

Letter from the Editors

I am pleased to welcome Joy Hollingsworth as my new co-editor of *On the Soil Horizon*. Joy is a new Nutrient Management/Soil Quality Advisor serving the southern San Joaquin Valley. Check out her full bio on page 4.

On another note, we want to assure you, that although our offices are closed due to the COVID-19 crisis, we are still working remotely to serve you. Critical research will continue as long as it is safe to do so. Some extension meetings may be converted to online webinars, and we are always available to answer your questions. Email is the best way to reach us right now, but we are also checking voicemails, and updating our websites and social media whenever possible. We will get through this together.

Field Crop Trends in Stanislaus County from 1960 to 2018

Authors: Anthony Fulford and Adrian Yopez

Field crop acreage in Stanislaus County has changed slowly over time and these changes are often difficult to understand when the historical information available is limited to the most recent growing seasons. Short-term changes in agricultural production can be drastically different from the long-term trends that become apparent only after multiple decades of production. To gain a better understanding of how long-term trends have altered field crop agricultural production in Stanislaus County, we compiled historical information in the Stanislaus County Agricultural Reports (<http://www.stanag.org/agricultural-statistics.shtm>) from 1960 to 2018. The earliest available Stanislaus County Agricultural Reports were from the 1940s (1940-1949) but due

to differences in formatting and reporting from the 1940s and 1950s, we decided to collect and compile information beginning with the 1960 report. From each report, we collected field crop production information, including the total harvested acres, total production (Tons) and estimated per acre production (Tons/Acre) for alfalfa hay, barley, corn silage, grain sorghum, oats, sudan-grass, and wheat. The estimated per acre yield for each crop was determined by dividing the total production (Tons) by the total harvested area (Acres). We recorded this production information for each of the seven crops evaluated when the crop category was reported consistently, but chose not to record any information when a category changed from the initial designation. For example, in 2018, oats were reported as “Hay, Oat” rather than “Oats”, so while oats were still being produced in Stanislaus County based on the 2018 report, to maintain consistency in the way we presented results in this article, “Oats” were not reported for 2018.

The historical trends of harvested acres for field crops grown in Stanislaus County from 1960 to 2018 are shown in Figure 1. There was a noticeable decline of harvested barley acres from 1960 to 2006 and of harvested alfalfa hay from 1960 to 2018, while there was a noticeable increase of harvested corn silage acres from 1960 to 2018. Harvested acreage of alfalfa hay was consistently greater than harvested acreage of barley since 1960. Whereas, the harvested acreage of alfalfa hay was greater than corn silage from 1960 to 1974 but was consistently less than corn silage from 1992 to 2018. We also evaluated the linear trend lines which described how harvested acreage changed over time and found that harvested barley declined by an average of 1020 acres per

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year from 1960 to 2006 and harvested alfalfa hay declined by an average of 331 acres per year from 1960 to 2018. In contrast, harvested corn silage increased by an average of 1165 acres per year from 1960 to 2018.

The average total production of corn silage was approximately 1.2 million tons and total production of alfalfa hay averaged approximately 269,000 tons from 1960 to 2018 in Stanislaus County (Table 1). The average total production was also greater than 10,000 tons for barley, sudangrass, and wheat. The estimated average production per acre for these field crops ranged from one ton per acre for barley and oats up to 24 tons per acre for corn silage. Maximum production per acre of corn silage occurred in 2001 and 2003, and for alfalfa hay in 2006, barley in 2002, sudangrass in 2018, and wheat in 2008.

The 2020 growing season will be just another point along this trend line and while the most important growing season seems to be the one of recent memory, it is important to keep these long-term trends in mind to better understand the changing agricultural landscape of Stanislaus County.

Figure 1. Harvested acreage of field crops grown in Stanislaus County from 1960 to 2018.

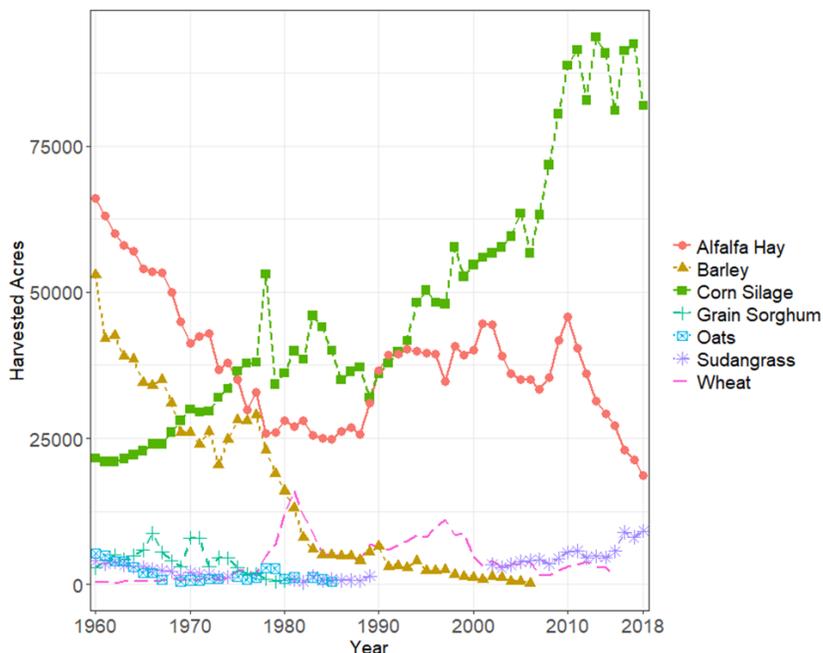


Table 1. Average (Avg), minimum (Min), and maximum (Max) for harvested acres, total production (Tons) and production per acre (Tons/Acre) for field crops grown in Stanislaus County from 1960 to 2018.

Crop	Years of Production*	Harvested Acres			Total Production (Tons)			Production (Tons/Acre)		
		Avg	Min	Max	Avg	Min	Max	Avg	Min	Max
Alfalfa, Hay	59	37,740	18,639	66,000	269,493	125,000	444,000	7	6	9
Barley	**	15,576	230	53,000	19,325	280	58,300	1	1	3
Corn, Silage	59	48,239	21,000	93,595	1,204,923	252,000	2,580,000	4	12	29
Grain Sorghum	23	3,759	400	8,800	7,771	1,200	20,240	2	1	3
Oats	23	1,902	500	5,300	1,699	260	4,240	1	0.03	2
Sudangrass	***	3,243	470	9,167	39,776	1,550	155,000	8	3	17
Wheat	56	4,248	150	16,000	10,056	213	35,200	2	1	4

*Years of production are the number of years data was collected and reported in the Stanislaus County Agriculture Reports (1960-2018); **Barley was recorded for 47 years [Harvested Acres and Total Production (Tons)] and 42 years [Production (Tons/Acre)]; ***Sudangrass production was recorded for 41 years [Harvested Acres] and 26 years [Total Production (Tons) and Production (Tons/Acre)];

Local UC Cooperative Extension and USDA NRCS Staff Gather to Share Information and Resources

Authors: Joy Hollingsworth and Anthony Fulford

University of California, Division of Agriculture and Natural Resources (UC ANR) and USDA Natural Resource Conservation Service (NRCS) jointly funded two positions in the Central Valley of California held by Joy Hollingsworth and Anthony Fulford. Our positions serve as regional UC ANR Nutrient Management and Soil Quality Farm Advisors at the county level, while also providing scientific expertise to NRCS field offices. In June 2018, Anthony began his position based in the Modesto Cooperative Extension office, serving San Joaquin, Stanislaus and Merced counties. Joy began in April 2019 and is based in the Fresno Cooperative Extension office covering Fresno, Madera, Kings, and Tulare Counties. One of our goals is to increase familiarity between staff from UC ANR and NRCS as a steppingstone to increased cooperation and collaboration.

On February 26, 2020, we convened a group of district conservationists, soil conservationists, and area staff from the NRCS along with UC farm advisors and county directors. In a half-day meeting held at UC's Kearney Agricultural Research and



Photo 2: UC Cooperative Extension Advisor for Livestock and Natural Resources Rebecca Ozeran (left) visits with NRCS Water Quality Engineer Richard Cernansky (right). Photo courtesy of Hudson Minshew, NRCS State Conservation Agronomist.

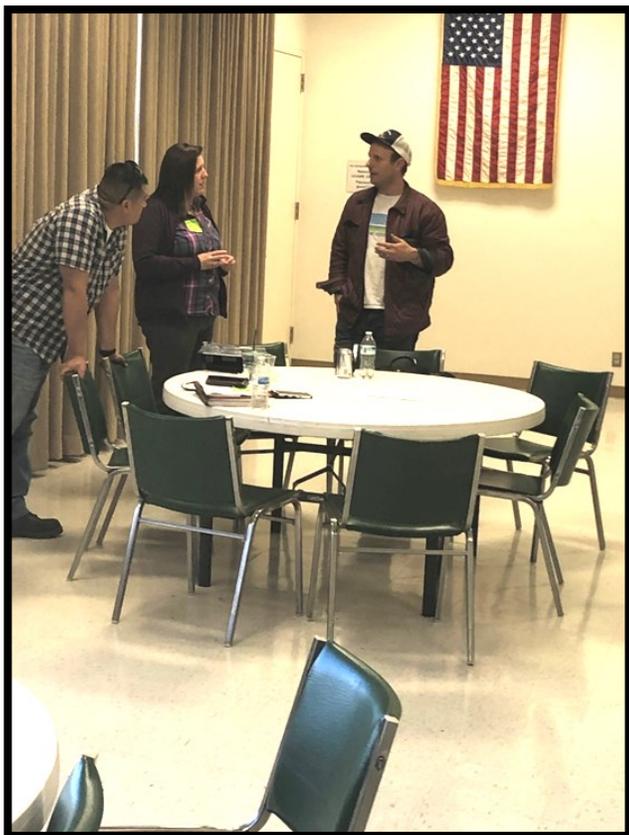


Photo 1: UC Cooperative Extension Advisor for Agronomy and Nutrient Management Nick Clark (right) visits with NRCS Soil Conservationist Erwin Duenas (left) and NRCS District Conservationist Lurana Strong (center). Photo courtesy of Hudson Minshew, NRCS State Conservation Agronomist.

Extension Center in Parlier, 33 attendees learned why this partnership was formed and what resources from the other organization are available. They also had the chance to sit down with others from their service area during a roundtable discussion session to assess what is working and what could be improved, with an ultimate goal of better serving their shared clientele. Initial feedback from the meeting has been very positive, and there seems to be interest in having more of these meetings in the future, to include more people, and also to track progress. One attendee commented that they think it will be easier reaching out to the other organization now after getting to know each other.

In order to facilitate communication with a wider audience, we have started reviewing responses obtained from a survey distributed at the end of the meeting. We have also started summarizing some of the key takeaways from the roundtable discussions. Twenty-three attendees responded to our survey and all agreed that by participating in this meeting they gained a better understanding of how each organization operates and as a result would be able to use connections made at the meeting in their future work. This is a very promising result and encourages us to take the next steps required to further strengthen the relationship between UC ANR and NRCS.



New Nutrient Management and Soil Quality Advisor for Fresno, Madera, Kings, and Tulare Counties

Please welcome Joy Hollingsworth, our new Nutrient Management and Soil Quality Farm Advisor for Fresno, Madera, Kings, and Tulare Counties. Joy's position is another new partnership between the UC ANR and the USDA NRCS. In addition to conducting a research and extension program on soil quality and nutrient management, she will be providing technical support to the NRCS.

Joy is a San Joaquin Valley native whose interest in agriculture started when she joined her local FFA chapter in high school. She earned a B.A. in Communication from UC Davis, and a M.S. in Plant Science from Fresno State. Joy has worn many hats in the agriculture sector, having interned with large companies such as Bayer CropScience, Pioneer Hi-Bred, and Dow AgroSciences, as well as working for sustainable ag non-profits such as the National Center for Appropriate Technology (NCAT) and the Community Alliance with Family Farmers (CAFF).

Prior to her Farm Advisor appointment with UCCE, Joy spent six years working for the University of California in two other roles. At UC Davis, she conducted research on sugar beets and oilseed crops, while at the UC Kearney Agricultural Research and Extension Center in Parlier she assisted with drought and variety trials on sorghum. "Growing up in Kingsburg, I understand the challenges and issues we face in the San Joaquin Valley and look forward to serving my local community. I believe that my wide range of research and extension experiences will help me in my new role as a farm advisor, and I look forward to working with growers, consultants, allied industry, and government agencies to address soil and nutrient management challenges. Please feel free to contact me with questions or suggestions of topics to address. I look forward to speaking with you!"

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Please stay tuned for updates on research projects, events, and announcements in upcoming issues of *On the Soil Horizon*

Ongoing Research

Here are a few of the research projects that Joy and Anthony hope to take on this year:

Manure Characterization Study: Anthony and Joy are part of a team of UC researchers that are going to be collecting and analyzing manure from different types of collection streams on California dairies. The data collected will help to improve the understanding of the chemical and physical properties of manure.

Biostimulants in Raisin Grapes: Biostimulants are a very broad category of biological products used in crop production. Although these products have been around for some time, there is a lack of understanding on how they work and a need for more replicated research trials. Joy will be comparing three commercial products to a grower's standard practices in a vineyard.

Monitoring Field Border Installation and Establishment for Soil Health: Anthony will be evaluating how effectively different grass species such as creeping wild rye, companion sod, and blended pollinator mixes become established in field borders and their potential impact on soil health measurements. This project has the goal of raising awareness of the potential soil health benefits of field borders when purposefully implemented as a conservation practice.



Serving Stanislaus County Since 1915

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March 24, 2020

Dear Stanislaus County community:

As you all know, national, state, and local agencies have been implementing various measures to reduce the rate and risk of community spread of COVID-19. We wanted to update you on protective measures being taken by UC ANR, including this office. All UC Agriculture and Natural Resources county offices, research and extension centers and statewide programs are implementing telecommute protocols. As of Friday, March 20, all UC ANR employees have been working remotely. This includes our Farm Advisors who work closely with growers and other agriculture clientele, UC Master Gardeners, the Nutrition, Food and Consumer Science program, and 4-H.

Being mindful of official guidance concerning social distancing, many Cooperative Extension functions, events, activities, meetings, etc. have been cancelled through the end of April. This directive also includes all volunteer-led youth or adult programming, meetings, or gatherings.

During this telecommute status, **we want to emphasize that we are still working and available to assist.** Call our number at 525-6800 and we will direct you to the appropriate person. Critical research projects are being maintained and program delivery is taking place online. There is no impact on your ability to connect with us by email or phone.

We will be monitoring COVID-19 developments closely and will continue to communicate any changes to our operations. If you have any questions or issues regarding potentially impacted meetings, events, research, programs, etc., please check our website at cestanislaus.ucanr.edu or drop us an email. We are here and available to assist you during this uncertain period.

Sincerely,

Roger Duncan, Farm Advisor and Director, UC Cooperative Extension in Stanislaus County

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