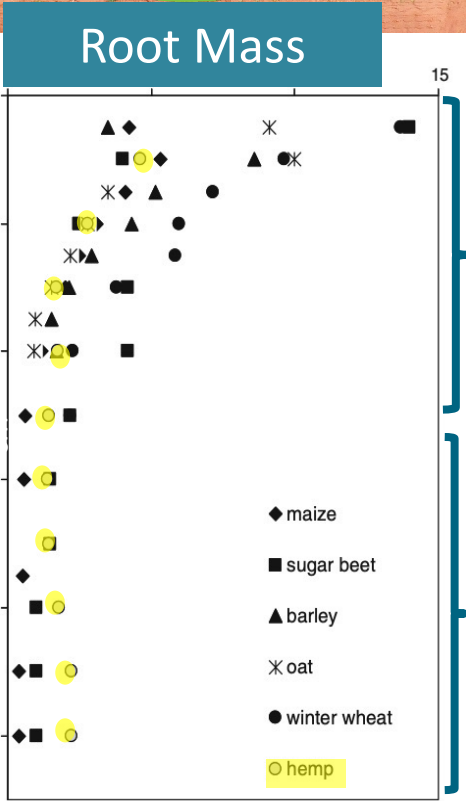
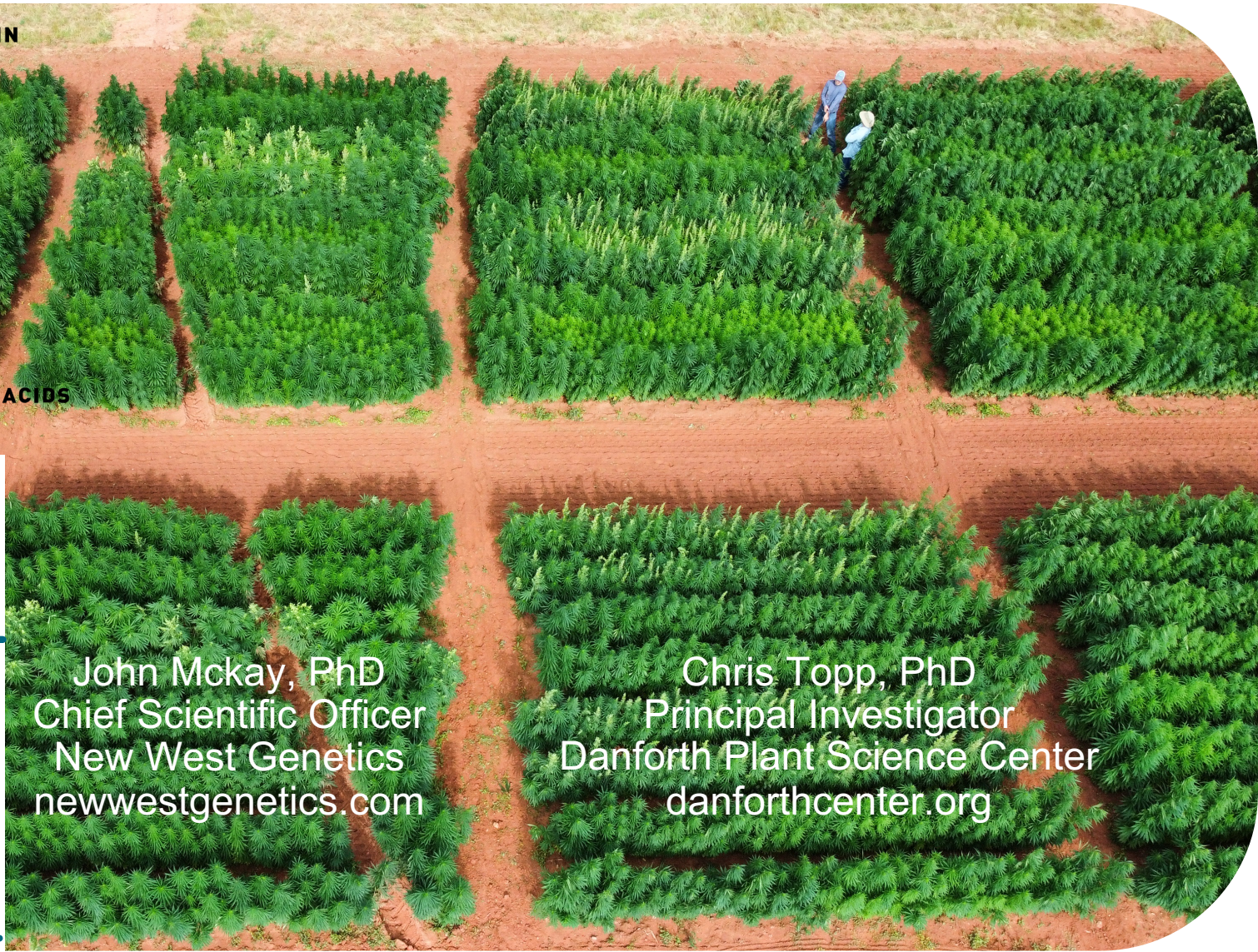
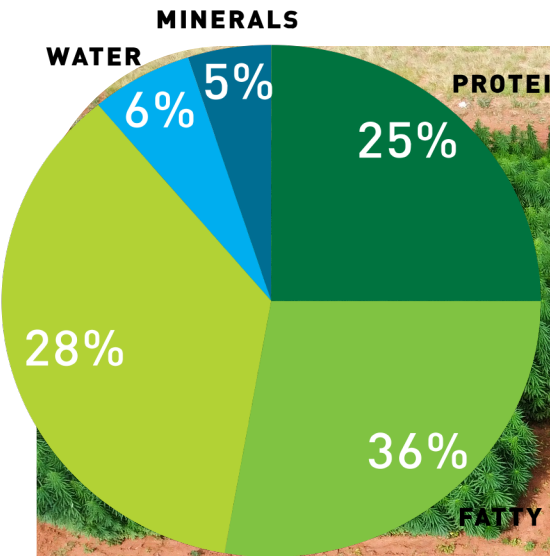


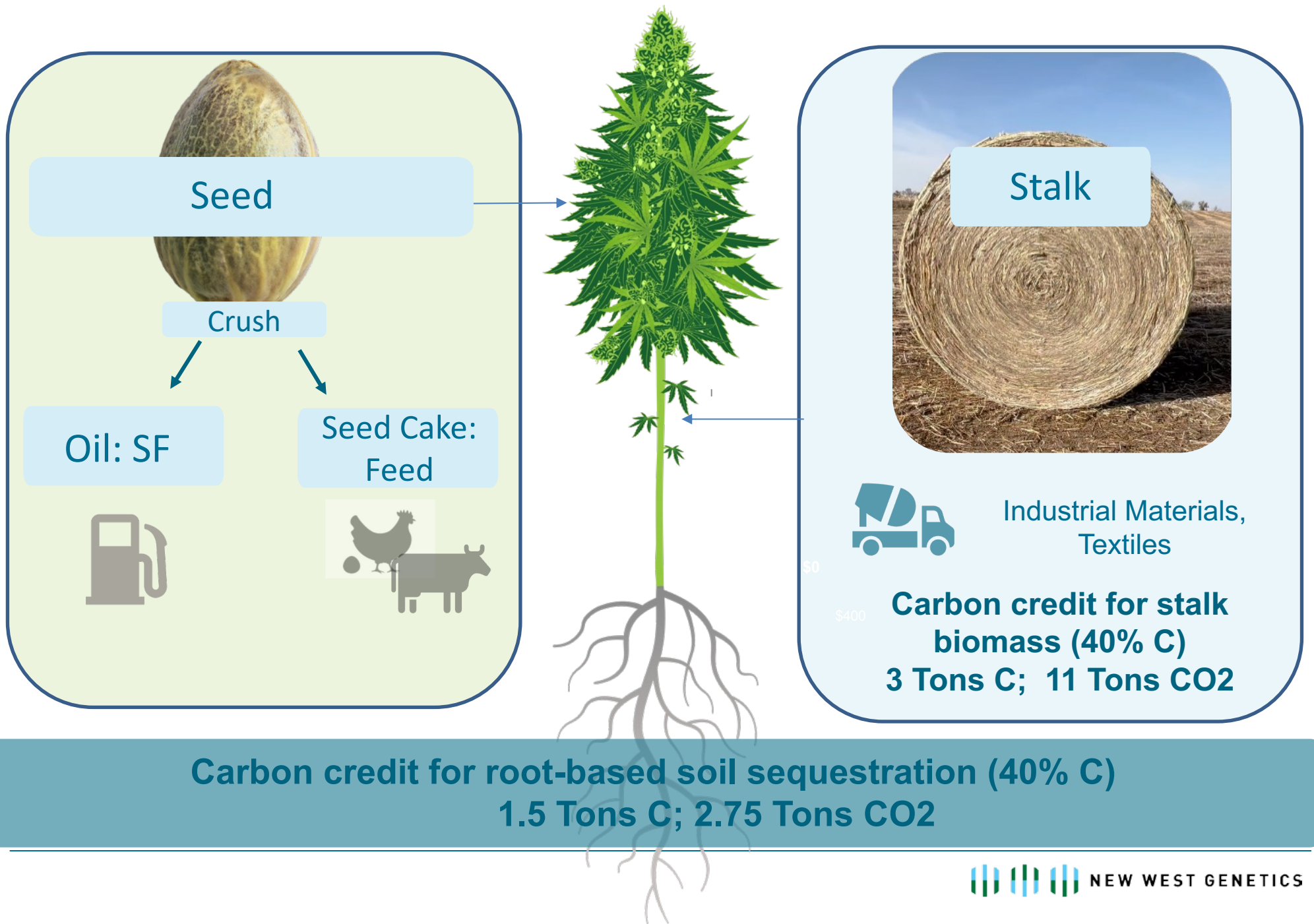
Hybrid Crops of Industrial Hemp for a scalable, sustainable and net-negative feedstock.



John McKay, PhD
 Chief Scientific Officer
 New West Genetics
newwestgenetics.com

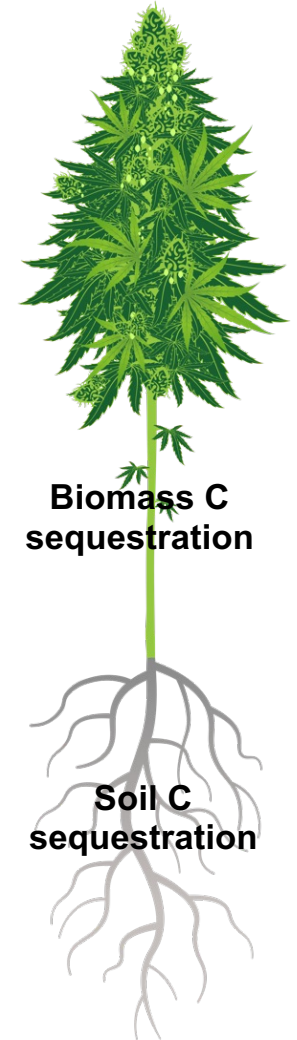
Chris Topp, PhD
 Principal Investigator
 Danforth Plant Science Center
danforthcenter.org

Hemp as a Sustainable Biofuel Feedstock: Complete Valorization. plus CO2 sequestration potential ~13T/acre



Oilseed feedstock Comparison of Sustainability and Economic Viability

	Penny Cress	Canola	Soy	Hemp	NWG Hemp
Nitrogen kg/ha	50	160	??>0	60	80
Aboveground Biomass (Mg/ha)	2	5	9	6	10
Root Mass (Mg/ha)	??	0.95	0.60	2.20	3.20
Root Depth	shallow	40	30	70	70
Population Density (plants/m ²)	40-60	50-80	25-47	60	60
Seed Yield (Mg/ha)	0.6	2.0	3.6	1.9	3.6
Seed Percent Oil Present	36%	45%	20%	35%	35%



Hemp has high oil yields and Carbon Sequestration Potential compared to other feedstocks

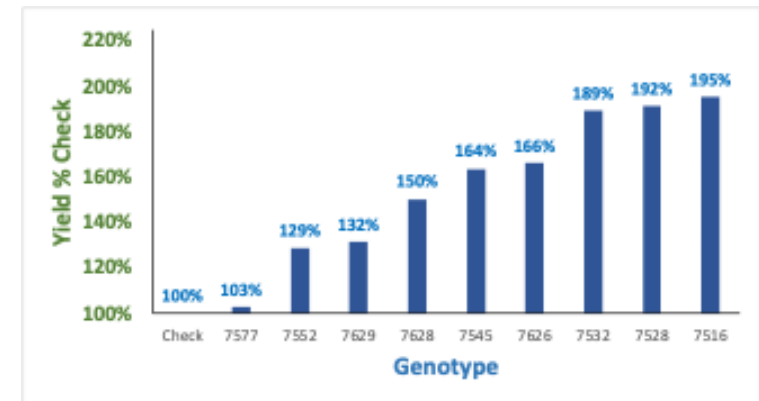
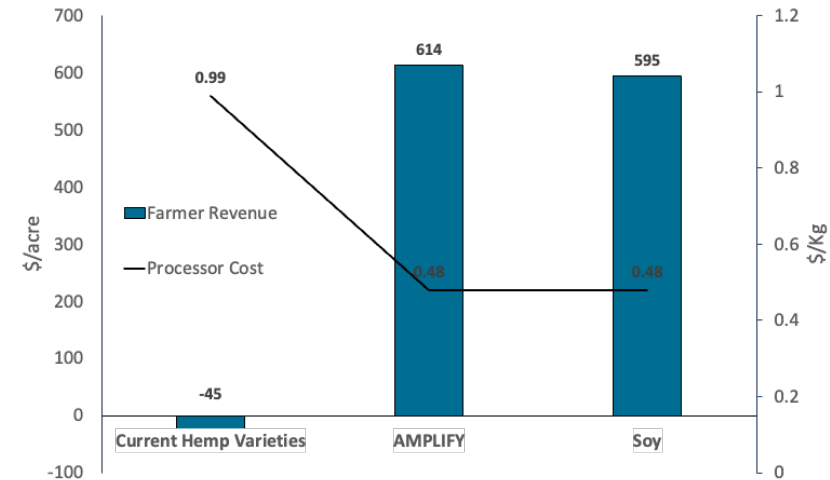
Scaling up the industrial hemp supply chain as A carbon negative feedstock for fuel and fiber.

New Grant from USDA Climate Smart Commodities

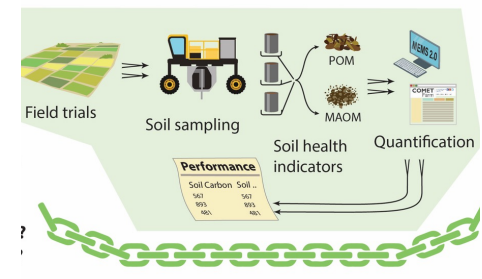
Lincoln University, Danforth, New West Genetics, SLU, others

- Quantify effect size of hemp hybrids with deeper more massive root systems on Soil Carbon input and durability and N2O emissions using multiyear field trials
- GHG effect size data will inform process-based soil C models (MEMS 2.0) as well as legacy prediction models (Daycent, COMET-Farm, SWAT, APEX)
- Launch Commodity plus Carbon futures contracts for dual-purpose hemp crops
- Engage underserved farmers in Midwest and South
 - Agronomy and Production Training for dual-purpose hemp crops
 - Funding for production incentives for underserved farmers
- Processing – supply chain produce and test SAF from hemp grain oil
- Supply chain roadmap for hemp to replace fallow for 20M acres of winter wheat

AMPLIFY: processor costs down, grower revenue up



Rationally
Designed
Carbon
Negative
Hybrid
Hemp



Effect size
of GHG
Verified.
Carbon credits.
Farm profit.
Supply chain
Development.