

MINUTES

WATER MANAGEMENT WORKING GROUP

KENTUCKY FARM BUREAU FEDERATION

March 29, 2017

The Kentucky Farm Bureau Water Management Working Group met at the University of Kentucky Grain And Forage Center of Excellence in Princeton, Kentucky on Wednesday, March 29, 2017.

Working Group members present were: Steve Coleman, Chair; Warren Beeler; Brent Burchett; Nancy Cox; Sharon Furches; Pat Henderson; Kevin Jeffries; David Rowlett; and Larry Thomas. Working Group members absent were: Todd Clark; Rusty Cress; Terry Gilbert; Pete Goodman; Kenneth Imel; and Gary Larimore. Ex-officio members present were: Karen Woodrich, State Conservationist, NRCS. Ex-officio members absent were: Tom Fern, State Director, USDA Rural Development; Michael Griffin, State Director, U.S. Geological Survey; and Kim Richardson, Director, Kentucky Division of Conservation. Others in attendance were: Biff Baker, GOAP; Steve Blandford, NRCS; Glynn Beck KGS; Peter Cinotto, USGS; Rick Bennett, UK; Steve Higgins, UK; Ole Wendroth, UK; Chad Lee, UK; Edwin Ritchey, UK; John Grove, UK; John David Fourqurean, Farm Credit; Brandon T. Garnett, Farm Credit; Milton Cook, Farmer; Mark Haney, President, Kentucky Farm Bureau; Eddie Melton, First Vice President, Kentucky Farm Bureau. This meeting was staffed by Joe Cain.

This meeting was called to order at 10:00 a.m., CDT by Chairman Steve Coleman, who welcomed and reviewed the purpose of the meeting. Introductions were made. Chairman Coleman thanked UK for hosting the Water Management Working Group meeting. Dr. Chad Lee, UK, welcomed the Working Group to the Center and provided a brief overview of the station.

Chairman Coleman asked the Working Group to consider the minutes of the January 24, 2017 meeting. A motion was made by Mr. Larry Thomas, and seconded by Mr. Kevin Jeffries second that:

“We approve the minutes of the March 24, 2017 meeting.”

Motion passed.

Water Management Working Group
March 29, 2017

Chairman Coleman reminded the Working Group that a depository of meeting information (presentations, useful links, supporting literature and minutes) is located on Kentucky Farm Bureau's website at www.kyfb.com/water.

Mr. Peter Cinotto, USGS, presented an overview of how groundwater recharge occurs. He said we should consider groundwater recharge somewhat like a bank account where a balance exists that can be withdrawn from and deposits made to maintain the account. He said we need to understand how different aquifers recharge, and from what sources. Some deep systems take millennia to fully recharge, while shallow systems can recharge effectively from annual precipitation events. This is why monitoring streamflow and groundwater levels are important in developing realistic water budgets. "Safe yield" needs to be determined if full recharge is not possible where the system can find an equilibrium in response to pumping to become sustainable. Mr. Cinotto said this really is a balancing act where the two basic needs to assess sustainability is determining the inflows and outflows with regards to the aquifer properties. He cautioned an estimate of natural recharge, by itself, should not be used to determine the amount of groundwater that can sustainably be withdrawn.

Dr. Chad Lee, UK, reviewed irrigation studies the University of Kentucky is involved in. He provided information on a study where four corn hybrids at various populations under different weather conditions provided two totally different yields. He noted having adequate water at critical times in the crop development is the key to highly productive yields and that average annual rainfall amounts can be misleading because the water does not come at critical times. He noted that in 2016 we had above average rainfall, but a majority of precipitation came one day in July and was not usable to the crop. Dr. Lee showed that plant populations at 40-45,000 plants per acre, with adequate water at critical times can produce 300 + bu/acre.

Dr. Ole Wendroth, UK, reviewed irrigation research on the Gilkey Farms. He provided Landsat data to demonstrate the key is to irrigate when needed. He stressed producers do not need to be late turning on the water. Dr. Wendroth noted 0.7 inches of application is a good irrigation rate, but on some soils a lower rate made more frequently would be more efficient, as would the use of variable rate irrigation. He is working on a smart phone app for producers to utilize in making irrigation decisions. He noted improving overall soil health can increase water holding capacity that will improve water utilization and efficiency.

Dr. John Grove, UK, provided an update on the University of Kentucky Grain and Forage Center of Excellence developments since the last Water Management Working Group meeting at the facility and further discussed future irrigation research plans at the Center and in conjunction with area producers.

**Water Management Working Group
March 29, 2017**

Ms. Karen Woodrich, NRCS-KY, said she was excited about getting more data on irrigation that could be incorporated into current NRCS programs and cost share. She noted we need to continue to work on changing language in the next Farm Bill to allow NRCS to provide technical assistance in developing new, and more sustainable water resources. She noted NRCS can now work to improve efficiencies of existing systems, but in addition to being authorized to provide assistance on new developments, she said personnel may be an issue due to recent retirements. She hoped funding could be found to fill those critical positions. She said NRCS is also working more on edge-of-field monitoring to look at water quality and practices that can help reduce off-site movement while improving water-use efficiency. Ms. Woodrich also noted soil health is a continued focus to address improving water holding capacity in soils.

Mr. Steve Blandford, NRCS-KY, provided a quick overview of the afternoon site visits Water Management Working Group members would be making and then introduced Mr. Milton Cook, the owner of the farming operation the group would be visiting. Mr. Cook overviewed his farming operation and philosophy on irrigation. He explained his irrigation system and stressed that if you wait until water is needed by the crop it may be too late for irrigation to be effective. He encouraged doing more frequent irrigations with lesser amounts of water rather than single large irrigation events that may create runoff issues. He noted he has two surface lakes he utilizes and that he utilizes field runoff and pumping from local water resources to maintain water in the lakes for irrigation. He said it is important that he maintain streamflow for other users of the water resources, and that to do that he sometimes has to turn off his pumps. He has tobacco, alfalfa and grain crops under irrigation.

Dr. Steve Higgins, UK, provided an overview of best management practice concepts he and Mark Ferguson, NRCS-KY, had put together for the Water Management Working Group to consider. He noted the idea is to maximize water-use efficiency and utilization of water resources. The Working Group discussed several of the BMPs and how they could fit into an effective water resource plan.

Following lunch that was provided by Dr. Rick Bennett, UK, the Working Group traveled to three of Mr. Cook's irrigation sites. One site was pulling water from a stream to maintain lake levels on one of his irrigation lakes. The second site was a lake that mainly filled from field drainage and was used for both crop irrigation and to provide water for a custom cattle finishing operation he runs. The third site was a spring site that once was used as the source of municipal water for the city of Princeton, that now is being used to provide irrigation water for his farm. The site was very interesting in that the water is at the base of an old

**Water Management Working Group
March 29, 2017**

collapsed sinkhole where the water emerges from one side and is only on the surface for about fifty yards before re-entering the groundwater system.

Chairman Coleman announced the next Kentucky Farm Bureau Water Management Working Group meeting will be held Wednesday, April 26, 2017 at the Eden Shale Research Farm at 245 Eden Shale Road in Owenton, KY.

There being no further business to come before the committee, the meeting was adjourned following the third site visit.

**Recorded by: Katie Weatherholt
Administrative Assistant**

**Approved by: L. Joe Cain, Director
Commodity Division**