



# Cropping Systems Program

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Guangyao (Sam) Wang

samwang@ag.arizona.edu

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## My background

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- Heat resistance of snap bean (1994-1997)
- Weed biology and control in vegetable and turfgrass (1997-2000)
- Competition of cowpea cover crop with weeds (2000-2005)
- Cover cropping and vegetable cropping systems (2005-2008)
- Cropping systems (2008- )

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## Research areas

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- Drought and heat resistance
- Crop rotation
- Alternative crops
- Crop growth modeling

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## What I'm doing this season

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- 1-MCP on cotton drought resistance
  - a plant growth regulator binding to the ethylene receptor and blocking the effects of ethylene
  - Improve cotton performance under irrigated and drought condition in the hot summer

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## What I'm doing this season

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- Simulated hail damage
  - Removing cotton branches to simulate different degrees of damages at different growth stages
  - How cotton responds to physical damages

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## What I'm doing this season

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- Alternative crops
  - Cowpea forage



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## More on this season and next season

- Alternative crops
  - Native grasses (Arizona cottontop)



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## More on this season and next season

- Rotating cool season crops with cotton
  - Cover crops: hairy vetch, oilseed radish
  - Cool season vegetable crops
  - Other cash crops: wheat, canola
  
- Decomposition of crop residues
- The effect of nitrogen release on crop growth

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## More on this season and next season

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- Meeting with extension scientists and growers to determine their needs and what I can do