

Recommend for release the spring spelt line SK3P. SK3P is a European landrace that has been selected for reduced awns to awnless to improve its attractiveness as a spring cereal forage. The release of SK3P will provide a source of registered and certified seed for those Montana producers who wish to raise a covered spring wheat for both hay and feed grain. The dry matter production of SK3P is below that of the long time standards Haybet barley and Otana oat. However, the forage yield levels are respectable (Tables 1-3). SK3P nitrate levels are frequently lower than the majority of entries in our spring cereal forage trials (Table 4-7). Though there are exceptions as seen in the Bozeman quality information (Table 4). SK3P is relatively tall which provides good stem length for baling. Under high plant available water it will lodge, though not as severely as Lucile emmer. If haying is delayed till soft dough, seed loss to shatter would tend to be less with SK3P spelt than with either Haybet barley or Otana. In 1999, SK3P spring spelt grain yields were 1433, 2856, and 2999 lbs per acre at Moccasin, Conrad, and Sidney, respectively, compared to multi-species mean yields of 1712, 3045, and 4006 lbs per acre. Two private spelt lines, 1088 and 1094, had higher grain yields. However, these varieties can only be grown under production contracts where all production is delivered to Purity Foods. There is sufficient breeder seed on hand, approx that was inspected and could be approved for marketing as foundation seed should we release this variety. The attributes SK3P offers is it slightly later, less prone to shatter should harvest be delayed till soft dough stage. It frequently has lower forage nitrate content. The Lucile emmer that is available is awned. Suggested name: SK3P 05 Select.

Spring cereal forage yields in support of the release of SK3P spring spelt.

Table 1

2004 Montana spring cereal forages dry matter yields.

variety	species	CARC SW9	CARC SE 4	WARC	3 Loc Average
Haybet	barley	2.415	2.037	3.279	2.577
Otana	oat	1.899	1.576	3.243	2.239
SK3P	spelt	1.98	1.81	3.107	2.299
93ST59	wht X splt	1.836	1.95	2.824	2.203
Lucile	emmer	1.751	1.525	2.931	2.069
Trial Mean		2.174	1.984	3.128	2.429

Table 2

2003 Spring Cereal forage species/variety yield evaluations summary.

Variety	Species	CARC	SARC 08	SARC09	NWARC	BOZ
Haybet	barley	2.019	2.019	5.066	3.175	3.71
Otana	oat	1.410	2.322	4.959	2.825	2.75
SK3P	spelt	1.372	2.048	4.855	1.753	2.84
93ST59	wht X splt	1.540	2.081	4.753	2.096	2.80
Lucile	emmer	1.038	2.098	4.510	1.455	2.93
Trial mean		1.594	2.329297	4.930	2.690	3.33

Table 3

2002 Spring cereal forage summary

Variety	Species	Bozmn	Corvallis	Kalispell	McSW3	McSE12a	McSE12d	Dickinson	Average
Haybet	barley	3.182	3.485	2.167	1.790	1.693	1.406	2.000	2.246
Otana	oat	2.577	3.942	2.090	1.455	0.923 ^{1/}	1.494	1.700	2.026
SK3P	spelt	2.847	3.894	2.500	1.416	0.9433	1.026	1.700	2.047
93ST59	wht X splt	2.476	3.931	1.513	1.358	1.195	1.100	2.200	1.968
Lucile	emmer	3.083	3.842	2.043	1.273	1.093	1.150	2.200	2.098
Trial mean		2.876	3.881	2.18	1.568	1.275	1.386	2.000	2.166

^{1/}Treflan carry over severely damaged the oat entry stands.

Table 4
2003 Bozeman spring cereal forage quality

		Plant Ht.	NO3 ppm	Crude Prot	ADF	NDF	RFV	TDN
		cm	ppm	%	%	%	%	%
Haybet	ow Hay bar	112.5	4675	10.97	35.61	61.31	92.8	60.8
Otana	oat	121.3	10913	11.95	40.37	70.00	76.3	57.0
SK3P	spelt	153.5	8910	11.87	42.07	67.70	77.1	55.7
93ST59	wht X spl	123.0	3832	12.48	39.53	66.29	81.5	57.7
Lucile	emmer	122.0	5697	12.76	41.09	67.84	78.0	56.4
Mean		111.86	6805	11.74	36.59	63.10	81.2	57.5

Table 5
2003 SARC Huntley Spring cereal forage quality

Cultivar	Species	Height	Nitrate ppm	Protein	ADF	NDF	TDN	Feed Value
Haybet	Barley	29.9	250	8.1	25.6	50.3	67	117.5
Otana	Oat	35.2	650	8.4	30.6	56.3	62	99.6
SK3P	Spelt	40.4	100	8.2	28.8	52.8	63.3	109.7
93ST59	Spelt/Wheat	36.6	300	10	28.5	50.4	64.1	114
Lucile	Emmer	35.7	250	9.1	31.2	55.3	61.1	100
Average		31.2	353	8.9	27.5	50.4	64.9	115.8

Table 6
2003 WARC Corvallis spring cereal forage

		NO3PPM	ADF%	NDF%	C_PROT	RFV	TDIG
Haybet	barley	4733	29	52	15.3	108	62.67
Otana	oat	10030	29	51.67	16.7	110	63
SK3P	spelt	4933	33	54	14.0	99	58.67
93ST59	wht X spl	5167	31	53	13.0	105	61.33
Lucile	emmer	5833	32	53	13.7	103	60
OVERALL MEAN =		6656	30.74	54.11	14.7	103.4	61.13

Table 7
2003 CARC Moccasin spring cereal forage quality

		Hd Date	NO3 (ppm)	ADF (%)	NDF (%)	DE PROTEII	RFV	TDN %
Haybet	barley	185	400	25.8	50.4	10.0	115	65.9
Otana	oat	184	800	24.1	48.0	10.6	124	68.1
SK3P	spelt	185	300	26.1	46.5	12.1	125	65.7
93ST59	wht X spl	184	500	24.2	46.0	13.1	130	68
Lucile	emmer	190	800	25.6	44.3	15.9	132	66.3
Average		183.6	1555.6	25.9	48.2	12.1	121.6	66.1