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Agricultural Research Service
Agricultural Research Information System
ARS Project System

Executive Summary Page

For ARS Project No: 6202-21000-027-07T
Accession Number: 418689
ModeCode: 6202-40-20

NPL Team:

DA JUDITH B ST JOHN
Leader MARY W SIMMONS
Member PETER K BRETTING
Member ROY A SCOTT

Trust 58-6202-0-175 Award Date: 11/20/2009

RE-INSTATEMENT OF THE SORGHUM CONVERSION PROGRAM

SOUTHERN PLAINS AREA
COLLEGE STATION, TEXAS
SOUTHERN PLAINS AGRICULTURAL RESEARCH CENTER
CROP GERMPLASM RESEARCH

Project Status: Active Start Date: 11/01/2009 Term Date: 10/31/2014

***** Official National Program Codes *****

301 N Plant Genetic Resources, Genomics and Genetic Improvement

Official Strategic Plan Codes

2.1.1.4 20 %
2.1.2.5 80 %

Date:	Remarks:
02/23/2010	2/16/10 - IPSC Waiver requested.
12/28/2009	Correction to A0; Adding award date; status Active. RT
11/02/2009	Generated the 416 from incoming agreement log #39296 and AIMS information; and changing the end date from 10/31/2012 to 10/31/2014. TP

Approved:

Area Director:	on	by	
Depty Admin:	on 02/18/2010	by	KENDRA L JENKINS
Created:	on 10/27/2009	by	TMPINKERTON
LastModified:	on 02/23/2010	by	CMVOYATZIS

1. Accession: 418689 2-4. Agency ID: ARS 6202-40-20 5. Project Number: 6202-21000-027-07T 6. Status: Active

7. Title: RE-INSTATEMENT OF THE SORGHUM CONVERSION PROGRAM

8. Performing Organization: 0000 1148 AGRICULTURAL RESEARCH SERVICE
COLLEGE STATION TEXAS 77845 6

12. SY Time/Investigator/Series/Grade SY Total: .00
P 0.00 ROBERT R KLEIN Genetics GS 14
0.00 FREDERICK R MILLER

Total Net to Loc: (b)(4)

17-1. Project Type: Trust

17.2 Agreement with: Other FY:2010
Agreement No.: 58-6202-0-175

22. Regional Project Number:

24. OBJECTIVE:

~~The objective of this research is to evaluate, characterize, and utilize accessions from the world collection with an overall goal of releasing new germplasm resulting in a marked increase in hybrid grain yields.~~ The specific objectives include the development and utilization of genotyping methodology developed by the ARS incumbent for marker-assisted selection of photoperiodism; the genetic fingerprinting of tropical accessions and photoperiod-converted materials to obtain a catalog of the regions of the tropical genomes that are critical for agronomic performance; map and identify markers linked to additional trait loci including dwarfism genes for use in marker-assisted selection; and investigate value-added traits that emerge during the conversion of tropical sorghums to temperate adaptation.

25. APPROACH:

Utilize molecular markers linked to photoperiod (ma) genes to selected backcross progeny during the introgression of photoperiod-insensitive alleles into tropical germplasm. Utilize Diversity Array Technology (DarT) markers arrays to fingerprint tropical accessions while fingerprinting backcross-derived lines to catalog genomic blocks that are inherited from the tropical accession or the temperate donor parent. Utilize mapping populations developed by the ARS incumbent or MMR Genetics to map additional trait loci including dwarfism genes, and utilize molecular markers linked to these traits to expedite their introgression during the conversion of tropical accessions to photoperiod-insensitive, dwarf-germplasm suitable for growers in temperate climates.

27. Keywords:

SORGHUM EVALUATION
GENETICS BIOTECHNOLOGY
ENHANCEMENT GERmplasm
CHARACTERIZATION

THESAURUS:

Signature	Recommended	A/D	Date	Approved Signature	Concurred A/D	Date
RL:				NPL1:		
CD/LD/DAD:				NPL2:		
AO:				NPL3:		
ABFO:				BPMS: JEFFREY R KURTZ	A	02/16/2010
AD:				DA: KENDRA L JENKINS	A	02/18/2010
ADO:	KIM L HICKS	A	02/23/2010			
28. Award Date	11/20/2009	29. Start Date	11/01/2009	30. Termination Date	10/31/2014	Duration (months) 60
NPL Team:	DA: JUDITH B ST JOHN			Leader:	MARY W SIMMONS	

1. Accession: 0418689 2-4. Mode Code: 6202-40-20 5. Project Number: 6202-21000-027-07T Date Last Modified: 02/23/2010

% Net to Location

NP	301	N	Plant Genetic Resources, Genomics and Genetic Improvement		
STP	2.1.1.4		Plant Germplasm Characterization	20%	(b)(4)
STP	2.1.2.5		Plant Germplasm Evaluation	80%	(b)(4)
32.	Basic Research:			100%	
33.	Applied Research:			0%	0
34.	Developmental Research:			0%	0

SubClass.	Codes	Description	%	Net to Location
SOI	1520	GRAIN SORGHUM	100	
Activity	4922	OTHER GENETICS & HEREDITY	100	(b)(4)
FOS	1080	Genetics (includes breedi	100	
RPA	203	PLANT BIOLOGICAL EFFICIENCY AN	100	
Special	FBP1	HUMAN FOOD & FIBER NEEDS	50	
Special	FBP2	FOOD PRODUCTION & AGR SYS	50	
Special	SA+2	SUSTAINABLE AGRI + 2	100	

* Note: Rounding may cause minor differences in calculated value compared to the actual Net to Location.