of quality traits and was proud that he could compete with the "big boys" in the variety development arena.

Dr. Al Carleton (above center) with two competing grain breeders in 2005. Rex Thompson (right) was a U of A grain breeder before transitioning to private breeding with Farmers Marketing Co./World Wide Wheat from 1987 until his passing in January 2007. Kim Shantz (left) departed Thompson's U of A program staff in 1976, to join WPB, eventually leading its breeding efforts in Chandler and then Yuma under Barkley Seed, Inc. and then Monsanto Co. before retiring in 2012. The career efforts of all three established and maintained the global reputation of desert durum as a superior product for grain quality that name-brand pasta manufacturers still covet.

Shantz recalls Carleton as entrepreneurial, full of ideas, willing to take risks, but who stayed positive when projects didn't work out. He was fun to work with, gave credit where it was due, and was very people-oriented rather than just being a hands-on plant breeder. He maintained cordial relationships with competitors in Arizona during his career in the state.

Dr. Wesam AbuHammad came to APB in 2014 to eventually succeed Carleton, whom he viewed as a pioneering scientist who devoted a lot of effort to passing on his breeding knowledge and passion. Al was obsessed with his work but was also energetic and fun (particularly after mid-PM naps). Road trips to APB nurseries were full of education, enjoyment, and great dining after long work days. He has left behind a legacy of kindness and compassion as well as a very productive plant breeding career and legacy.

Chairman – *Continued from page 1*

industry folks suspect the 2022 planted acres to be closer to 70-75,000 acres. Furthermore, USDA does not include any common wheat in its Arizona wheat statistics.

As for our 2022 barley crop prospects? It's true that different winds affect our barley planting decisions, such as distance to markets, prices for alternative livestock energy-supplying grains like corn and sorghum and for silage market offerings, including barley and triticale. Apparently, firm "imported" corn feed prices in recent months may have boosted predicted 2022 barley acreage above the 16,000 acres that USDA says were planted in 2021 to the current 18,000 predicted acres. We are told that significant planting of forage-type grains, especially triticale, are growing in central Arizona this season. Still, there are lower production costs associated with growing barley in the desert and minimal quality discount risk, whether for forage or grain. So, the next few weeks should provide an interesting picture with respect to barley grain crop options.

Is the future of a UA grain extension position in doubt?

Dr. Mike Ottman's long career as Extension Specialist focused on forage and grain research and education. He and colleagues have developed copious knowledge in support of profitable grain production, much of it supported by AGRPC funds, His retirement has created a current void in future public support of grain industry production interests unless a successor is soon appointed with similar responsibilities. There are capable UA scientists whose roles are peripheral to grain production research, but their focuses are more specialized than may be needed for future grain research projects.

Our inquiries suggest that plans or progress to hire a successor to function in the same – or even broader - role as Dr. Ottman's have sputtered at the U of A. The AGRPC has relayed its concerns about the apparent situation to leadership of the School of Plant Sciences, the College of Agriculture and Life Sciences, and the Cooperative Extension Service. Responses from these entities cite current funding shortages as well as the Covid pandemic for the lack of activity in hiring a successor. It appears that a shortage of federal funds to partially support such a position is also in play, for such extension roles are part of a federal-state partnership stemming from decades of history of land grant partnership between states and the federal government. However, more recent "intelligence" suggests that the position may be up for approval in the relatively near future.

Quality still matters

Despite the questionable outlook for Desert Durum® profitability, buyers will continue to expect our grain crops to meet their quality requirements. Skimping on crop input requirements may affect crop returns if doing so results in grain going to livestock feed or getting deeply discounted for low protein or low HVAC. However, Desert Durum® buyers are in the local market for its superior grain quality and often purchase by variety, so handlers contract for needed tonnage and rely on growers delivering to quality expectations.

The AGRPC urges all Arizona growers to help maintain the reputation of Desert Durum® as the most reliably high quality durum grain produced in the world. This objective means providing the attention and nutrient inputs needed to achieve high HVAC and satisfactory protein content.

Expressions of gratitude

Arizona Department of Agriculture staffers who assist the Council in various ways include Assistant Director Susan Chase, Assistant Attorney General Deanie Reh, and Council Administrator Lisa James. Lisa has served as the AGRPC's open meeting compliance issues guide and handled most of our official documentation, and financial record-keeping with expertise and good humor since 2004 We thank you, Lisa.

I also recognize AGRPC's Executive Director Al Simons for his 27 years in that role of supporting AGRPC activities and representing the Council within Arizona and elsewhere.

USDA

Animal and Plant Health Inspection Service

2021 Karnal Bunt Survey Results

Information released by the USDA/APHIS-PPQ in Phoenix after the 2021 Arizona wheat grain crop harvest indicates that none of the 146 wheat fields, totaling 5,234 acres, located in Arizona's Karnal bunt quarantine areas tested positive for the fungus. This was the fourth consecutive year in which zero fields tested positive. This was 103 more host fields than were harvested in 2020. KB quarantine protocol requires all host fields within the quarantine area be tested for bunted kernels at harvest. These 146 tested fields were among the 3,325 crop fields comprising 127,690 crop acres in the 2021 regulated area..

The KB quarantine was implemented in 1996 after bunted kernels were found in samples from 17 Arizona wheat fields. The pathogen has been recognized as a federal quarantine pest since about 1983.

KB quarantine regulations enforced by APHIS-PPQ require that all wheat fields located within e regulated areas be sampled and examined for bunted kernels before harvest. Each host crop field is observed at harvest by examining a four-pound sample of grain (about 35,000 kernels) for bunted kernels. Grain from fields in which bunted kernels are found must be treated and used only as animal feed. Fields in which KB is found become positive regulated fields and all fields existing within a three mile buffer area fall under the KB regulations.

Positive regulated fields can be removed from positive status after five cumulative years of tillage. Eight (8) formerly positive fields met the tillage requirement in 2021 leaving 25 positive fields. Release of these fields from their positive status reduced the regulated area by 20,952 field acres. The 2022 KB regulated area will consist of 106,738 ag field acres in a total regulated area of 224,266 acres.

The Queen Creek area will be completely removed from regulation and there will be acreage reductions in the Buckeye/ Avondale and Maricopa areas.

Sources of KB information

A USDA-APHIS-PPQ website has KB information: www.aphis.usda.gov/plant-health/kb. Information about KB is available. A brochure published by the U of AZ contains management practices that may minimize the likelihood of KB infection in host crops in Arizona. Search for: https://extension.arizona.edu/pubs - Cultural Practices for Karnal Bunt Control by Michael J. Ottman. No 1287.

Ottman Retirement – *Continued from page 1*

What have been the most critical needs in grain production research that you have encountered?

According to farmers, the most critical need is for variety evaluation. There are several plant breeding companies in the state who are constantly releasing new varieties. Much of the emphasis in the breeding programs was improved quality for end market users, while maintaining or increasing yield for farmers. The farmers want to know how these new varieties perform before signing contracts to grow them. The AGRPC's annual funding of the UA's variety trial has been an objective approach to evaluating all varieties available to growers – both private and public releases.

What do you see as the most important "findings" of your research and that supported by the AGRPCl? Consider economics, soil conservation, the environment, etc.?

One of the most important findings of my research supported by AGRPC is that late season applications of nitrogen, up to 4 weeks after flowering, can increase grain protein substantially. When I first arrived in Arizona, applying nitrogen fertilizer after flowering was not thought to be beneficial in increasing grain protein. Now, it is common for growers to apply nitrogen fertilizer in the irrigation water up to and including the final irrigation.

What aspects of your career have been particularly satisfying to you?

One of my most intriguing research areas has been with low input barley. In fact, low input barley was the topic of my first and one of my last research grants from the AGRPC. Low input barley cultivars are not widely grown, but I think the genetic and physiological characteristics of these barley types and the way they are grown can help devise strategies on how to have a small grain industry in the state with water shortages.

What aspects of Arizona's future grain production do you consider to be the most critical for success?

If current trends continue, I think we will have to prove that the grain we produce is healthy and nutritious and is grown in an environmentally friendly manner. Farmers may have to show that they are using best management practices, although farmers still need to be given the latitude to farm as they know best from their knowledge and experience. Arizona is unique in the sophistication of the grain industry and grower professionalism. We need to continue to adapt to the changing needs of the end-use market.

How do you describe the AGRPC s role in support of your career accomplishments?

The AGRPC supported my career in two major ways. First, the council members gave me an appreciation of how the small grain industry worked in Arizona, and what production factors are important to farmers. Second, the AGRPC funded much the research I did on small grains and gave me ideas and feedback on my work.

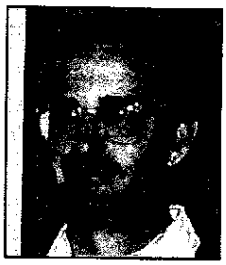
Who in the grain industry do you consider to have been particularly helpful or influential in promoting Desert Durum® grain in Arizona during your tenure?

There have been so many influential people over the years it is hard to name a single person. Numerous people played various roles, but I would have to say that Al Carleton and Bill Corpstein and their development and promotion of WestBred 881 during their days with Western Plant Breeders, which started the Desert Durum® industry, were particularly influential. In addition, I would also include the late John Skelley and Eric Wilkey of Arizona Grain and Michael Edgar of Barkley Seed as prime influencers.

2014 MAC Field Tour for AGRPC members (L-R); Larry Hart, Jason Walker, Paul Ollerton, Eric Wilkey (rear in cap), David Sharp. Ag Biosystems Engineering Assoc Specialist Dr. Pedro Andrade-Sanchez (front right).

How about giving us a bit of information about your origin, education, and initial job hunting experience?

I grew up in the Los Angeles area and worked on a dairy farm as a teen and while on a break while studying at UC Davis. I was interested in plant sciences and earned a BS and an MS in Vegetable Crops there. I enjoyed crop plant research so much that I pursued a PhD at the U of Illinois, where my dissertation dealt with corn.



I wanted a job in agricultural plant research and extension. I interviewed for positions in both industry and university, including for both the UA forage and grain job that I accepted and a vegetable crops specialist position in Yuma. **1994**

EDITOR'S NOTE A: Dr. Jeffrey C Silvertooth joined the UA staff as an Extension Agronomist in January 1987, specializing in cotton, where he was a colleague of Dr. Mike Ottman for 15 years in Plant Sciences. Subsequently, he headed the Soil, Water, and Environmental Sciences Department before becoming Associate Dean and Director of Cooperative Extension for about 8 years until mid-2021. Dr. Silvertooth offers the following commentary regarding his connections with Dr, Mike Ottman and his perspective on Mike's career:

"Mike and I maintained good lines of commonality (in our respective roles). I have found Mike to have always been a solid and productive agronomist. Throughout my career at the UA and various roles working with Mike, I have always found him to be hard working, fundamentally sound, practical, and productive. He has been an outstanding colleague and I have a tremendous amount of appreciation and respect for him. Mike has always gone about his work in a quiet and non-assuming manner, and he has always been a good and reliable colleague. He has done a great job and provided a valuable service to the UA and Arizona Agriculture."

EDITOR'S NOTE B: Ottman's tenure at CALS coincides with the growth of Desert Durum® as the hallmark grain crop of the desert southwest. The earliest of the ultra-high quality durum grain varieties now grown in Arizona were introduced to growers around the time he arrived on the job. So, virtually all of the management guidelines now published to produce consistent grain quality at the highest economical yield were developed under Ottman's guidance. Defining the most favorable rates and timing of late season nitrogen applications to increase protein levels is an example of the kind of critical knowledge he sought and developed.

Research Funded and Reported for 2020 and/or 2021 Grain Crops

Project 20-01 was submitted, monitored, and reported by Paul Brierly, Executive Director of the Yuma Center for Excellence in Desert Agriculture (YCEDA).

20-01: Development of an APP for Durum Wheat Water Management ($17,082)

Rationale and Scope: This project addresses AGRPC Priority No. 1 "Reduction of Fresh Water Consumption." Durum wheat produced in the desert is established by seeding into pre-irrigated fields, or by sprinkler or basin irrigation after seeding. Efficient irrigation management during crop growth depends on accurate crop evapotranspiration (ET) estimation, which is influenced by the accuracy of ET measurement methods.

Irrigation timing and quantity are influenced by the allowable depletion of soil moisture to avoid yield loss and by the volume needed to replace the water lost through ET. Advances in field measurement of crop ET include eddy covariance (ECV), which can account for locally turbulent airflow that naturally exists in the atmosphere. Larger scale ET measurements over space and time can be obtained using Large Aperture Scintillometry (LAS). Finally, satellite data from at least weekly flyovers have become available.

AGRPC-funded projects from 2016-2019 have facilitated compilation of ET estimates for durum wheat in multiple Arizona locations. This current research project aimed to develop algorithms for a component of a mobile software application (APP) management tool that will allow durum wheat growers in Arizona to utilize current data from satellites when making irrigation decisions based on ET and soil salinity needs.

Results: The APP we have developed allows for the selection of individual fields, the identification of soil types, the tracking of irrigation and rainfall and helps forecast optimal time and amount of future irrigation needs using recently compiled and historical weather data. A feature of this APP that distinguishes it from other irrigation advisory tools is that it tracks soil salt balance over multiple seasons and provides estimates of water required for leaching of excess salts. The APP is to be tested during the 2021-2022 durum wheat growing season.

Project 21-02 was submitted, conducted, and reported by Dr. Alex Hu, Extension Plant Pathologist, School of Plant Sciences, University of Arizona.

21-02: Monitoring Stripe Rust in Cereal Crops ($7,400)

Rationale and scope: Stripe rust *(Puccinia striiformis)*, also known as yellow rust, can be a devastating disease of wheat throughout the U.S. and can cause significant yield losses in barley in the western U.S. It is often found in barley grown in cooler environments during the winter rainy season. However, the fungus is constantly evolving to new races in response to environmental and varietal selection pressures.

It is not clear whether stripe rust can overwinter or over summer in Arizona's small grain production areas.

This project's objective was to monitor potential stripe rust pathogen populations for essential information to assist breeders and growers in selection of varieties and treatments to limit damage to wheat and barley crops in Arizona.

Procedures: A total of 90 samples of foliar diseases were collected during growing season surveys of wheat, barley and oat fields in Arizona between November 2020 and May 2021. Samples were collected in seven Arizona counties as follows: Cochise (5); Graham (7); La Paz (2); Maricopa (26); Pima (8); Pinal (34); and Yuma (8). The samples showed visible symptoms of yellowing, leaf tip dieback, leaf spots, striping, and stunting. Identification of the symptoms was based on morphological characteristics and sequencing of a region of the ribosomal DNA of each sample.

Results and Discussion: Stripe rust was not detected in any of the commercial fields sampled between November 2020 and May 2021. This was likely due to a warm winter and spring and below average rainfall during the winter and early spring. In contrast, USDA reported stripe rust of either wheat or barley or both occurring in twelve states, ranging from Washington to Ohio, including a low level in California in 2021.

Loose smut, some heavy, was detected on several barley and oat fields in the Buckeye vicinity.

What appeared to be barley yellow dwarf virus (BYDV) was not detected in any barley samples. However, symptoms similar to BYDV can be caused by iron and zinc deficiency and herbicide injury.

Five different fungal genuses caused extensive leaf blight that was widely observed in Maricopa and Pinal County barley fields. Infected dark spots enlarge and merge with some yellowing around the dark spots and severely-affected leaves died.

Stunted wheat, barley and oats were caused by two *Pythium* species in a few fields located in Yuma, Pinal, and Cochise Counties. These reactions may be associated with fields that have experienced prolonged waterlogging.

Several farm visits were conducted during the growing season to assist growers with disease identification. This project activity has greatly engaged growers to address their wheat and barley production problems in a proactive manner.

The report for Project 20-03 was submitted by Barry Tickes, U of A Area Agent for Yuma, LA Paz, and Mohave Counties and reported by Tickes and Marco Pena, Extension Associate, Yuma Ag Center.

20-03: Alternatives to Glyphosate for Use In and Around Wheat Fields in Arizona ($7,500)

Rationale and Objectives: Weeds can be a problem in and around wheat fields, from pre-planting to harvest, and consist of a wide range of both broadleaf and grass species. Weeds often also grow along ditch banks, roads, fence lines and other locations where they cannot be mechanically controlled. While herbicides exist for controlling these.weeds in Arizona, there is a need for broad spectrum, nonselective herbicides that have low risk of being detected in adjacent crop fields (especially wheat) through either spray drift, component volatilization or residue in soil after use on non-grain crops.

Glyphosate is the most widely-used herbicide in Arizona, the USA, and much of the world. It is an effective non-selective herbicide to control weeds in non-crop areas. It possesses low volatility and is barely detectable in soils when applied to control preplant weeds or on glyphosate-resistant crops. However, glyphosate has come under heavy scrutiny in recent years as a possible human carcinogen, leading to lawsuits decided in favor of plaintiffs as well as to adoption of very low detectable limits in grain products in some countries that import Desert Durum®. In addition, several serious glyphosate-

resistant weed problems have developed in some localities outside of Arizona.

The quantity of concerning issues related to use of glyphosate around wheat fields strongly suggests that identifying alternatives to its use around Arizona wheat fields to be an important endeavor. Alternatives would be broad spectrum, non-volatile, and have no soil residual presence. Identifying such alternative(s) was the objective of this project.

Procedures: Fifteen (15) EPA-approved herbicides, employing five different modes of action to kill weeds, were evaluated at the Yuma Ag Center to determine how well they would fit the criteria stated above. Modes of action and common chemical names of the substances are listed here:
Cell membrane disruptors: caprylic acid, carfentrazone, paraquat, pelargonic acid, pyraflufen, saflufenacil, sulfentrazone
Plant growth regulators: 2,4-D, Arylex™, dicamba, quinclorac
Photosynthesis inhibitor: bromoxynil
Pigment inhibitor: tembotrione
Protein synthesis inhibitors: glufosinate, glyphosate, topramezone

Replicated field plots of durum wheat were treated with these substances to evaluate weed control effectiveness. Weeds present in the trials were nettleleaf goosefoot, lambsquarters, common purslane, summer annual grasses, and winter annual grasses. In addition, wheat, lettuce, broccoli, and spinach were planted on plots treated with the 15 herbicides to determine their potential soil residual toxicity to these crops. Trials were also conducted to see potential herbicide volatility damage.

Weed control results: Three of the 15 substances controlled all of the weeds present as well as glyphosate. These were gramoxone, saflufenacil, and glufosinate. Herbicides that controlled broadleaf weeds as well as glyphosate but not grasses were carfentrazone, pyraflufen, and 2.4-D. Those that provided minimal control of all weeds included caprylic acid, pelargonic acid, topramezone, quinclorac, and Arylex™.

Soil residual toxicity: Four of the herbicides injured at least one of the four crops planted on treated soil; 2,4-D, dicamba, sulfentrazone and carfentrazone.

Aerial volatility toxicity: None of the tested herbicides appeared to negatively affect tomato plants located at least 25 feet from treated plots.

FY 2022 Funded Research

Project 22-01 was submitted by Dr. Alex Hu, Extension Plant Pathologist, School of Plant Sciences, University of Arizona

22-01: Desert Durum® Wheat and Barley Disease Surveys ($7,400)

Rationale and Objectives: Diseases that may affect the yield and quality of barley and wheat include smuts, rusts, and viruses. Arizona's normally dry weather usually limits the occurrence of these diseases in the state. However, local disease outbreaks may occur and severely impact yield and quality of these grains when weather and crop conditions are favorable for disease development. These diseases tend to evolve readily and can damage currently resistant varieties.

Disease surveys are a useful means of obtaining information on diseases of cereal crops such as disease distribution in space and time. Such information can be used to formulate management practices for growers and assist breeders in developing new more resistant varieties.

The goal of this project is to take a proactive approach to prevent the development and spread of important diseases of barley and wheat in Arizona. Specific objective are: (1) survey Arizona wheat and barley fields for the presence of in-season diseases; (2) monitor stripe rust pathogen populations to provide information to growers that may allow them to implement appropriate measures to reduce damage to wheat and barley crops; and (3) to build disease diagnostic capacity to support pest control advisors' and plant breeders' efforts to improve crop resistance to new disease races.

Procedures: Bi-weekly scouting trips during December 2021-June 2022 will survey barley and wheat fields across Arizona for the presence of in-season diseases.

Growers and pest control advisors will be encouraged to submit diseased plant samples for pathogen identification in both greenhouse and laboratory.

Rust samples will be identified visually and submitted to the USDA lab in Pullman, WA for race identification. New races of stripe rust will be tested for pathogenicity.

The following project was submitted by Dr. Pedro Andrade-Sanchez, Associate Specialist, Agricultural Biosystems Engineering, University of Arizona.

22-03: Dynamics of Soil Microbial Respiration of Rotations with Durum as Winter Crop in Arizona ($14,220)

Rationale and Objectives: Soil health is not a static condition, but rather an expression of seasonal changes occurring in soil microbial activity. The intensity of such soil microbial interactions supports the productive capacity of soils by regulating physical, chemical, and biological processes occurring in the living system. Specifics of crop management and rotational practices are controlled by growers, so these factors can be studied and potentially adjusted to maintain and optimize soil productivity.

Our understanding of key principles of soil health in Arizona is limited. Generation of new understandings will be the basis for future efforts to improve and preserve the sustainability of Desert Durum® production rotations with other crops This project should produce unprecedented baseline information that will aid understanding of the rates of carbon sequestration occurring in Arizona farming systems.

The overall objective of this research project is to generate information on the intensity of microbial activity associated with crop rotations that include durum wheat in Arizona. There is no such information available or published. Farming practices that affect microbial health should be revealed. The immediate goal is to generate a data set of sufficient quality to enable additional study to the point that management practices can be disseminated to growers via U of A extension channels.

Procedures: Grower-cooperators will be selected to identify three fields slated to produce durum during 2022. These fields will be surveyed to determine their apparent level of electrical conductivity, after which four points per field will be selected for sampling and soil respiration monitoring.

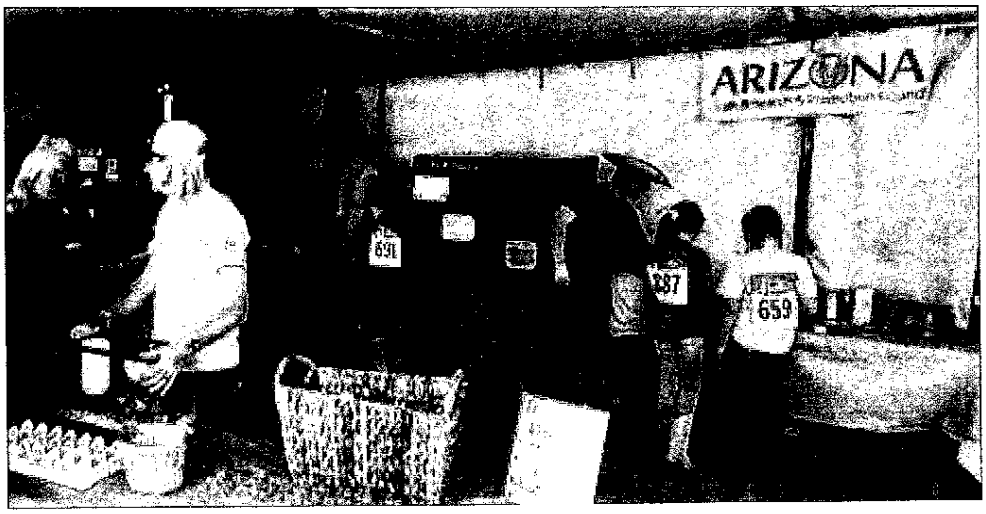
Twelve electrical sensing systems will be built, calibrated, and installed, followed by downloading soil respiration data over the spring durum season. Soil samples will be collected and analyzed to characterize for chemical and biological traits associated with the durum crop growth cycle.

Soil monitoring and sampling will continue during the rotation crop that follows durum. Data collected during this crop cycle will undergo comparative evaluation of data from the durum crop data.

It is anticipated that considerable additional research and evaluation will be needed and undertaken before field and crop management advisories will be published.

Chelsea McGuire is the Government Relations Director for the Arizona Farm Bureau. She is the grand-daughter of the late Russell Schlittenhart, who was instrumental in the creation of the AGRPC and served as chairman from its inception in 1986 until resigning from the Council in January 2000.

AGRPC members in January 2022. (L-R): Larry Hart, Thomas Wuertz, Eric Wilkey, Richard Heiden, David Sharp, Michael Edgar, Jason Walker.



Above: The AGRPC helped Arizona Farm Bureau present a grain-focused table (back right) during the 2022 Roots N' Boots Rodeo event in Queen Creek.

The AGRPC again sponsored the swag bag giveaway during the 2021 Racin' Bacon Derby Dinner put on by the Arizaona Farm Bureau. The affair was held in October on the lawn adjacent to AZFB offices in Gilbert. 152 paying guests bet on baby pig races, purchased donated items at auction and enjoyed dinner. Over $20,000 was raised to support the AZFB's Agricultural Education Farming Company programs.

Youngsters visiting the AZ FB exhibit enjoyed some play-time in a pile of Desert Durum® enclosed in a tractor tire.

Admiring "identity preserved" Desert Durum® and its future!!

Rodeo visitors attempted to match seven different grains with field crop photos of the same grain plant. Samples were provided courtesy of Arizona Grain, Inc. and CA Crop Improvement Assoc. (rice).

Arizona House of Representatives
Phoenix, Arizona 85007

July 7, 2022

Allan B. Simons, Executive Director
Arizona Grain Research and Promotion Council
1110 West Washington Street, Suite 450
Phoenix, Arizona 85007

Dear Executive Director Simons:

The sunset review process prescribed in Title 41, Chapter 27, Arizona Revised Statutes, provides a system for the Legislature to evaluate the need to continue the existence of state agencies. During the sunset review process, an agency is reviewed by legislative committees of reference. On completion of the sunset review, the committees of reference recommend to continue, revise, consolidate or terminate the agency.

The Joint Legislative Audit Committee has assigned the sunset review of the Arizona Grain Research and Promotion Council to committees of reference comprised of members of the House of Representatives Land, Agriculture & Rural Affairs Committee and the Senate Natural Resources, Energy and Water Committee.

Pursuant to A.R.S. § 41-2954, the committee of reference is required to consider certain sunset factors in deciding whether to recommend continuance, modification or termination of an agency. Please provide your agency's response to the factors listed below:

1. The objective and purpose in establishing the agency and the extent to which the objective and purpose are met by private enterprises in other states.
2. The extent to which the agency has met its statutory objective and purpose and the efficiency with which it has operated.
3. The extent to which the agency serves the entire state rather than specific interests.
4. The extent to which rules adopted by the agency are consistent with the legislative mandate.
5. The extent to which the agency has encouraged input from the public before adopting its rules and the extent to which it has informed the public as to its actions and their expected impact on the public.
6. The extent to which the agency has been able to investigate and resolve complaints that are within its jurisdiction and the ability of the agency to timely investigate and resolve complaints within its jurisdiction.

7. The extent to which the attorney general or any other applicable agency of state government has the authority to prosecute actions under the enabling legislation.
8. The extent to which agencies have addressed deficiencies in their enabling statutes that prevent them from fulfilling their statutory mandate.
9. The extent to which changes are necessary in the laws of the agency to adequately comply with the factors listed in A.R.S. § 41-2954.
10. The extent to which the termination of the agency would significantly affect the public health, safety or welfare.
11. The extent to which the level of regulation exercised by the agency compares to other states and is appropriate and whether less or more stringent levels of regulation would be appropriate.
12. The extent to which the agency has used private contractors in the performance of its duties as compared to other states and how more effective use of private contractors could be accomplished.
13. The extent to which the agency potentially creates unexpected negative consequences that might require additional review by the committee of reference, including increasing the price of goods, affecting the availability of services, limiting the abilities of individuals and businesses to operate efficiently and increasing the cost of government.

Additionally, please provide written responses to the following:

1. Identify the problem or the needs that the agency is intended to address.
2. State, to the extent practicable, in quantitative and qualitative terms, the objectives of the agency and its anticipated accomplishments.
3. Identify any other agencies having similar, conflicting or duplicative objectives, and an explanation of the manner in which the agency avoids duplication or conflict with other such agencies.
4. Assess the consequences of eliminating the agency or of consolidating it with another agency.

Finally, Laws 2021, Chapter 176 requires the committees of reference to consider certain factors for each agency that administers an *occupational regulation*, which is defined as: 1) a statute, rule, practice, policy or other state law that allows an individual to use an occupational title or work in a lawful occupation; and 2) a government registration, government certification and occupational or professional license. An *occupational regulation* does not include a business license, facility license, building permit or zoning and land use regulation, except to the extent those state laws regulate an individual's personal qualification to perform a lawful occupation. If your agency falls under this category, please provide written responses to the following:

1. The extent to which the occupational regulation meets the requirements of A.R.S. § 41-3502, as amended, transferred and renumbered by Laws 2021, Chapter 176.
2. The extent to which the failure to regulate a profession or occupation will result in:
   a. the loss of insurance.
   b. an impact to the ability to practice in other states or as required by federal law.
   c. an impact to the required licensure or registration with the federal government.
   d. the loss of constitutionally afforded practices.

Your response should be received by September 1, so we may proceed with the sunset review and schedule the required public hearing. Please submit the requested information to:

Paul Bergelin
Arizona House of Representatives
1700 West Washington
Phoenix, Arizona 85007

Thank you for your time and cooperation. If you have any questions, please feel free to contact me at (602) 926-4139 or Paul Bergelin, the House Land, Agriculture & Rural Affairs Research Analyst, at (602) 926-3458.

Sincerely,

Representative Tim Dunn
House Land, Agriculture & Rural Affairs Committee, Chair

cc: Senator Sine Kerr, Senate Natural Resources, Energy and Water, Chair
Rachel Caldwell, Senate Natural Resources, Energy and Water, Analyst

Arizona Grain Research and Promotion Council

Sunset Factors in A.R.S. § 41-2954
Responses to Committee of Reference
August 2022

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1) The objective and purpose in establishing the agency and the extent to which the objective and purpose are met by private enterprises in other states.

The Arizona Grain Research and Promotion Council (AGRPC) was established by the Arizona State Legislature, effective August 7, 1985, as a result of Laws 1985, chapter 63, section 2, in recognition of the grain industry's desire to coordinate the collection of self-assessments in a public manner and to encourage the development of industry-funded research and market expansion efforts. The AGRPC membership consists of seven grain producers who are appointed by the governor for three-year terms.

The structure, purpose, objectives, and activities of the AGRPC are very similar to government agencies existing and operating in numerous other grain-producing states. No entirely private enterprises fulfill the same roles in those states and as does the AGRPC in Arizona. The general model is that all such agencies, often called commissions, are self-supporting via grain production assessments, paid by grain producers, that are deployed in support of grain research and grain market development, both domestic and export.

2) The extent to which the agency has met its statutory objective and purpose and the efficiency with which it has operated.

The AGRPC has met its statutory objective and purpose by providing for the uniform collection and disbursement of grower assessments to support critical grain production and grain quality research projects and market development activities for Arizona's wheat and barley industry participants. These activities tend to enhance the profit potential of the industry and contribute to efficiencies in the use of irrigation water. Additional purposes that have been met include efforts to educate the public about the existence and importance of the state's grain industry in the overall context of Arizona agriculture. The objectives of the AGRPC are to facilitate means by which Arizona's grain producers and marketers can fund, and profit from, grain production and quality-related research and market development activities.

The AGRPC has been the primary source of funding of small grain production research at the University of Arizona College of Agriculture and Life Sciences (U of A), according to the extension specialist who conducted such research during his 1985-2021 tenure. Over the fiscal years 2013 - 2022, the AGRPC funded 40 wheat and barley production research and crop growth investigations, totaling $376,898. This research focused on a wide range of issues, including variety testing, weed control, fertilization and irrigation practices, grain quality, heavy metal content of grain, crop rotation practices, use of remote sensing and irrigation apps to advance production efficiencies, and academic investigations concerning the economic and sustainability impact of small grains production in Arizona. The AGRPC annually budgets about $3,000 to conduct a state-wide variety-specific survey of the quality of its durum grain crop, known as Desert Durum®, with the assistance of the state's grain handlers. It also cooperates with the California Wheat Commission (CWC) in publishing the results of the combined Arizona-California Desert Durum® crop, thus providing information sought by potential buyers in both domestic and foreign markets. U.S. Wheat Associates then publishes these annual grain trait data beside those of durum grain produced in the northern U.S. as part of its role of supporting the export of U.S.-grown wheat.

The AGRPC and the CWC have also been awarded co-ownership of the term "Desert Durum" as a certification mark issued by the U.S. Patent and Trademark Office. Only durum grain or seed produced under irrigation in the desert valleys and lowlands of Arizona and California qualifies to be called Desert Durum®. Only entities approved by the owners can utilize the term.

The AGRPC has produced educational DVDs to inform the public and the milling/pasta industries about the nature of the durum industry in Arizona. Hundreds of copies of "Gem of the Southwest" have been distributed to the public, particularly to teachers participating in the annual Summer Ag Institute (now Arizona Ag Institute) program conducted by the Arizona Foundation for Agricultural Literacy. An alternative second version, "From Plant to Pasta", has been distributed to potential foreign buyers. Both versions have long been posted on YouTube.

The AGRPC has hosted foreign trade teams consisting of representatives of existing and potential foreign buyers. Such teams are generally interested in specific market classes of wheat grown in the U.S. They are organized by U.S. Wheat Associates (USW) and brought to Southern Arizona and California, where the AGRPC, the CWC, and durum industry handlers explain the intricacies of the specialized Desert Durum® production and marketing system.

The AGRPC's membership in USW also provided an opportunity for one of the AGRPC's members to serve as an officer of that export promotion organization from 2006 - 2010. USW officers are producers who travel the globe in promoting the export of the various market classes of wheat produced in the U.S. Arizona's USW officer was able to represent the state's grain industry globally, along with promoting the broader U.S. industry. He has also served a leadership role in the wheat industry's efforts to advance the cause of biotechnology in wheat. The modest financial and participatory resources that the AGRPC devotes to its USW membership are dwarfed by similar resources that are devoted to USW by most of its major wheat-producing member states. However, Arizona's wheat industry is accorded equal status and attention as a USW member state.

The AGRPC operates with notable efficiency by devoting a portion of its revenue to an annual contract with the Arizona Department of Agriculture for administrative and legal services and with outside private entities for programmatic issues and activities, as appropriate. As a policy, the AGRPC annually notifies all known potential first-purchasers of grain (*e.g.*, merchandisers, feedlots, dairies) in the state of their obligation to collect and remit assessments in the names of producers from which they buy barley and wheat grain or seed.

3) The extent to which the agency serves the entire state rather than specific interests.

By its very nature and intent, the AGRPC serves the specific interests of the entire grain industry in Arizona. It has operated in the specific public interest of the grain industry by ensuring that the collection of modest producer assessments and the subsequent expenditure of those funds is both equitable and efficient. In turn, the economic and material proceeds from a healthy grain industry serve the broader agricultural community interests of rural areas, which also feature livestock and non-grain crop enterprises. Altogether, proceeds from the state's entire agricultural industry exceed $23 billion annually, per recent estimates. According to figures published by USDA's National Agricultural Statistics Service (USDA/NASS), the surface area planted to barley and wheat averaged 15.6% (range = 8.5% - 23.5%) of Arizona's annual crop acreage over the decade (2012-2021) since the previous sunset review. These acreages were worth an annual average of $81 million (range = $32-147 million) at the farm level during this decade. The annual value of wheat and wheat products exported from Arizona between 2012 and 2021 averaged $38 million, according to USDA/NASS.

The AGRPC provided a research grant to the University of Arizona in 2014 that described the contribution of small grains production to Arizona's economy. The following statement began the study's executive summary:

"Small grains, in particular wheat and barley, are an important part of Arizona's agricultural economy. Durum wheat, the most common type of wheat produced in Arizona, is grown for a wide variety of domestic and foreign customers. Small grains, especially barley, have long served as a source of feed for the state's large cattle feedlot and dairy industries as well as its hog, sheep, and poultry industries. Small grains play a critical role in maintaining soil and crop health for Arizona farms because other key agricultural crop sectors, such as those growing fresh produce and cotton, use small grains as important components of their crop rotations……..The contribution of small grains production to Arizona's economy goes beyond the **direct effect** of the dollar value of grain harvested from the fields. Grain production requires inputs of goods and services, many of which are served by local businesses. These local businesses, in turn, require their own production inputs. These rounds of business-to-business transactions providing inputs are known as **indirect effects**. Incomes generated in small grains production (farm profits, wages, and salaries) are also spent by households for expenses such as rent or mortgages, doctor visits, and groceries, which produce more rounds of household-to-business transactions, known as **induced effects**. Because of these **indirect** and **induced multiplier effects**, the economic contribution of small grains in Arizona is considerably greater than indicated by farm gate sales figures."

4) The extent to which rules adopted by the agency are consistent with the legislative mandate.

The AGRPC's rules are consistent with its legislative mandate. The current rules were adopted in 2002 and last amended in 2008. The rules cover payment of assessments, refunding of assessments, hearings for assessment disputes, and research grant awards.

5) The extent to which the agency has encouraged input from the public before adopting its rules and the extent to which it has informed the public as to its actions and their expected impact on the public.

The AGRPC's rules have remained largely stable during it existence, with the exception of the creation and amendment of its research grant rule. In an effort to gain public involvement in the rulemaking process, proposed additions and revisions have been discussed during public meetings of the AGRPC. The AGRPC also gives public notice of the rulemaking actions and a public comment period as required by Arizona Revised Statutes, Title 41. The primary constituency affected by the AGRPC's rules is approximately 300-400 grain producers who are provided with reports of AGRPC activities through an annual newsletter.

6) The extent to which the agency has been able to investigate and resolve complaints that are within its jurisdiction and the ability of the agency to timely investigate and resolve complaints within its jurisdiction.

The AGRPC operates within a limited jurisdiction that relates only to collection and utilization of industry self-assessment funds. The AGRPC has not been notified of the existence of any complaints made within its jurisdiction. The AGRPC stands ready to resolve any complaints that may arise in the future.

7) The extent to which the Attorney General or any other applicable agency of state government has the authority to prosecute actions under the enabling legislation.

The Assistant Attorney General assigned to the Arizona Department of Agriculture also serves as the AGRPC's legal representative and has the authority to prosecute issues that fall within the AGRPC's enabling legislation.

8) The extent to which the agency has addressed deficiencies in its enabling statutes that prevent the agency from fulfilling its statutory mandate.

The AGRPC successfully pursued passage of legislation in 2011-2012 that designates its funds that are provided by grain growers as trust monies, thus limiting exposure of such monies to uses other than those defined in the AGRPC's enabling legislation. Otherwise, a careful review of the AGRPC's enabling statutes has revealed no other concerns or hindrances to the AGRPC's ability or motivation to fulfill its statutory mandate.

9) ***The extent to which changes are necessary in the laws of the agency to adequately comply with the factors listed*** in A.R.S. § 41-2954.

No changes in the laws of the AGRPC are considered necessary in order to enable it to comply with the factors listed in this subsection.

10) Extent to which termination of the agency would significantly affect the public health, safety or welfare.

Termination of the AGRPC would dramatically reduce or hinder the existing strong interface between the state's grain industry and the broad national and international grain research, marketing, and food safety information chain. This interface provides timely notice of many issues that may affect the industry and even the public health and welfare. For example, important and potentially important foreign markets for Desert Durum® have "fiddled" with acceptable content of the heavy metal cadmium in wheat grain. Cadmium is not an essential plant-growth element, but durum wheat tends to accumulate more cadmium when grown on soils that predominate in southwestern Arizona than when grown on soils common to other regions of the state. The AGRPC has been on the forefront of urging production and plant improvement research intended to provide explanations and remedies for these potential cadmium issues. Furthermore, AGRPC's membership in U.S. Wheat Associates provides timely updates and advice on any phytosanitary and other wheat-related issues that might affect the public health.

11) The extent to which the level of regulation exercised by the agency compares to other states and is appropriate and whether less or more stringent levels of regulation would be appropriate.

The current level of regulation carried out by the AGRPC is similar to that carried out by similar agencies in other states and is appropriate as currently exercised.

12) The extent to which the agency has used private contractors in the performance of its duties as compared to other states and how more effective use of private contractors could be accomplished.

The AGRPC has just a few primary duties. They are to assess annual barley and wheat grain and seed crops produced in Arizona, to collect such production assessments from grain producers through their first purchasers, and to use the collected assessments on grain research and market development. The AGRPC cannot delegate its fee-setting authority or decision-making authority to private contractors, but it can use contractors to carry out activities resulting from its decisions. The AGRPC presently holds three agreements or contracts with outside entities. An agreement with the Arizona

Department of Agriculture provides financial record-keeping and administrative services as well as help with open meeting requirements. A contract with Dr. Allan B. Simons for the provision of executive director and program services authorizes his participation in local, state, regional, national, and international activities, and in market development projects in furtherance of the AGRPC's purposes and objectives. A membership agreement with U.S. Wheat Associates, a non-profit export development organization, provides invaluable exposure of Arizona's wheat industry to potential foreign buyers and also provides means of communicating with other regional wheat-producing states. Private contractors may be considered for accomplishing appropriate tasks.

13) The extent to which the agency potentially creates unexpected negative consequences that might require additional review by the committee of reference, including increasing the price of goods, affecting the availability of services, limiting the abilities of individuals and businesses to operate efficiently, and increasing the cost of government.

AGRPC's activities do not increase the price of goods, affect the availability of services, or limit the abilities of individuals and businesses to operate efficiently. The current longstanding grower assessment level of $.40-50 per ton of grain sold represents approximately 0.1% to 0.2% of the farm gate price (depending on prevailing market prices) and is fully refundable within 60 days of initial assessment collection. Over the years, 90-95% of assessment collections are retained by the AGRPC and their broad deployment by the AGRPC contributes substantially to the reputation of Arizona-grown Desert Durum® and to a level of demand for the grain that conceivably would not materialize to the existing extent without the AGRPC's activities.

In concert with the AGRPC's activities, the agricultural industry in Arizona, and the grain industry in particular, operate as efficiently and as profitably as production costs and market conditions allow. Furthermore, because the AGRPC's activities are completely funded by the grain industry, there is no direct cost to government in conjunction with the existing agreement. In fact, the increased economic activity brought into the state as a result of the success of the grain industry has produced, and will continue to produce, a strong flow of tax revenue into the coffers of local, county, and state municipalities.

Arizona Grain Research and Promotion Council

Agency Factors in A.R.S. § 41-2954
Responses to Committee of Reference
August 2022

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1) Identify the problem or the needs that the council is intended to address.

The Arizona Grain Research and Promotion Council (AGRPC) is intended to address a narrow but vital role covered by no other governmental agency or private entity - that is, to provide a forum and funding for the advancement of Arizona-produced barley and wheat grain-specific research and market development The Legislature acknowledged the results of a 1985 grower referendum that widely supported the creation of a grain grower-funded and autonomous agency (the AGRPC) comprised of representatives of Arizona's grain industry. The current interagency services agreement between the AGRPC and the Arizona Department of Agriculture provides for efficient and open administrative and legal services while preserving the autonomous structure of the AGRPC as guardian and administrator of the grower funds left in its care.

2) ***State, to the extent practicable, in quantitative and qualitative terms, the objectives of the council and its anticipated accomplishments.***

The objectives of the AGRPC are to provide a focused means by which Arizona's grain producers and marketers can fund, and profit from, grain-related research and market development activities.

The AGRPC is the primary source of funding of small grain research at the University of Arizona College of Agriculture and Life Sciences. During the ten fiscal years 2013 -2022, the AGRPC funded 40 research and crop growth reporting projects, totaling $376,898, to benefit Arizona's grain industry. Research focused on a wide range of issues including variety testing, weed control, foliar disease monitoring, fertilization and irrigation practices, grain quality, crop rotation practices, use of remote sensing to advance production efficiencies, and sustainability of grain farming in the desert. In fact, the latter study demonstrated that our desert grain farming practices rank at the top of sustainability rankings as measured by wheat production water footprint. Each year, the AGRPC spends about $3,000 conducting a variety-specific survey of the quality of its durum grain crop and cooperates with the California Wheat Commission in publishing the results of the combined Arizona-California Desert Durum® crop, thus providing information sought by potential buyers in both domestic and foreign markets. These quality data are then published beside similar data for northern U.S. durum grain by U.S. Wheat Associates. The AGRPC anticipates that it will continue to fund small grain production research projects and crop quality surveys.

The AGRPC has produced educational media to inform the public and the milling/pasta industries about the nature of the durum wheat industry in Arizona. It has set up displays of its program and objectives at annual meetings of the Arizona Farm Bureau Federation (AZFB) as well as sponsoring educational efforts at the latter's annual Ag Day exhibit at the Roots 'n Boots Rodeo in Queen Creek and other efforts of its Educational Farming Company. AGRPC has annually financially sponsored participants in the Arizona Ag Institute program that is conducted by the Arizona Foundation for Ag Literacy (AFAL) to expose school teachers to all aspects of Arizona agriculture. For a period of time, it employed a public relations person to promote AGRPC's roles on Facebook and it continues to post on that platform when appropriate. Other recipients of AGRPC sponsorship and promotional funding include the Wheat Foods Council, the U.S Durum Growers Association, the Arizona FFA Foundation, the Southwest Ag Summit and the Agribusiness and Water Council of Arizona. The sum of these financial contributions was $118,398 over the 2015-2022 fiscal years. Such efforts to educate the community about barley and wheat production and their value in the state are anticipated to continue.

When offered, the AGRPC has hosted trade teams consisting of representatives of current and potential foreign durum wheat buyers. These teams are assembled by U.S. Wheat Associates (USW) and are brought to the U.S. and the desert southwest as they request. Teams visit to learn about Arizona's unique durum grain quality and the specialized variety-specific manner in which our durum grain is produced and marketed. The latter is termed "identity preservation." The practice was pioneered in Arizona by its grain handlers and allows buyers to specify Desert Durum® grain purchases by specific variety. Italy has long been the primary export market for Desert Durum® as a result of these kinds of promotional activities and continues to retain that role in recognition of the superior semolina flour quality available from Desert Durum®. The AGRPC will continue to welcome such visits from potential foreign buyers when opportunities arise.

3) ***Identify any other agencies having similar, conflicting, or duplicative objectives, and an explanation of the manner in which the council avoids duplication or conflict with other such agencies.***

The Arizona Department of Agriculture has the power to promote products under A.R.S. § 3-109.02(A), but it does not have the necessary funding or expertise to carry out the AGRPC's mandate

and activities. There are no conflicting objectives between the Department of Agriculture and the AGRPC. No other federal, state, or local agency or commodity council has similar, conflicting, or duplicative objectives pertaining to barley and wheat grown within the state.

4) Assess the consequences of eliminating the council or of consolidating it with another agency.

Termination of the AGRPC would likely jeopardize Arizona's strong grain economy and place it at a relative competitive disadvantage with the grain industries of other states and countries. The Arizona Department of Agriculture does not have the authority to collect and distribute industry assessments. Therefore, without the AGRPC, there would be no industry-focused forum for Arizona grain producers to collaborate on research and market development projects that advance their industry, both domestically and abroad. With the advances in the science of production agriculture, access to quality state- and commodity-specific research is essential and AGRPC is the primary source of grain research funding for such efforts at the University of Arizona. Furthermore, as an export-enhanced industry, Arizona agriculture must be afforded the opportunity to develop both domestic and export markets for the high quality grain products grown in the state. Such markets are significant sources of externally-sourced revenue.

The termination of the AGRPC would result in a disappointing reduction of the grain industry's focus and momentum, and inevitable reduction of Arizona's grain industry role as a leader in identity-preserved grain production and the state's image as a premium producer of durum grain for the domestic and foreign pasta industries. It would also eliminate the opportunity for the AGRPC to communicate grain-related matters to the state's barley and grain growers and to educate the non-ag public about the industry. Consolidating the AGRPC with another agency would simply complicate the focused effort of the AGRPC and such other agency to fulfill their specific mandates to enhance the profitability and/or visibility of their specific industry.