





State of Technology in Sorghum

Tim Lust, CEO
National Sorghum Producers

**SORGHUM: THE
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CHOICE®**

Agronomy



- Sorghum is a known crop many farmers have grown at some point
- There is ample information available on growing sorghum
- Sorghum is an annual, so it will not tie up land
- Sorghum can be rotated
 - Farmers can try sorghum at least once
 - Rotation prevents disease and other pests from causing agronomic and environmental issues

Seed Industry

- The state of technology in sorghum is now
- Sorghum has a well-established seed industry founded in the 1950s
- Seed supply issues can be easily addressed
- Any hybrid can be readily produced using existing infrastructure

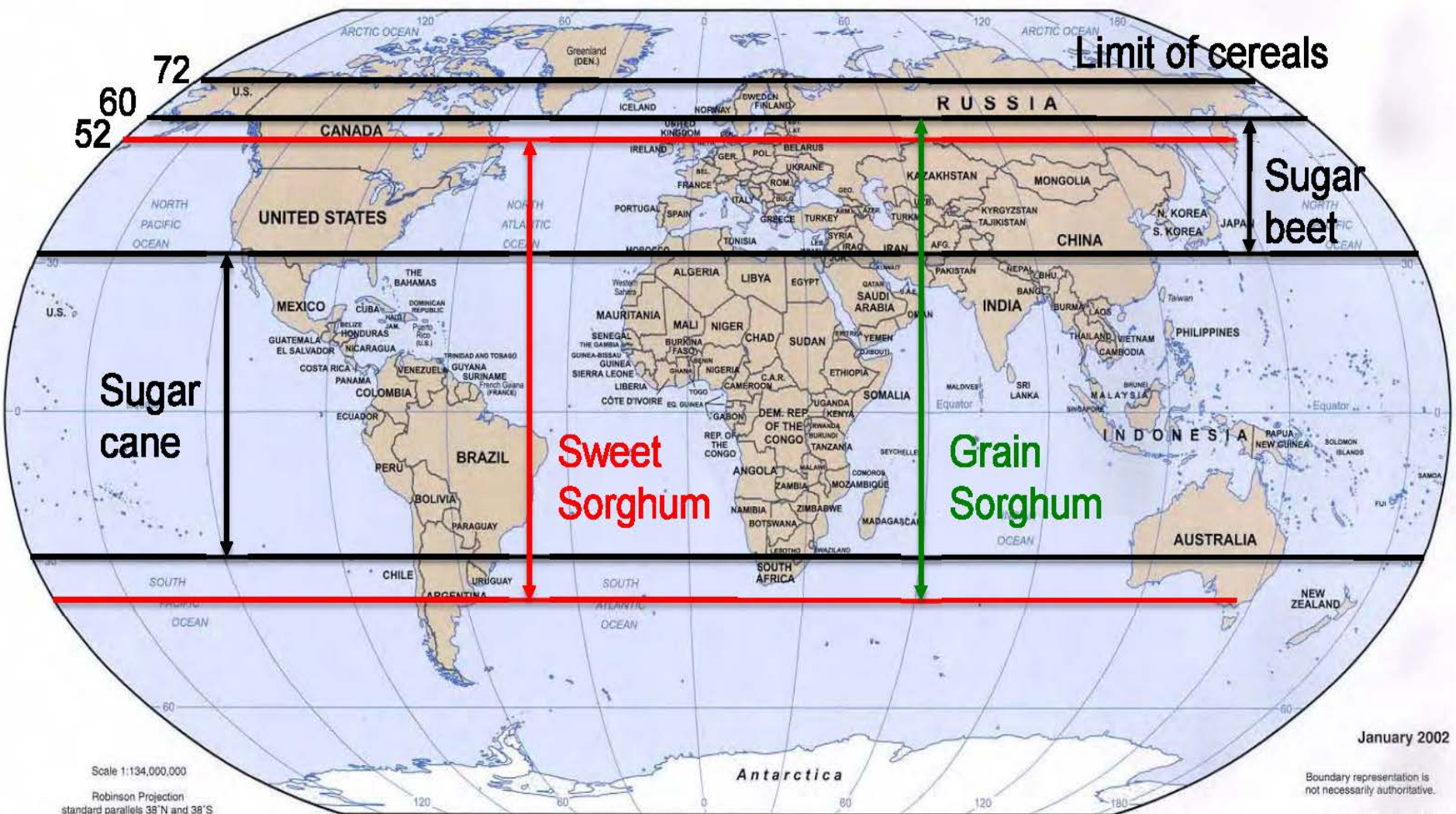
Yield, Yield, Yield

- Average sweet sorghum yields are about 28 tons per acre
- Average biomass sorghum yields are about 11 bone dry tons per acre
- Data exist showing sweet yielding 72 tons per acre and biomass yielding 26 bone dry tons per acre
- These only represent the industry's most recent attempts at breeding for sugar and cellulose yield

Water


- Water-sipping
- Grain sorghum uses one-third less water than other grain crops
- Sorghum silage uses half the water that other silage crops use
- Sweet sorghum uses half the water that other sugar crops use

Water availability is already a huge concern around the world



Geography

- Sorghum can be grown in northern areas
- When used as a secondary feedstock to corn stover or other crops, sorghum's benefit in the north is even better
- Sweet sorghum for syrup is produced as far north as Minnesota and Wisconsin



Sorghum has two
organizations
looking out for its interests



***SORGHUM: THE
SMART
CHOICE***[®]

- Primary activities are research & marketing
- Cannot lobby
- Funded by producer checkoff dollars
- Organized in 2008

- Primary activities are policy & regulatory advocacy
- Funded by voluntary membership dues
- Organized in 1955

**Two organizations,
One industry**



Two organizations, One industry

- Supported by sorghum grassroots
 - Focused solely on sorghum
- Represent the mechanism by which sorghum is supported and organized

Pathways

- NSP has a proven track record of securing pathways
 - Grain sorghum
 - Grain sorghum fiber
 - Grain sorghum stover
- Expect biomass sorghum pathway soon
- Working with stakeholders to understand needs on sweet sorghum

Crop Insurance and Farm Policy

- NSP has a proven track record of Farm Policy wins
- Represented in DC by Combest, Sell & Associates, led by former House Ag chair Larry Combest and his chief deputy Tom Sell



Crop Insurance Products

- Financing at the farmer level can be very difficult without crop insurance
- NSP had language inserted into the 2014 Farm Bill instructing the USDA Risk Management Agency (RMA) to develop crop insurance products for sweet and biomass sorghum
- We understand preliminary recommendations on these products have been made to RMA
- Most likely outcome is a pathway for written agreements with RMA insuring sweet and biomass sorghum based on grain sorghum

Genetics

- Sorghum can produce sugar, starch and cellulose, all in a single species, and possibly all at the same time in a single plant
- One of the most diverse species on Earth

Our breeders can customize
the crop to fit your needs



Customizability

- Dry stalk for better biomass harvest – or not
- Naturally senescent – or not
- BMR, lower fiber
- Higher fiber
- High sugar
 - High fructose
 - High glucose
 - Higher sucrose
- Heads for greater starch content
- No head



What others are saying

“...this program intends to focus on energy sorghum as a model system because of its potential for improvement through breeding, its resources for genetic analysis, its geographic adaptability, and its commercial utility.”

DOE

- In late 2014, DOE announced a \$30 million funding opportunity centered around sorghum

CONTACT US



(806) 749-3478



(800) 658-9808



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[@SorghumGrowers](#)



tim@sorghumgrowers.com

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