

Agricultural
Research Service
USDA



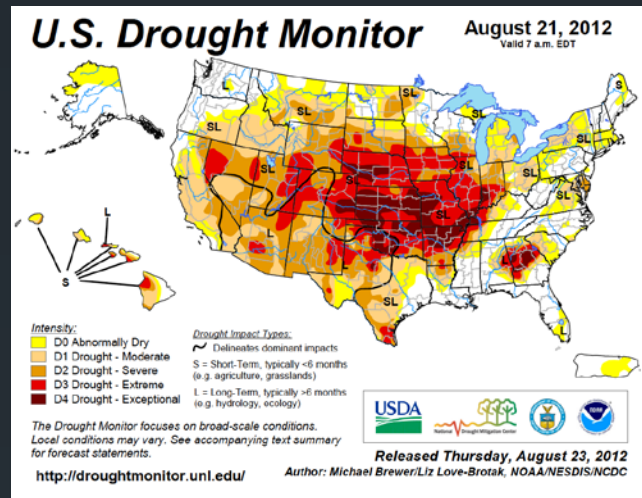
Next Generation Technology for Biosafety and Crop Improvement

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<http://www.ars.usda.gov/AboutUs/AboutUs.htm>

GLOBAL CHALLENGE

- Food Security
- Global Change
- Renewable Energy
- Food Safety



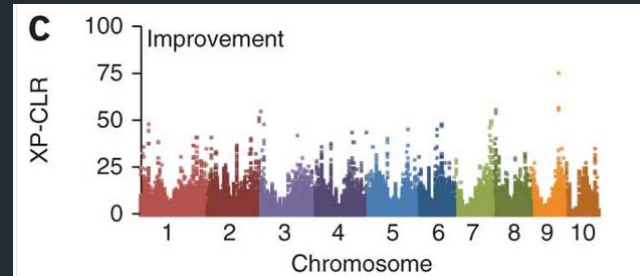
ADVANCES

- Foundations
- Tools
- Applications
- Management
- Technology Transfer



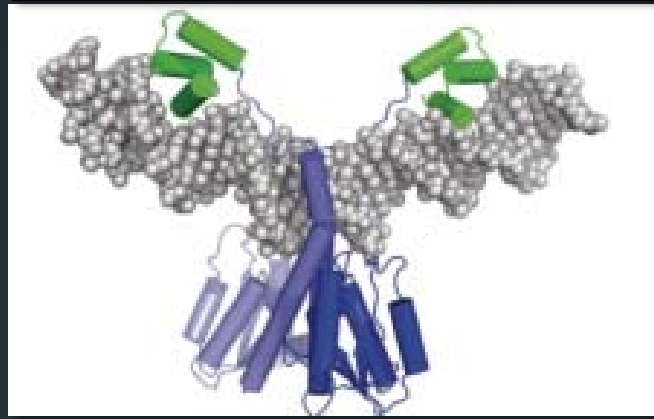
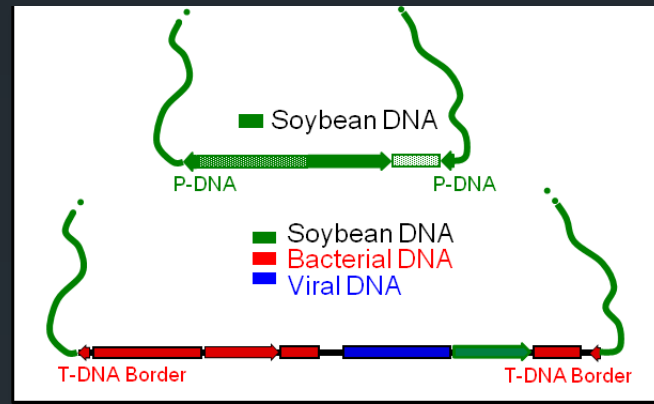
FOUNDATIONS

- Germplasm Diversity
- Information Systems
- Cyberinfrastructure



TOOLS

- Plant DNA based vectors (intragenic/cisgenic)
- Recombinase Toolbox
- Promoter Toolbox

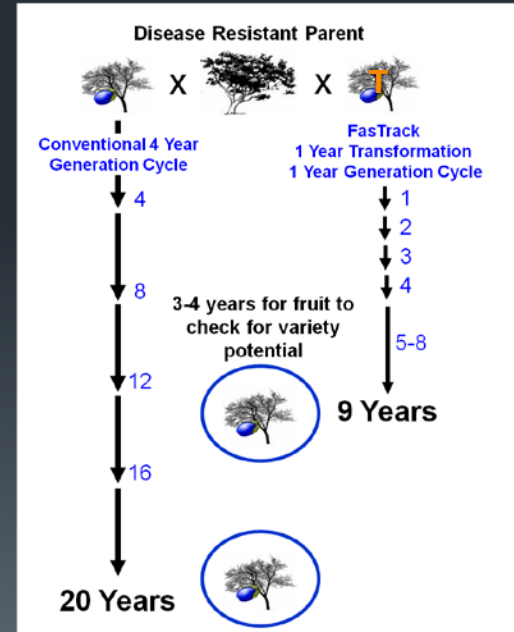


	1	2	3	4	5	6	7	8	9	10
▼ seedling										
coleoptile										
leaf										
▶ root										
▼ inflorescence										
▼ panicle										
▼ spikelet										
▼ floret										
▼ stamen										
▼ anther										
pollen										
▼ pistil										
stigma										
ovary										
▼ caryopsis										
embryo										
endosperm										
▼ shoot										
▶ culm (stem)										
▶ leaf										
▶ flag leaf										



APPLICATIONS

- Standard breeding 15-20 years
- FASTRACK breeding 9 years
- Transgene free product





MANAGEMENT

- BRAG – Biotechnology Risk Assessment Grants Program
<http://www.nifa.usda.gov/fo/biotechnologyriskassessment.cfm>
- GE alfalfa
Broaden the understanding of pollen flow biology and how it might influence the movement of transgenes into conventional and organic fields
- Bt corn
Determine the best method for measuring Bt resistance, and test for cross resistance to other Bt toxins. Evaluate the potential for resistance to spread, for the independent evolution of resistance, measure the inheritance of resistance to understand how effective refuges may be at delaying resistance.

TECHNOLOGY TRANSFER

- Partner with ARS

<https://www.ars.usda.gov/Business/Business.htm?modecode=01-09-00-00>



United States Department of Agriculture
Agricultural Research Service
Office of Technology Transfer & Partnerships
Program Aid 1706

*Forming Partnerships With
the Agricultural Research Service*

