CONTRACT BETWEEN
MONTANA AGRICULTURAL EXPERIMENT STATION
RESEARCH CENTERS
and the
MONTANA WHEAT AND BARLEY COMMITTEE

TIME PERIOD: July 1, 1995 to June 30, 1996

TITLE: Evaluation of various materials and practices contributing toward economic crop production under flexible, continuous and other cropping systems in Montana.

PERSONNEL: Research faculty members at the following Research Centers:

1. Central Agricultural Research Center - Moccasin
2. Eastern Agricultural Research Center - Sidney
3. Northern Agricultural Research Center - Havre
4. Northwestern Agricultural Research Center - Kalispell
5. Southern Agricultural Research Center - Huntley
6. Western Triangle Agricultural Research Center - Conrad

OBJECTIVES:

1. To evaluate the effects of differing systems on crop and variety performance under diverse environments represented across the Montana Agricultural Experiment Station - Research Center network.

2. To evaluate the potential fit of other materials, concepts and techniques with various cropping systems employed.

BACKGROUND AND JUSTIFICATION:

An ever increasing need is felt among Montana agricultural producers for development and implementation of new and/or refined materials and methods for enhanced economic efficiency in crop production.

PROJECTS:

1. <u>Cropping Systems Investigations</u>:

   a) Evaluation of continuous spring wheat cropping with tall wheatgrass barriers under no-till and conventional tillage and planting. (Sidney)

   b) Evaluation of spring wheat, durum, barley, and oat varieties under minimum till continuous cropping conditions. (Sidney)

   c) Small grain variety performance evaluations under no-till cropping conditions. (Conrad)

   d) Evaluation of winter and spring cereals under a no-till recrop environment at Moccasin. (Moccasin)

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2. Grain Variety Investigations under Conventional Conditions:

a) Long-term small grain variety performance evaluations under fallow conditions off-station in five northern Montana counties. (Havre)

b) Winter and spring wheat variety performance evaluation under northern Montana conditions on the basis of gross production value as influenced by yield, protein, and market. (Havre)

c) Off-station winter wheat variety evaluations in four counties of the Western Triangle area. (Conrad)

d) Off-station spring wheat variety evaluations in four counties of the Western Triangle area. (Conrad)

e) Evaluation of winter wheat variety performance in off-station trials at Denton, Highwood, Moore and Winifred. (Moccasin)

f) Evaluation of spring wheat variety performance in off-station trials at Denton and Highwood. (Moccasin)

g) Evaluation of spring barley variety performance in off-station trials at Denton and Highwood. (Moccasin)

h) Evaluation of spring wheat and durum variety performance in off-station trials in five eastern Montana counties. (Sidney)

i) Variety performance evaluation with regional winter wheat, spring wheat, durum, and oat nurseries. (Sidney)

j) Western Regional hard red winter wheat evaluations. (Kalispell)

k) Soft white winter wheat evaluations. (Kalispell)

l) Western Regional spring wheat evaluations. (Kalispell)

m) Evaluation of spring barley varieties off-station at Bridger. (Huntley)

3. Oilseed, Pulse and Miscellaneous Crop Investigations:

a) Dryland evaluation of standard and specialty oil safflower varieties. (Havre)

b) Evaluation of food and specialty oil safflower varieties under dryland conditions at Geraldine. (Moccasin)

c) Evaluation of winter wheat, spelt, and triticale off-station at Molt and Ryegate. (Huntley)

d) Evaluation of safflower varieties under irrigated and dryland conditions. (Huntley)

e) Advanced evaluation of selected spring emmer accessions for yield and quality. (Huntley)

f) Evaluation of winter spelt selections for dryland grain production. (Huntley)

g) Evaluation of winter spelt and triticale for dryland forage production. (Huntley)

h) Evaluation of awnless winter and spring triticale as dryland forage. (Huntley)

4. Crop Fertility Investigations:

a) Comparison of spring wheat and barley varietal response under conditions of low versus optimum fertility off-station at Turner. (Havre)

5. Disease Management Investigations:

a) Screening of early generation winter wheat lines for dwarf bunt and stripe rust resistance. (Kalispell)

b) Screening of early generation spring barley selections for disease resistance. (Kalispell)

6. Weed Management Investigations:

a) Wild oat management in spring grains. (Kalispell)

b) Broadleaf weed control in spring grains. (Kalispell)

7. Uniform Statewide Variety Testing of Small Grains:

a) Intrastate Winter Wheat Variety Nursery

b) Advanced Yield Spring Wheat Variety Nursery

c) Intrastate Spring Barley Variety Nursery

d) Uniform Montana Oat Variety Nursery

Trials to be conducted on dryland and/or under irrigation at Conrad, Havre, Huntley, Kalispell, Moccasin, and Sidney in cooperation with MAES Breeder/Geneticists in Bozeman.

PROCEDURES: Scientific research procedures will be employed appropriate to each specific project listed herein.

APPLICATION AND RESULTS:

Results substantiated via consistency with adequate repetition are available for dissemination to the Montana crop producer as well as the scientific community.

APPROVED BUDGET: **MWBC = partial project funding**

Research Center	Uniform Statewide Variety Testing	Other Projects	Center Total
Central at Moccasin	$ 1,000	$ 9,000	$10,000
Eastern at Sidney	1,000	9,000	10,000
Northern at Havre	1,000	9,000	10,000
Northwestern at Kalispell	1,000	9,000	10,000
Southern at Huntley	1,000	9,000	10,000
Western Triangle at Conrad	1,000	9,000	10,000
Totals	$ 6,000	$54,000	$60,000

OTHER REQUIREMENTS:

Data will become the property of the Montana Agricultural Experiment Station and are not to be published without the full consent of MAES. Records will be maintained for access as required to meet any legal requests. Data will be made available to the contractor at a reasonable time after release by MAES.

In case of either party defaulting, this contract may be terminated for cause within 30 days by written notice. In the event of litigation, venue shall be the First Judicial District of the State of Montana.

Transfer or subcontracting of the duties or services by MAES will not be done without the consent of all parties.

This contract will not be modified without the consent of all parties.

APPROVED:

Coordinator-Joint Research Center Proposal	**Date**
Associate Dean for Research, MAES	**Date**
Director, MAES	**Date**
Montana Wheat and Barley Committee	**Date**
Approved for Legal Content by:	**Date**