

INTSORMIL
Sorghum, Millet and Other Grains CRSP

Project Work Plan
Years 4 and 5: September 30, 2009 - September 29, 2011

The two-year Work Plan and Budgets are due July 31, 2009.

The Work Plan will be for two years: September 30, 2009 - September 29, 2011.

Two separate budgets should be developed:

Year Four: (September 30, 2009–September 29, 2010).

Year Five: (September 30, 2010–September 29, 2011).

Work Plans and Budgets can be revised after Year 4 as necessary.

Instructions:

A. Work Plans and Budgets should be submitted by email to Joan Frederick (jfrederick1@unl.edu) and Kim Christiansen (kchristiansen2@unl.edu).

B. Work Plans should be limited to no more than 5 pages

C. In Work Plan development take into accounts that the:

Overall vision for the INTSORMIL CRSP is to

1. Improve food security,
2. Enhance farm income and
3. Improve economic activity in the major sorghum and pearl millet producing countries in Africa and Central America

Overall approach is a focus on increasing food security and promoting market development of sorghum and pearl millet products for developing and transforming countries. Targeted basic and applied research, education, short-term training and technology transfer will promote adoption and economic impact. The approach involves regional, interdisciplinary, multi-organizational teams.

Objectives of the INTSORMIL CRSP are to:

1. Facilitate the growth of the rapidly expanding markets for sorghum and millet
2. Improve the food and nutritional quality of sorghum and pearl millet to enhance marketability and consumer health
3. Increase the stability and yield of sorghum and pearl millet through crop, soil and water management while maintaining or improving the natural resources of soil (land) and water
4. Develop and disseminate information on management of biotic stresses in an integrated system to increase grain yield and quality
5. Enhance the stability and yield of sorghum and pearl millet through use of genetic technologies
6. Enhance global sorghum and pearl millet genetic resources and the conservation of bio-diversity
7. Develop effective partnerships with national and international agencies engaged in the improvement of sorghum and pearl millet production and the betterment of people dependent on these crops for their livelihoods.

Project Workplans Page 2:

INTSORMIL will be evaluated by progress in achieving the stated objectives. Research, technology transfer activities, and budgets of individual projects must be assigned to specific objectives. Benchmarks, indicators, and throughputs are important and must be stated to allow for progress monitoring during the project. Benchmarks and indicators are measurable and checked annually to see if the project is on track and on time. Throughputs are the results of an activity or project.

D. Work Plan

Do not deviate from the Work Plan guidelines. Provide the information in a concise manner using bullets where possible.

Cover sheet should include:

1. Project Title and Number
2. Principal Investigator and collaborating scientists (with contact information)
3. Executive summary

Project Description

1. Introduction and Justification (background and problem statement)
How will proposed activities contribute to achieving INTSORMIL goals
2. Objectives and Implementation sites
Include relationship to INTSORMIL Objectives and Targets
3. Research methodology and strategy
Brief workplan for meeting objectives
Description of proposed interdisciplinary team
4. Benchmarks and Indicators, Throughputs
Assign each objective in (c) to a specific objective and target as listed in Table 1 (attached).
Assign indicators to each benchmark to allow for progress monitoring.
5. Identify one or two technologies under the targets developed by your project, which would be appropriate for Impact Assessment.

Example of a Technology

Objective 2: Nutrition Health and Grain Quality

Technology: Processing technology to make high quality sorghum and millet processed foods (e.g. pregelatinized vs. "instant" sorghum, agglomerated products and millet flour for thin and thick porridges.

Potential Impacts:

- a. Increased use of sorghum and millet as a food product.*
- b. Increased nutritional status of rural and urban consumers of sorghum and millet passed food products.*
- c. Increased price of food for quality sorghum and millet grain*
- d. Increased income of producers*
- e. Increased income of entrepreneurs*

6. Description of proposed training as listed in Table 2. Benchmarks for Capacity-Building Programs

Project Workplans Page 3:

E. Budget

Percent of Project Effort (page 2 attached)

Allocate percent of project effort to INTSORMIL objectives

Budget Template (attached)

Submit a separate budget for each year

(Year 4: September 30, 2009 - September 29, 2010)

(Year 5: September 30, 2010 – September 29, 2011)

Table 1. Objectives, notional targets, benchmarks and indicators, throughputs, and milestones

Objectives	Targets	Benchmarks and Indicators	Throughputs	Milestones
1. Supply chain/market development	<ul style="list-style-type: none"> - Increased yields and incomes - Increased pearl millet quality - Increased use of sorghum as a feed source 	<ul style="list-style-type: none"> - Increased farmer incomes - Increase in production area - Elimination of tannin in feed-type cultivars 	<ul style="list-style-type: none"> - Farmer incomes increased by 30% - Farmer incomes increased by 20% - 200% increase in markets for sorghum as a feed source 	<ul style="list-style-type: none"> - 15% increase by Yr 3 and 30% by Yr 5 - 5% increase by Yr 3 and 20% by Yr 5 - 60% increase by Yr 3 and 200% by Yr 5
2. Nutrition, health and grain quality	<ul style="list-style-type: none"> - Higher grain quality cultivars - New cultivar acceptance - Increased nutrition of food and feed products 	<ul style="list-style-type: none"> - High digestibility cultivars selected - Widespread adoption of cultivars - High starch digestibility cultivars developed 	<ul style="list-style-type: none"> - 10 high grain quality varieties developed - 60% of farmers accept new cultivars - Nutritional deficiencies in diets decreased by 25% 	<ul style="list-style-type: none"> - 4 varieties released by Yr 3 and 10 by Yr 5 - 20% of farmers accept new cultivars by Yr 3 and 60% by Yr 5 - 10% decrease by Yr 3 and 25% by Yr 5
3. ICSM	<ul style="list-style-type: none"> - Increased and stable grain yields - Improved crop, soil and water management 	<ul style="list-style-type: none"> - ICSM components identified - Integration of ICSM components into packages 	<ul style="list-style-type: none"> - 30% yield increase due to ICSM adoption - 70% of farmers using ICSM practices 	<ul style="list-style-type: none"> - 10% increase by Yr 3 and 30% by Yr 5 - 25% using ICSM practices by Yr 3 and 70% by Yr 5
4. IPM	<ul style="list-style-type: none"> - Increased grain quality - Efficient pest management tactics - Reduced pesticide use 	<ul style="list-style-type: none"> - Tolerance to grain insects, pathogens - IPM packages developed - Non-pesticidal strategies developed 	<ul style="list-style-type: none"> - 20% decrease in insect-damaged grain - 4 varieties with insect resistance released - 50% decrease in kg pesticide used/ha 	<ul style="list-style-type: none"> - 5% decrease by Yr 4 and 20% by Yr 5 - 1 variety released by Yr 3 and 4 released by Yr 5 - 20% decrease by Yr 3 and 50% by Yr 5
5. Genetic enhancement	<ul style="list-style-type: none"> - Stable yielding genotypes - More efficient water use by genotypes - More efficient nutrient use by genotypes 	<ul style="list-style-type: none"> - Genotypes with less variation in yields - Decrease in drought damage - Savings in fertilizer costs 	<ul style="list-style-type: none"> - 6 stable yielding genotypes released - 10 drought tolerant genotypes released - 4 N efficient genotypes released 	<ul style="list-style-type: none"> - 2 genotypes released by Yr 3 and 6 by Yr 5 - 4 genotypes released by Yr 3 and 10 by Yr 5 - 1 genotype released by Yr 3 and 4 by Yr 5
6. Genetic resources and biodiversity	<ul style="list-style-type: none"> - Higher yielding genotypes - Conservation of genetic biodiversity 	<ul style="list-style-type: none"> - Selection of high yielding genotypes - Decrease in rate of loss of biodiversity sensitive areas 	<ul style="list-style-type: none"> - 25% increase in yield of new genotypes - 20% decrease in use of biodiversity sensitive areas due to increased yields 	<ul style="list-style-type: none"> - 10% increase in yield by Yr 3 and 25% by Yr 5 - 5% decrease in use of biodiversity sensitive areas by Yr 3 and 20% by Yr 5
7. Partnerships and networking	<ul style="list-style-type: none"> - Increased joint programs with partners 	<ul style="list-style-type: none"> - Networks established involving all stakeholders (private industry, NGOs, farmers, international agencies, CG centers, research and technology transfer agencies) 	<ul style="list-style-type: none"> - High research throughputs and high level of technology transfer activity 	<ul style="list-style-type: none"> - 20% increase in grain production and 75% of farmers using best management practices by Yr 5

Table 2. Benchmarks for Capacity-building Programs

Capacity Building Programs	Benchmarks
Degree Education	Number of M.S. and Ph.D. Graduates
Visiting Scientists and Post-Doctoral Fellows	Number of Visiting Scientists and Post-Doctoral Fellows
Short-Term Training	Number of Participants in Workshops, Seminars, Conferences Number of Participants Who Adopt the New Technologies and Methodologies Number of Participants Who Transfer Information Learned to Other Professionals, Scientists, and Entrepreneurs
Internet – Distance Education	Functioning Interactive Internet Site Number of Participants in Distance-education Programs