MISSOURI
DEPARTMENT OF
NATURAL RESOURCES

Building On-Farm Resiliency to Flood and Drought

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Missouri DNR Soil and Water Conservation Program

Why Farm Resiliency?

- The State of MO is currently experiencing a multi-year drought that is unlike anything in recent memory
- The Department of Natural Resources, under our current leadership, has made partnering with communities a major priority
- Agriculture is the number 1 industry in MO (66% of land use)
- The department leads the coordinated drought response in MO

Community Resilience Efforts

- DNR is partnering with communities to make them more resilient in the following ways
  - Levee setbacks
  - Drinking Water Reservoir Construction
  - Ground water and stream level monitoring
  - Drinking and Wastewater infrastructure grants
  - Energy efficiency grants

  Just to name a few…

EO 22-04

- …I order and direct the Director of the Missouri Department of Natural Resources to activate and designate a chairperson for the Drought Assessment Committee and request that all Missouri and federal agencies participate as needed.

I further direct the Director of the Missouri Department of Natural Resources to promote the use of the Condition Monitoring Observer Reports to better identify statewide drought impacts.

I further direct all state agencies to examine how the State can support affected communities, as well as those communities that may be affected in the future, through temporary suspension of administrative rules, appropriations, or other means of support to mitigate the effects of the drought conditions.

EO 23-05

- …I order and direct the Director of the Department of Natural Resources to activate and designate a chairperson for the Drought Assessment Committee and request that all Missouri and federal agencies participate as needed.

I further direct the Director of the Department of Natural Resources to promote the use of the Condition Monitoring Observer Reports (CMOR) to better identify statewide and localized drought impacts.

I further direct all state agencies to provide assistance in mitigating the effects of drought conditions in all affected communities.

This Executive Order shall be effective immediately and shall remain in effect until December 1, 2023, unless terminated or extended by subsequent order.

Historical Response

- Commission Variances
  - Suspend grazing school requirement
  - Allow grazing in exclusion areas
  - Allow haying of cover crops
  - Allow reseedings
  - Pond Cleanout
- All reactionary and limited in scope due to funding source requirements

E.g. Pond Cleanout

- Has been implemented in response to drought a couple times recently
  - Demand is extremely high in drought years
    - Limited to cost-share ponds
    - What to do with sediment
    - Very low utilization
    - What is the conservation benefit?



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Initial Request

Cost-share Practices with the Potential to Reduce the Impact of Drought - PUB2342

Soil and Water Conservation Program fact sheet
Missouri Geological Survey Director: Carey Bridges, RG

Printer Friendly Version

07/22/2022
PUB2342

The Soil and Water Conservation Program currently offers more than fifty individual cost-share practices to farmers. All of these practices are designed to either reduce erosion or protect water quality, but many also have the potential to reduce the impacts of drought on the land, livestock and bottom line of farmers across the state. The following is a summary of current **cost-share practices** and potential drought related benefits organized by resource concern.

Sheet, Rill and Gully Erosion

Seeding Practices

A native warm season grass component is available to use for seeding practices in this resource concern. Native warm season grasses are known to be more tolerant of drought and more productive in the hot summer season when drought impacts are most likely in our state. When farmers incorporate these grasses into their farming systems, they have the potential to provide additional hay and forage for livestock, as well as live, productive ground cover during hot and dry periods when compared to cool season options such as fescue.

DWC-01 - Water Impoundment Reservoir

Water impoundment reservoirs are constructed to address gully erosion concerns, but current program policy allows the installation of pipe, valves, hydrants and tanks with cost share assistance when building a pond. This water can then be used to supplement livestock and crop needs without additional pumping equipment during times of drought.

N340 - Cover Crop

Cover crops are offered as a practice because of their ability to reduce erosion in between cash crops, but they also have the potential to be an important tool to increase drought resiliency on farms, particularly when coupled with no-till and used long term. Long term cover crop use has been proven to increase soil organic matter, infiltration rates and water holding capacity, all of which make a field more resistant to drought impacts. In addition, in some cropping systems such as when soybeans are no-tilled into cereal rye, the mulch provided by cover crops helps to reduce evapotranspiration and reduce competition from weeds. Cover crops can also provide an important alternative or emergency source of feed for livestock in the form of grazing.



Grazing Management

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Where are we heading now

- RCPP
  - Proposal Submitted entitled “Increasing on-farm Resilience to Drought and Flood in Missouri
    - Focused on livestock producers
    - Wide ranging support from public and private partners
    - Uses current EQUIP infrastructure but a different approach
- “This shift in focus from a resource evaluation to one that seeks to achieve the most economical solution to drought and flood resiliency while protecting natural resources is notable. The three original goals of the US Farm Bill are to keep food prices fair for farmers and consumers, ensure an adequate food supply, and protect and sustain the country’s vital natural resources. In light of Missouri’s experience with the droughts of 2022 and 2023, and the serious impacts to the livestock industry, it is more important than ever to assist livestock producers in achieving resiliency so that livestock continue to be raised affordably in Missouri for both farmers and consumers, even during times of drought and floods.”

NDI

- Budget proposal submitted that would establish an agricultural disaster assistance program:
  - Not funded through the parks, soils, and water sales tax, but administered by the SWCP using existing systems
    - Expanded Pond Clean-out
    - Seedings

Moonshot

- Missouri has recently experienced unprecedented growth in revenues (actually had to cut taxes because of it)
- Governor in his last year wants to leave a legacy
- Invited all departments to submit “Moonshots”
- As a department we have submitted a comprehensive Farm Resiliency proposal
  - 10 million per year for landowner contracts
  - Reduced red tape and faster service for citizens
  - Ultimate goal is to help farms be able to “weather” the next disaster more intact.
  - SWCP will have a leading role, but will also bring in other programs such as WRC and Dam Safety as appropriate.

Thank you!

"Plan for what is difficult while it is easy, do what is great while it is small."

-Sun Tzu, The Art of War