

PROJECT TITLE: The evaluation of chickpea, lentil, and drypea varieties. 1991.

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PROJECT LOCATION: MSU- Southern Agricultural Research Center, Huntley, MT 59037

OBJECTIVES: To evaluate and compare the yield, quality, and biomass production of large seeded legumes under dryland cropping.

RESULTS: The yield of chickpeas as compared to dry peas and lentils are described in Table 1. Both the large (Surutato and UC-5 varieties) and small seeded (Garnet and Sarah varieties) significantly out yielded the lentil varieties and the Austrian Winter pea, but not the Umatilla field pea. The results demonstrate an economic yield level comparable to feed barley grown under dryland conditions. All cultivars produced about the same biomass, which was comprised mostly of seed.

SUMMARY: The 1991 results are similar to data obtained in previous years. Both the large salad chickpeas and the smaller export chickpeas produced yields which would compete with and give a larger return to the producer than would feed barley. The chickpeas have a potential to produce a crop under very low moisture levels, and are resistant to insect and grasshoppers. Montana dryland environments are not conducive to serious disease problems on chickpeas, which is also a plus. The only drawback is the market potential, a contract would be needed to be sure of a market.

FUTURE PLANS: We will continue to evaluate chickpea varieties under dryland cropping. In 1990 we expanded this study to include trials at various Research Centers in Montana where we feel chickpeas could be realistically grown.

TABLE 1 . 1991 DRYLAND CHICKPEA TRIAL SOUTHERN AG RESEARCH CENTER HUNTLEY, MT.

VARIETY	YIELD LBS/AC	TOTAL WT BIOMASS	100/SEED WT/GMS	6-9-91 STAND %	PLANTHT INCHES	50%BLOM DATE
SARAH CHICKPEA	2418.57	2687.50	14.88	100.00	13.25	6/21
UMATILLA FIELD PEA	2283.69	2925.00	23.10	100.00	28.00	6/20
*UC-5 CHICKPEA	2248.02	3013.75	43.40	100.00	17.25	6/19
GARNET CHICKPEA	2145.64	2575.00	17.40	100.00	15.25	6/22
*SURUTATO 77 CHICKPEA	1808.45	3444.25	51.15	81.25	17.25	6/22
BREWER LENTIL	1680.22	2462.50	6.90	88.75	12.50	6/18
CRIMSON LENTIL	1531.32	2162.50	4.53	82.50	12.50	6/29
MELROSE AUSTRIAN WIN	1520.73	2250.00	11.38	100.00	31.50	6/29

***** STATISTICAL TABLE *****

EXPERIMENTAL MEANS	1954.58	2690.06	21.59	94.06	18.44
TOTAL OBSERVATIONS	32.00	32.00	32.00	32.00	32.00
NO. OF REPLICATIONS	4.00	4.00	4.00	4.00	4.00
NO. OF VARIETIES	8.00	8.00	8.00	8.00	8.00
C.V. 1:(S/MEAN)*100	12.04	18.91	5.58	11.61	23.20
C.V. 2:(S OF MEAN/MEAN)*100	6.02	9.45	2.79	5.80	11.60
LSD (0.05)	346.16	748.01	1.77	16.05	6.29

	SEEDS/ POUND	ON 22/64 SCREEN %
*UC-5	1084.0	58.6
*SURATATO	940.0	79.4

Date planted: 4/29/91 Date harvested: 8/2-8/5/91
 91CHKPEA.LGD
 CHICKPEA.STT