

PROJECT TITLE: Statewide annual legume adaptation trial, research results, SARC, Huntley MT. 1989.

PROJECT LEADERS: Dr. Jim Sims, Plant & Soil Science Dept. MSU, Bozeman
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PROJECT LOCATION: MSU, Southern Agricultural Research Center, Huntley, MT

OBJECTIVE:

To evaluate a wide range of annual legume species for adaptation to dryland cropping in Montana.

SUMMARY AND RESULTS:

Table 1 describes the forage and grain harvest yields for the 1989 trial. We consider the 1989 data to be inconclusive due to erratic emergence and plant stands. This was due to a severe crusting problem caused by heavy rains after planting. Also, some seedling rot may have been in part responsible for lack of good seedling emergence. The forage and seed yields of chickling vetch NC-8-3 stand out among the species tested for use as a green manure crop.

FUTURE PLANS:

The annual legume trials are designed to be continued for several study years.

TABLE 1 . 1989 DRYLAND STATEWIDE LEGUME ADAPTATION TRIAL (SLAT) AT SOUTHERN AG RESEARCH CENTER, HUNTLEY, MT.

VARIETY	FORAGE D.M. YIELD LBS/ACRE	PLANTHT INCHES AT FORAGE HARV.	SEED YIELD LBS/ACRE	BIOMASS YLD D.M. LBS/AC AT SEED HARV.
AUSTRIAN WINTER PEA	2076.0	23.25	385.6	1921.0
COMMON SWEETCLOVER	1779.0	28.00		
SEMU-SI FEED PEA	1716.0	24.75	594.2	1637.0
CHICKLING VETCH NC8-3	1407.0	15.25	1134.0	2336.0
MULTICUT BERSEEM CLOVER	1234.0	22.75		
BIGBEE BERSEEM CLOVER	1122.0	22.00		
NITRO ALFALFA	1087.0	25.38		
PARAPONTO GAMMA MEDIC	943.6	14.50		
ROBINSON SNAIL MEDIC	904.4	16.25		
INDIANHEAD LENTIL	876.0	11.00	235.6	1510.0
MAVAL SHAFTA CLOVER	864.0	16.50		
UI114 PINTO BEAN	752.2	22.75		
TINGA TANGIER FLATPEA	729.6	19.38	217.6	988.8
RED CHIEF LENTIL	426.4	11.25	142.5	451.7
MAPLE AMBER SOYBEAN	405.7	14.75		
GEORGE BLACK MEDIC	349.6	11.25		
RED KIDNEY BEAN	326.4	17.75		
JEMALONG BARREL MEDIC	314.9	12.50		
MT. BARKER SUBCLOVER	205.4	4.875		
YOUCHI ARROWLEAF CLOVER	168.2	8.750		

SUMMARY STATISTICS:

OVERALL MEAN =	884.4	17.14	451.7	1474.
MEAN TRT MEANS=	884.4	17.14	451.7	1474.
F-RATIO TRTS =	11.23	14.60	16.81	7.724
P-VALUE TRTS =	.0000	.0000	.0000	.0006
STD DEV (S) =	329.4	3.266	180.9	482.9
CV (S/MEAN) =	37.24	19.05	40.06	32.76
SE TRT MEANS =	164.7	1.633	90.46	241.4
CV (SE/MEAN) =	18.62	9.525	20.03	16.38
LSD(0.05 by t)=	466.4	4.625	272.7	727.8

DRYSLAT.LGD
 DRYSLAT1.DBF
 DRYSLAT.STT