

# Cropping System Strategies To Mitigate Drought

COLUMBIA, MO.

Producers can take steps to reduce the impact of drought, should we face another shortage of rainfall in 2013, says a University of Missouri plant scientist.

Strategies to mitigate drought include diversifying crops and varieties, said Rob Myers, adjunct associate professor at the MU College of Agriculture, Food and Natural Resources.

"Something to look at is adding other cool-season crops to the rotation, like winter wheat or canola, to help our overall cropping system better withstand drought as we move forward," Myers said. "Among the summer annual crops, sunflowers and milo are drought-tolerant options. Sunflowers can be planted early like corn or double-cropped after wheat."

Some new corn and soybean hybrids are advertised as drought resistant, but Myers says that drought-resistant varieties may not be the best choice.

"I think in some cases those are worth looking at," Myers said. "In other cases, maybe they've been developed for other regions of the country, so farmers need to understand when looking at those varieties how and where they were developed."

Myers suggests looking for varieties that are high-yielding over multiple environments for multiple years. Yield stability is needed to get through a drought year. Myers says farmers should also look at different maturities.

"A lot of our droughts tend to build up as the summer goes on," he said. "Varieties of corn and soybeans that mature a little early, combined

with early planting dates, can get the critical flowering and seed-set period into a time when the soil might not be quite as dry as it might be later in the summer."

While early planting dates are generally better, Myers says a mix of planting dates and maturities can be beneficial.

"We may have a year like last year, where the hurricane came through and provided some rain at the end of August," Myers said. "What we saw was the beans that were later maturities did a little better because they were still filling seed when we got that late rain. So there is an advantage to diversifying varieties and planting dates to reduce risk."

Cover crops can also be helpful in mitigating drought conditions. Not only do they provide a cover in the fall through the spring, they also provide some residue that better blankets the soil going into the cropping season, he said.

Crops will fare better during drought if they don't have to deal with other sources of plant stress at the same time.

"Just like us as human beings, if we're stressed and tired we are more likely to pick up a cold or get sick," Myers said. "We'll have fewer problems down the road by having varieties with good insect and disease resistance, so that they're not being stressed by those pests while they are also suffering from moisture conditions."

Other strategies to help mitigate drought include building soil organic matter and overall soil health, and preserving soil cover to maintain moisture. △



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