PROJECT TITLE: Evaluation of Fall Planted Austrian Winter Peas and Winter Lentil under Dryland Conditions near Huntley, Montana. (Exps. 99AWP08).

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OBJECTIVES: To provide producers in south central Montana with a reliable, unbiased, up-to-date source of information that will permit valid comparisons among winter annuals pulses. This information should help growers in south central Montana select winter annual legume pulse species best suited to their particular area and growing conditions.

METHODS: The 1999 dryland winter annual performance trial had 8 entries and was planted using a randomized complete block design with three replications. Test plots consisted of a 15-foot, 4-row plot with 12-inch row spacing. All rows of each test plot were trimmed 36 inches and harvested using an experimental-plot combine. Recorded seed yields are reported in pounds per acre. Heading date was noted when 50% of the heads in a plot had extended above the flag leaf collar. Flowering date was noted when 50% of the plants in a plot had at least one open flower. Heading and flowering dates were recorded in Julian days (number of days from January 1) for statistical purposes. Corresponding calendar dates also are presented.

RESULTS and SUMMARY: Agronomic performance of the winter annual cultivars and experimental lines tested during 1999 under dryland conditions near Huntley is presented in Table 1. Winter annual performance trial winter survival averaged 77 percent and ranged from 91 percent for 'Sioux' Austrian winter pea to 63 percent for 'Wahlecha' Austrian winter pea. 'Tony' winter lentil, 'FSAWPPOP' Austrian winter pea, 'Granger' Austrian winter pea, 'Neeley' hard red winter wheat and 'SSAWPPOP' Austrian winter pea all had winter survival between 73 and 86 percent which was equal to the survival of Sioux. Stand counts numbers differ between species and are not proportional to winter survival because of the varying planting rate and seed sizes.

FUTURE PLANS: Winter annual evaluations under dryland conditions will continue in 2000 at Southern Agricultural Research Center.

Table 1. Performance of Austrian winter pea and winter lentils under dryland conditions near Huntley, Montana, 1999. Cultivars listed alphabetically. (Exp. 99AWP08).

Cultivar	Winter Survival	Stand Count	Yield	Flowering/Heading Date	
				Julian	Calendar
	%	plants/m^2	lb/ac		
FSAWPPOP Austrian Winter Pea	73*	23	1023	164	Jun 12
Granger Austrian Winter Pea	79*	24	650	164	Jun 12
Tony Winter Lentil (MT WL-1)	86*	97	507	173	Jun 21
Neeley Hard Red Wheat	78*	91	4477	158	Jun 6
Sioux Austrian Winter Pea	91**	30	1123	164	Jun 12
Sprinter Winter Barley	67	66	3086	164	Jun 12
SSAWPPOP Austrian Winter Pea	76*	24	1007	162	Jun 10
Wahlecha Austrian Winter Pea	63	20	854	157	Jun 5
Average	77	47	1591	163	Jun 11
LSD (p=0.05)	19	12	198	<1	
CV%	16.6	17.3	20.8	0	

** Indicates cultivar with the highest percent winter survival.

* Indicates cultivars with winter survival equal to cultivar with highest winter survival based on Fisher's protected LSD (p=0.05).

Dryland Austrian Winter Pea and Winter Lentil Evaluation (99AWP08)

Planted:	September 25, 1998
Harvested:	July 30, 1999
Fertility:	18-46-00, 100 lb/ac, preplant incorporated, September 15, 1998
Herbicide:	none
Insecticide:	none
Previous Crop:	summer fallow
Precipitation:	9.79 inches
Other:	hand weeded throughout the year