

Title 3, 4, and 5. Evaluation of barley, durum, and spring wheat at EARC under dryland recrop conditions.

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OBJECTIVES: To evaluate the performance of experimental lines and varieties of barley, durum, and spring wheat for recrop condition in eastern Montana.

MATERIALS AND METHODS:

Location: EARC dryland farm

Soil type: Williams Clay Loam

Previous crop: 2015 (pea and safflower) - 2014 (small grain)

Residual soil N: 100 lb N/ac

Planted: April 12, 2016

Harvested: August 3, 2016

Applied fertilizer: No fertilizer

Herbicide: Full Deck; Axial

Precipitation April – August 2016: 9.74 in

Ave (65 yr) precipitation April – August: 9.67 in

Precipitation September 2015 – August 2016: 14.55 in

Ave (65 yr) precipitation September – August: 14.09 in

RESULTS:

Agronomic data are shown in Table 1-3.

FUTURE WORKS:

New experimental lines and varieties of barley, durum, and spring wheat will continue to be tested to identify those which will perform best under recrop condition in this area.

Table 1: 2016 Recrop barley variety and line yield evaluation in eastern Montana

Variety/Line	Height cm	Heading DAP	Grain YLD lb/ac	Grain YLD bu/ac
Champion	54	169	3782	79
Conlon	52	172	3362	70
Conrad	56	172	3311	69
Copeland	55	173	3396	71
Craft	60	170	3354	70
Eslick	48	171	3550	74
Genesis	59	170	3226	67
Harrington	53	170	3189	66
Haxby	59	167	3548	74
Haybet	59	167	2720	57
Hays	57	172	3515	73
Hockett	55	169	3258	68
Lavina	60	167	3335	69
Merit	56	170	3223	67
Metcalf	58	170	2969	62
Moravian115	46	171	3209	67
Pinnacle	56	169	3264	68
Rawson	63	170	2802	58
Stepford	57	166	2759	57
Stockford	56	169	2729	57
MT090182	59	170	3505	73
MT090190	57	172	3554	74
MT100120	60	172	3528	73
MT100126	59	172	3224	67
MT124555	56	170	3196	67
Grand AVG	56	170	3260	68
Probability	0.0003	<.0001	0.0004	0.0004
CV (%)	6.4	0.9	8.5	8.5
LSD (P<0.05)	6	2	454	9

Table 2: 2016 Recrop durum variety and line yield evaluation in eastern Montana

Entry	Height cm	Heading date DAP	Yield lb/ac	Yield bu/ac	Protein %	TW lb/bu
Mountrail	71	169	3590	60	13.5	63.7
Divide	74	169	3384	56	12.8	63.5
Alabo	70	167	3440	57	15.1	63.5
Grenora	73	167	3614	60	13.4	62.7
Tioga	72	168	3297	55	14.7	63.6
Carpio	71	169	3831	64	13.4	63.0
Joppa	72	169	3455	58	12.8	63.5
Alzada	66	166	3585	60	12.8	63.6
Silver	60	166	3172	53	13.5	63.2
Strongfield	73	169	3720	62	15.3	63.7
MT101717	60	166	3529	59	14.0	65.2
MT101694	70	167	3528	59	13.9	63.5
MT112434	59	165	3224	54	14.4	62.5
MT112444	65	166	3544	59	14.7	62.2
MT112463	68	166	3770	63	13.1	63.5
MT112219	64	165	3656	61	12.2	64.7
AVG	68	167	3521	59	13.7	63.5
Probability	<.0001	<.0001	0.0145	0.0145	0.0951	<.0001
CV	5.7	0.6	5.8	5.8	8.7	0.7
LSD	6.4	1.6	338.9	5.6	2.0	0.7

Table 3: 2016 Recrop spring wheat variety and line yield evaluation in eastern Montana

Entry	Height cm	Heading date DAP	Yield lb/ac	Yield bu/ac	Protein %	TW lb/bu
MCNEAL	70	167	3767	63	14.4	62.2
REEDER	67	167	3733	62	14.8	63.2
CHOTEAU	62	165	3200	53	13.6	62.1
VIDA	69	165	4168	69	13.3	62.5
DUCLAIR	68	163	3515	59	14.2	61.2
MOTT	72	167	3447	57	13.8	62.9
WB9879CLP	66	167	3379	56	12.4	63.1
BRENNAN	60	160	3173	53	12.9	63.2
SY TYRA	63	165	3645	61	10.6	64.0
SY SOREN	61	166	3598	60	13.4	63.3
EGAN	68	167	3301	55	13.8	61.8
MT0245/IMI8209-1//MT0245	70	168	3920	65	13.2	62.3
GLENN/MT0747	67	164	3816	64	12.1	63.6
MT0852/MT0858	70	162	3444	57	14.5	62.9
VIDA/MT0827	68	161	3450	57	14.3	63.5
BARLOW	72	163	3161	53	14.0	64.7
ELGIN	74	167	3777	63	14.5	63.5
HRS 3504	59	167	3418	57	12.6	62.5
HRS 3361	60	164	3495	58	14.6	61.9
HRS 3530	73	167	3364	56	13.3	62.9
HRS 3616	65	165	3154	53	13.6	62.3
HRS 3100	63	166	3520	59	13.1	62.5
AVG	67	165	3520	59	13.5	62.8
Probability	0.0001	<.0001	0.6161	0.6161	0.0174	<.0001
CV	6.0	0.9	13.9	13.9	8.7	0.8
LSD	7	2	805	13	1.9	0.9