

ECONOMICS

CROP: HARD WHEAT

Item	Unit	\$/ac	My Farm \$/ac
Seed		\$23.10	
Seed treatment		\$9.36	
Soil test		\$0.65	
Fertilizer: N	135 lb	\$77.23	
P ₂ O ₅	45 lb	\$21.25	
K ₂ O	15 lb	\$4.94	
Herbicide		\$20.25	
Insecticide *		\$0.00	
Fungicide		\$18.00	
Equipment fuel		\$18.53	
Equipment repair		\$6.22	
Custom work		\$7.00	
Irrigation power	12 inches	\$20.40	
Irrigation repair		\$11.28	
Irrigation service/water charge		\$34.34	
Crop insurance †	52 bu/ac	\$4.78	
Hail insurance		\$7.80	
Hired labour	0 hr/ac	\$0.00	
Other		\$0.00	
Farm overhead		\$9.20	
Operating interest	4.2 %	\$6.18	
Total Cash Costs		\$300.51	
Farm Equipment & Buildings		\$55.61	
Irrigation System		\$28.03	
Specialized Equipment		\$0.00	
Land		\$42.19	
Total Non Cash Costs		\$125.82	
Total Costs		\$426.34	
Returns	AVG	Target	
Yield bu/ac	70	80	
Price \$/bu (#1 13.5%)		\$4.37	
Gross Return	\$306	\$350	
Net Return	-\$120	-\$77	
Specialized Equipment		\$/ac/yr	
TOTAL		\$0.00	
Break Even using Target Returns & Total Costs			
Break Even Price	\$/ac	\$5.33	
Break Even Yield	bu/ac	98	

More Information:

Call an Irrigation Agrologist at (306) 867-5500 or check our website: www.irrigationsaskatchewan.com.

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Variety Selection:

Vesper VB, Unity, and CDC Utmost are wheat midge tolerant varieties. Vesper VB, 5604HR CL, and CDC Kernen are high yielding varieties. Carberry is resistant to fusarium head blight. Select an irrigated variety on the basis of high yield, lodging resistance and disease resistance. See 'Crop Varieties for Irrigation' publication.

Seeding:

Plant population	250.0	plants/sq m.
TKW	42.0	grams
Seeding Rate	110.0	lb/ac

Seed before May 15th.

Fertilization:

Apply 120-135 lb/ac N, 30-45 lb/ac P₂O₅ and 10-15 lb/ac K₂O.

A soil test will give recommendations for fertilizer application based on soil nutrient levels and crop needs.

Crop Water Use and Irrigation:

Total seasonal crop water use: 460 mm

Emergence to Tillering: 1.0 to 4.5 mm/day

Stem Extension to Heading: 3.5 increasing to 6.5 mm/day

Flowering to Late Milk: 5.5 to 7.5 mm/day

Early Dough to Maturity: 6.5 mm/day

Critical stages for moisture are tillering and flowering. Maintain soil at >50% available moisture. Use a soil probe to check moisture status.† Allow the canopy to dry between irrigations to minimize disease pressure and lodging.

Harvest:

Swath or desiccate at a kernel moisture content of 30%. The kernel will dent with pressure. In some years the straw may still be green. Decide on the basis of grain firmness and colour.

Handling, Storage and Grading:

Dry 14.5%; Tough 14.6%; Damp 17.0%

Rotations and Crop Protection:

Fungicide seed treatment recommended. Wheat on wheat stubble will yield at least 15% less than wheat on broadleaf stubble due to disease build-up. Break from cereals for one year. Fusarium head blight is a concern on irrigation. Hard wheat is less susceptible than durum, but a fungicide application is recommended for control.

* Wheat midge may require control.

† Crop Insurance rates currently under review.

‡ Refer to the Saskatchewan Ministry of Agriculture Irrigation Scheduling Manual

ECONOMICS

CROP: DURUM

Item	UNIT	\$/ac	My Farm \$/ac
Seed		\$26.40	
Seed treatment		\$10.40	
Soil test		\$0.65	
Fertilizer:	N 165 lb	\$94.39	
	P ₂ O ₅ 40 lb	\$18.89	
	K ₂ O 15 lb	\$4.94	
Herbicide		\$20.25	
Insecticide *		\$0.00	
Fungicide		\$18.00	
Equipment fuel		\$18.53	
Equipment repair		\$6.22	
Custom work		\$7.00	
Irrigation power	12 inches	\$20.40	
Irrigation repair		\$11.28	
Irrigation service/water charge		\$34.34	
Crop insurance †	57 bu/ac	\$5.83	
Hail insurance		\$7.80	
Hired labour	0 hr/ac	\$0.00	
Other		\$0.00	
Farm overhead		\$9.20	
Operating interest	4.2 %	\$6.61	
Total Cash Costs		\$321.13	
Farm Equipment & Buildings		\$55.61	
Irrigation System		\$28.03	
Specialized Equipment		\$0.00	
Land		\$42.19	
Total Non Cash Costs		\$125.82	
Total Costs		\$446.95	
Returns	AVG	Target	
Yield bu/ac	80	90	
Price \$/bu (#1 13.5%)		\$5.25	
Gross Return	\$420	\$473	
Net Return	-\$27	\$26	
Specialized Equipment		\$/ac/yr	
TOTAL		\$0.00	
Break Even using Target Returns & Total Costs			
Break Even Price	\$/ac	\$4.97	
Break Even Yield	bu/ac	85	

More Information:

Call an Irrigation Agrologist at (306) 867-5500 or check our website: www.irrigationsaskatchewan.com.

AGRONOMICS

Variety Selection:

Strongfield and Brigade are high yielding varieties with good lodging resistance. Durum varieties require more days to mature than other wheats. See 'Crop Varieties for Irrigation' publication.

Seeding:

Plant population	250.0	plants/sq m.
TKW	45.0	grams
Seeding Rate	120.0	lb/ac

Seed before May 15th.

Fertilization:

Durum can be downgraded due to piebald kernels. Sufficient N reduces the problem. Apply 140-165 lb/ac N, 30-40 lb/ac P₂O₅ and 10-15 lb/ac K₂O. A soil test will give recommendations for fertilizer application based on soil nutrient levels and crop needs.

Crop Water Use and Irrigation:

Total seasonal crop water use: 460 mm

Emergence to Tillering: 1.0 to 4.5 mm/day

Stem Extension to Heading: 3.5 increasing to 6.5 mm/day

Flowering to Late Milk: 5.5 to 7.5 mm/day

Early Dough to Maturity: 6.5 decreasing to 2.0 mm/day

Critical stages for moisture are tillering and flowering. Maintain soil at >50% available moisture. Use a soil probe to check moisture status.† Allow the canopy to dry between irrigations to minimize disease pressure and lodging.

Harvest:

Swath or desiccate at a kernel moisture content of 30%. The kernel will dent with pressure. In some years the straw may still be green. Decide on the basis of grain firmness and colour. Durum is more susceptible to weathering and sprouting than hard wheat.

Handling, Storage and Grading:

Dry 14.5%; Tough 14.6%; Damp 17.0%

Rotations and Crop Protection:

Fungicide seed treatment recommended. Durum is more susceptible to fusarium head blight than other wheat classes. Four year break between durum crops reduces risk and build-up of disease. Avoid planting durum on or near corn stubble. Wheat on wheat stubble will yield at least 15% less than wheat on broadleaf stubble due to disease build-up. A fungicide application is recommended. Break from cereals for one year.

* Wheat midge may require control.

† Crop Insurance rates currently under review.

† Refer to the Saskatchewan Ministry of Agriculture Irrigation Scheduling Manual

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AGRONOMICS

CROP: CPS WHEAT

ITEM	UNIT		\$/ac	My Farm \$/ac
Seed			\$23.10	
Seed treatment			\$9.36	
Soil test			\$0.65	
Fertilizer:	N	90	lb	\$51.49
	P ₂ O ₅	30	lb	\$14.17
	K ₂ O	15	lb	\$4.94
Herbicide			\$20.25	
Insecticide *			\$0.00	
Fungicide			\$18.00	
Equipment fuel			\$18.53	
Equipment repair			\$6.22	
Custom work			\$7.00	
Irrigation power	12	inches	\$20.40	
Irrigation repair			\$11.28	
Irrigation service/water charge			\$34.34	
Crop insurance †	55	bu/ac	\$8.01	
Hail insurance			\$7.80	
Hired labour	0	hr/ac	\$0.00	
Other			\$0.00	
Farm overhead			\$9.20	
Operating int	4.2	%	\$5.56	
Total Cash Costs			\$270.29	
Farm Equipment & Buildings			\$55.61	
Irrigation System			\$28.03	
Specialized Equipment			\$0.00	
Land			\$42.19	
Total Non Cash Costs			\$125.82	
Total Costs			\$396.12	
Returns	AVG	Target		
Target yield	bu/ac	75	80	
Price	\$/bu (#1 CPSR)		\$3.65	
Gross		\$274	\$292	
Net Return		-\$122	-\$104	
Specialized Equipment			\$/ac/yr	
TOTAL			\$0.00	
Break Even using Target Returns & Total Costs				
Break Even Price		\$/ac	\$4.95	
Break Even Yield		bu/ac	109	

More Information:

Call an Irrigation Agrologist at (306) 867-5500 or check our website: www.irrigationsaskatchewan.com.

Variety Selection:

Conquer is the only high yielding CPS midge tolerant variety. Select an irrigated variety on the basis of high yield, lodging resistance and disease resistance. See the 'Crop Varieties for Irrigation' publication.

Seeding:

Plant population	250.0	plants/sq m.
TKW	42.0	grams
Seeding Rate	110.0	lb/ac

Seed before May 15th.

Fertilization:

Apply 80-90 lb/ac N, 25-20 lb/ac P₂O₅ and 10-15 lb/ac K₂O.

A soil test will give recommendations for fertilizer application based on soil nutrient levels and crop needs.

Crop Water Use and Irrigation:

Total seasonal crop water use: 460 mm

Emergence to Tillering: 1.0 to 4.5 mm/day

Stem Extension to Heading: 3.5 increasing to 6.5 mm/day

Flowering to Late Milk: 5.5 to 7.5 mm/day

Early Dough to Maturity: 6.5 decreasing to 2.0 mm/day

Critical stages for moisture are tillering and flowering. Maintain soil at >50% available moisture. Use a soil probe to check moisture status.† Allow the canopy to dry between irrigations to minimize disease pressure and lodging.

Harvest:

Swath or desiccate at a kernel moisture content of 30%. The kernel will dent with pressure. In some years the straw may still be green. Decide on the basis of grain firmness and colour. CPS is more susceptible to weathering and sprouting than hard wheat.

Handling, Storage and Grading:

Dry 14.5%; Tough 14.6%; Damp 17.0%

Rotations and Crop Protection:

Fungicide seed treatment recommended. Wheat on wheat stubble will yield at least 15% less than wheat on broadleaf stubble due to disease build-up. Break from cereals for one year. CPS is less susceptible to fusarium head blight than durum. A fungicide application is recommended

* Wheat midge may require control.

† Crop Insurance rates currently under review.

‡ Refer to the Saskatchewan Ministry of Agriculture Irrigation Scheduling Manual

ECONOMICS

CROP: SOFT WHEAT

My Farm

ITEM	#	UNIT	\$/ac	\$/ac
Seed			\$19.80	
Seed treatment			\$9.36	
Soil test			\$0.65	
Fertilizer:	N	140	lb	\$80.09
	P ₂ O ₅	40	lb	\$18.89
	K ₂ O	15	lb	\$4.94
Herbicide			\$20.25	
Insecticide *			\$0.00	
Fungicide			\$18.00	
Equipment fuel			\$18.53	
Equipment repair			\$6.22	
Custom work			\$7.00	
Irrigation power	13	inches	\$22.10	
Irrigation repair			\$11.28	
Irrigation service/water charge			\$34.63	
Crop insurance †	48	bu/ac	\$5.59	
Hail insurance			\$7.80	
Hired labour	0	hr/ac	\$0.00	
Other			\$0.00	
Farm overhead			\$9.20	
Operating Interest	4.2	%	\$6.18	
Total Cash Costs			\$300.52	
Farm Equipment & Buildings			\$55.61	
Irrigation System			\$28.03	
Specialized Equipment			\$0.00	
Land			\$42.19	
Total Non Cash Costs			\$125.82	
Total Costs			\$426.34	
Returns		AVG	Target	
Yield bu/ac		90	100	
Price \$/bu (#1 CWSWS)			\$3.06	
Gross		\$275	\$306	
Net Return		-\$151	-\$120	
Specialized Equipment			\$/ac/yr	
TOTAL			\$0.00	
Break Even using Target Returns & Total Costs				
Break Even Price		\$/ac	\$4.26	
Break Even Yield		bu/ac	139	

More Information:

Call an Irrigation Agriologist at (306) 867-5500 or check our website: www.irrigationsaskatchewan.com.

AGRONOMICS

Variety Selection:

Sadash and AC Andrew are high yielding varieties with a good lodging rating. See 'Crop Varieties for Irrigation' publication.

Seeding:

Plant population	250.0	plants/sq m.
TKW	39.0	grams
Seeding Rate	110.0	lb/ac

Seed before May 15th.

Fertilization:

Low protein soft wheat production requires a balance between water and nitrogen. Apply 130-140 lb/ac N, 30-40 lb/ac P₂O₅ and 10-15 lb/ac K₂O. A soil test will give recommendations for fertilizer application based on soil nutrient levels and crop needs.

Crop Water Use and Irrigation:

Total seasonal crop water use: 480 mm
 Emergence to Tillering: 1.0 to 4.5 mm/day
 Stem Extension to Heading: 3.5 increasing to 6.5 mm/day
 Flowering to Late Milk: 5.5 to 7.5 mm/day
 Early Dough to Maturity: 6.5 decreasing to 2.0 mm/day
 Critical stages for moisture are at tillering at flowering. Maintain soil at >50% available moisture. Allow the canopy to dry between irrigations to minimize disease pressure and lodging. Use a soil probe to check moisture status.†

Harvest:

Swath or desiccate at a kernel moisture content of 30%. The kernel will dent with pressure. In some years the straw may still be green. Decide on the basis of grain firmness & colour. Soft wheat is more susceptible to weathering and sprouting than hard wheat.

Handling, Storage and Grading:

Dry 14.5%; Tough 14.6%; Damp 17.0%

Rotations and Crop Protection:

Fungicide seed treatment recommended. Wheat on wheat stubble will yield at least 15% less than wheat on broadleaf stubble due to disease build-up. Break from cereals for one year. Soft wheat is more susceptible to fusarium head blight than hard wheat, but less susceptible than durum. A fungicide application is recommended. Avoid planting soft wheat on or near corn stubble.

* Wheat midge may require control.

† Crop Insurance rates currently under review.

† Refer to the Saskatchewan Ministry of Agriculture Irrigation Scheduling Manual

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CROP: MALT BARLEY

				My Farm	
ITEM	#	UNIT	\$/ac	\$/ac	
Seed			\$23.10		
Seed treatment			\$9.36		
Soil test			\$0.65		
Fertilizer:	N	85	lb	\$48.63	
	P ₂ O ₅	30	lb	\$14.17	
	K ₂ O	15	lb	\$4.94	
Herbicide			\$16.25		
Insecticide			\$0.00		
Fungicide			\$0.00		
Equipment fuel			\$18.53		
Equipment repair			\$6.22		
Custom work			\$0.00		
Irrigation power	10	inches	\$17.00		
Irrigation repair			\$11.28		
Irrigation service/water charge			\$33.76		
Crop insurance †	62	bu/ac	\$6.99		
Hail insurance			\$7.80		
Hired labour	0	hr/ac	\$0.00		
Other			\$0.00		
Farm overhead			\$9.20		
Operating interest	4.2	%	\$4.79		
Total Cash Costs			\$232.66		
Farm Equipment & Buildings			\$55.61		
Irrigation System			\$28.03		
Specialized Equipment			\$0.00		
Land			\$42.19		
Total Non Cash Costs			\$125.82		
Total Costs			\$358.48		
Returns		AVG	Target		
Yield	bu/ac	100	120		
Price	\$/bu (2-row select)		\$2.76		
Gross			\$276		\$331
Net Return			-\$82		-\$27
Specialized Equipment			\$/ac/yr		
TOTAL			\$0.00		
Break Even using Target Returns & Total Costs					
Break Even Price		\$/ac	\$2.99		
Break Even Yield		bu/ac	130		

More Information:

Call an Irrigation Agriologist at (306) 867-5500 or check our website: www.irrigationsaskatchewan.com.

AGRONOMICS

Variety Selection:

CDC Copeland and Newdale are 2-row varieties with good lodging resistance and high yield. Six-row Legacy has good lodging ratings and high yield. Two-row varieties are more likely to be selected, but six row varieties will resist disease better in the humid irrigated crop. See 'Crop Varieties for Irrigation' publication and variety recommendations of CMBTC¹.

Seeding:

Plant population	270.0	plants/sq m.
TKW	41.0	grams
Seeding Rate	110.0	lb/ac

Seed before May 15th.

Fertilization:

Apply 80-90 lb/ac N, 25-30 lb/ac P₂O₅ and 15-20 lb/ac K₂O. A soil test will give field specific recommendations for fertilizer application based on soil nutrient levels and crop needs. Consider potassium and zinc status especially on eroded soils.

Crop Water Use and Irrigation:

Total seasonal moisture use: 430 mm

Tillering: 1 to 3 mm/day

Flag Leaf to Flowering: 7 to 8 mm/day

Critical stages for moisture are tillering and flowering. Maintain soil at >50% available moisture from tillering to flowering. Check moisture status with soil probe.† Build soil moisture prior to grain fill and draw down reserve through maturation to reduce stain and lodging.

Harvest:

Swath at maturity to avoid green kernels in the sample. Delay swathing until kernel is difficult to dent with thumbnail. Barley is more susceptible to weathering and sprouting than hard wheat.

Handling, Storage and Grading:

Dry 14.5%; Tough 14.6%; Damp 17.0%

Rotations and Crop Protection:

Barley is less susceptible to fusarium head blight than wheat and durum, but varieties differ in susceptibility. Net blotch is an important disease of barley, reducing yield and causing downgrading (black point). Reduce net blotch severity by variety selection, burying residue, applying fungicide, and leaving two years between barley crops.

† Crop Insurance rates currently under review.

‡ Refer to the Saskatchewan Ministry of Agriculture Irrigation Scheduling Manual

1 Canadian Malting Barley Technical Centre

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CROP: FEED BARLEY

ITEM	#	UNIT	My Farm	
			\$/ac	\$/ac
Seed			\$26.00	
Seed treatment			\$9.36	
Soil test			\$0.65	
Fertilizer:	N	100 lb	\$57.21	
	P ₂ O ₅	30 lb	\$14.17	
	K ₂ O	15 lb	\$4.94	
Herbicide			\$16.25	
Insecticide			\$0.00	
Fungicide			\$0.00	
Equipment fuel			\$18.53	
Equipment repair			\$6.22	
Custom work			\$0.00	
Irrigation power	10	inches	\$17.00	
Irrigation repair			\$11.28	
Irrigation service/water charge			\$33.76	
Crop insurance †	62	bu/ac	\$6.99	
Hail insurance			\$7.80	
Hired labour	0	hr/ac	\$0.00	
Other			\$5.50	
Farm overhead			\$9.20	
Operating interest	4.2	%	\$5.14	
Total Cash Costs			\$249.99	
Farm Equipment & Buildings			\$55.61	
Irrigation System			\$28.03	
Specialized Equipment			\$0.00	
Land			\$42.19	
Total Non Cash Costs			\$125.82	
Total Costs			\$375.82	
Returns		AVG	Target	
Yield	bu/ac	110	130	
Price	\$/bu (1 CW)		\$2.30	
Gross		\$253	\$299	
Net Return		-\$123	-\$77	
Specialized Equipment			\$/ac/yr	
TOTAL			\$0.00	
Break Even using Target Returns & Total Costs				
Break Even Price		\$/ac	\$2.89	
Break Even Yield		bu/ac	163	

More Information:

Call an Irrigation Agriologist at (306) 867-5500 or check our website: www.irrigationsaskatchewan.com.

AGRONOMICS

Variety Selection:

Alston(6-row) has good lodging resistance and high yield. Champion and CDC Austenson are two row varieties with good lodging resistance. Choose a variety on the basis of yield, lodging and resistance to diseases. See 'Crop Varieties for Irrigation' publication.

Seeding:

Plant population	320.0	plants/sq m.
TKW	41.0	grams
Seeding Rate	130.0	lb/ac

Seed before May 15th.

Fertilization:

Apply 95-105 lb/ac N, 25-30 lb/ac P₂O₅ and 15-20 lb/ac K₂O. A soil test will give field specific recommendations for fertilizer application based on soil nutrient levels and crop needs. Consider potassium and zinc status on eroded soils.

Crop Water Use and Irrigation:

Total seasonal moisture use: 430 mm

Tillering: 3 to 6 mm/day

Flag Leaf to Milk: 5.5 to 7.5 mm/day

Critical stages for moisture are at tillering and at flowering. Allow the canopy to dry between irrigations to minimize disease pressure and lodging. Maintain soil at >50% available moisture for tillering through flowering. Use a soil probe to check moisture status.† Irrigation applications should end at the soft dough stage.

Harvest:

Delay swathing until barley kernel is difficult to dent with thumb nail. Barley is more susceptible to weathering and sprouting than hard wheat.

Handling, Storage and Grading:

Dry 14.5%; Tough 14.6%; Damp 17.0%

Rotations and Crop Protection:

Barley is less susceptible to fusarium head blight than most other cereal types, but varieties differ in susceptibility. Reduce net blotch severity with variety selection, burying residue, leaving two years between barley crops and fungicide application. Smuts reduces suitability of feed barley.

† Crop Insurance rates currently under review.

† Refer to the Saskatchewan Ministry of Agriculture Irrigation Scheduling Manual

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AGRONOMICS

CROP: MILLING OATS

My Farm

ITEM	#	UNIT	\$/ac	\$/ac
Seed			\$26.40	
Seed treatment			\$0.00	
Soil Sample			\$0.65	
Fertilizer: N	50	lb	\$28.60	
P ₂ O ₅	20	lb	\$9.45	
K ₂ O	0	lb	\$0.00	
Herbicide			\$11.75	
Insecticide			\$0.00	
Fungicide			\$0.00	
Equipment fuel			\$18.53	
Equipment repair			\$6.22	
Custom work			\$0.00	
Irrigation power	10	inches	\$17.00	
Irrigation repair			\$11.28	
Irrigation service/water charge			\$33.76	
Crop insurance †	68	bu/ac	\$6.30	
Hail insurance			\$7.80	
Hired labour	0	hr/ac	\$0.00	
Other			\$0.00	
Farm overhead			\$9.20	
Operating interest	4.2	%	\$3.93	
Total Cash Costs			\$190.86	
Farm Equipment & Buildings			\$55.61	
Irrigation System			\$28.03	
Specialized Equipment			\$0.00	
Land			\$42.19	
Total Non Cash Costs			\$125.82	
Total Costs			\$316.68	
Returns	AVG	Target		
Yield bu/ac*	120	150		
Price \$/bu			\$1.71	
Gross	\$205	\$257		
Net Return	-\$111	-\$60		
Specialized Equipment			\$/ac/yr	
TOTAL			\$0.00	
Break Even using Target Returns & Total Costs				
Break Even Price		\$/ac	\$2.11	
Break Even Yield		bu/ac	185	

More Information:

Call an Irrigation Agrologist at (306) 867-5500 or check our website: www.irrigationsaskatchewan.com. Refer to Prairie Oat Growers www.poga.ca

Milling oats must have a high bushel weight (at least 42 lb/bu) to be accepted for this market.

Variety Selection:

Oat varieties have not been evaluated in irrigated trials. Choose an oat variety based on lodging resistance, maturity, and yield. CDC Minstrel, and Morgan have good lodging ratings, % plump, grain weight, and yield and are suitable for milling. Check with buyer on variety preferences.

Seeding:

Plant population	300.0	plants/sq m.
TKW	41.0	
Seeding Rate	120.0	lb/ac

Early planting consistently produces oat crops with higher yield and kernel weight than late planting. Plant by May 15th. Calculate seeding rate to reach a target plant population.

Fertilization:

Irrigated oat fertility recommendations have not been established but oats do not respond to strongly to N and are prone to lodging with high fertility rates. Oats perform well on terminated alfalfa stubble with moderate fertilization.

Crop Water Use and Irrigation:

Data for irrigation of oats is not available, However, oats are known to respond well to additional moisture with high yields.

Harvest:

Swath when grain moisture is between 20% and 35%. Adjust combine to minimize dehulling of oats. If the crop is ripening evenly (35% moisture) in mid-August, consider straight combining.

Handling, Storage and Grading:

Store below 13.5% moisture. Do not dry milling oats over 60°C.

Rotations and Crop Protection:

Wild oat control is essential. There are no registered herbicides to control volunteer cereals in oats, but seeding rate will effectively compete with wild oats. Check recropping restrictions on residual wild oat herbicides. Oat is less susceptible to fusarium head blight than most cereals.

* Yield and price per bushel are based on a 34 lb/bu standard weight for oats. Millers require bushel weights of at least 42 lb/bu.

† Crop Insurance rates currently under review.

ECONOMICS

CROP: CANOLA

My Farm

ITEM	#	UNIT	\$/ac	\$/ac
Seed			\$56.25	
Seed treatment			\$0.00	
Soil test			\$0.65	
Fertilizer:	N	160	lb	\$91.53
	P ₂ O ₅	40	lb	\$18.89
	K ₂ O	15	lb	\$4.94
Herbicide			\$8.50	
Insecticide *			\$6.15	
Fungicide			\$22.00	
Equipment fuel			\$19.62	
Equipment repair			\$6.22	
Custom work			\$14.00	
Irrigation power	13	inches	\$22.10	
Irrigation repair			\$11.28	
Irrigation service/water charge			\$34.63	
Crop insurance †	47	bu/ac	\$10.84	
Hail insurance			\$13.65	
Hired labour	0	hr/ac	\$0.00	
Other			\$0.00	
Farm overhead			\$9.20	
Operating int	4.2	%	\$7.36	
Total Cash Costs			\$357.82	
Farm Equipment & Buildings			\$55.61	
Irrigation System			\$28.03	
Specialized Equipment			\$0.17	
Land			\$42.19	
Total Non Cash Costs			\$125.99	
Total Costs			\$483.80	
Returns		AVG	Target	
Yield bu/ac		55	70	
Price \$/bu			8.68	
Gross		\$477	\$608	
Net Return		-\$6	\$124	
Specialized Equipment			\$/ac/yr	
Sideknife			\$0.17	
TOTAL			\$0.17	
Break Even using Target Returns & Total Costs				
Break Even Price		\$/ac	\$6.91	
Break Even Yield		bu/ac	56	

More Information:

Call an Irrigation Agrologist at (306) 867-5500 or check our website: www.irrigationsaskatchewan.com. Use the 'Canola Growers Manual' from the Canola Council of Canada.

AGRONOMICS

Variety Selection:

Select a canola variety that is resistant to blackleg and resistant to lodging. Refer to the publication "Crop Varieties for Irrigation" for production data specific to irrigation in Saskatchewan.

Seeding:

Plant population		110.0	plants/sq m.
TKW	Hybrid Canola	5.0	grams
Seeding Rate		5.0	lb/ac

Seed before May 15th.

Fertilization:

Apply 145-160 lb/ac N, 30-40 lb/ac P₂O₅ and 10-15 lb/ac K₂O. A soil test is recommended for fertilizer application based on soil nutrient levels and crop needs. Sulphate fertilization may be required if fall or spring soil conditions are conducive to leaching.

Crop Water Use and Irrigation:

The active root zone of canola is 1.0 metre. Maintain the soil water content at or above 50% field capacity.† The average total seasonal crop water requirement is 480 mm (19 inches). Critical irrigation period extends from the late vegetative stage through flowering to initial seed ripening.

Daily crop water use:

Vegetative: 1.5-3.0 mm/day

30 day average peak use: 6.0-6.5 mm/day

Flowering: 7.5 mm/day maximum

Harvest:

Swath when 60% of seeds in pods on the main stem have changed colour. Green seed is caused by early swathing or extreme heat or cold while the crop is in the swath. Irrigated canola can be a challenge to swath.

Handling, Storage and Grading:

Dry <10%; Tough 10.1%; Damp 12.5%

Rotations and Crop Protection:

Canola should be grown in a four year rotation to control disease. A fungicide application is recommended for sclerotinia control. Recommended application timing is dependent upon product used, but should occur at 20-50% bloom (prior to petal drop). Scout fields weekly during growing season checking for insects and diseases. An application of insecticide may be required to control flea beetles or bertha armyworm.

† Crop Insurance rates currently under review.

* An insecticide application may be required for Flea beetle, Bertha Armyworm or Diamondback Moth control.

† Refer to the Saskatchewan Ministry of Agriculture Irrigation Scheduling Manual

ECONOMICS

CROP: SOYBEAN

ITEM	UNIT	\$/ac	My Farm \$/ac
Seed		\$110.00	
Seed treatment		\$0.00	
Soil Test		\$0.65	
Fertilizer:			
N	0 lb	\$0.00	
P ₂ O ₅	20 lb	\$9.45	
K ₂ O	0 lb	\$0.00	
Herbicide		\$8.50	
Insecticide		\$0.00	
Fungicide		\$0.00	
Equipment fuel		\$19.00	
Equipment repair		\$5.35	
Custom work		\$0.00	
Irrigation power	12 inches	\$20.40	
Irrigation repair		\$11.28	
Irrigation service/water charge		\$34.34	
Crop insurance *	20 bu	\$11.56	
Hail insurance	7.2%	\$15.60	
Hired labour	0 hr/ac	\$0.00	
Other		\$0.00	
Farm overhead		\$9.20	
Operating interest	4.2 %	\$5.36	
Total Cash Costs		\$260.69	
Farm Equipment & Buildings		\$55.61	
Irrigation System		\$28.03	
Specialized Equipment		\$8.55	
Land		\$42.19	
Total Non Cash Costs		\$134.38	
Total Costs		\$395.06	
Returns	AVG	Target	
Yield lb/ac	30	40	
Price \$/lb		\$8.41	
Gross	\$252	\$336	
Net Return	-\$143	-\$59	
Specialized Equipment		\$/ac/yr	
Land Roller		\$3.54	
Flex Header		\$5.01	
TOTAL		\$8.55	
Break Even using Target Returns & Total Costs			
Break Even Price	\$/ac	\$9.88	
Break Even Yield	bu/ac	47	

More Information:

Call an Irrigation Agrologist at (306) 867-5500 or check our website: www.irrigationsaskatchewan.com.

AGRONOMICS

Variety Selection:

Select a low corn heat unit (**CHU**) and early maturing variety. Soybean maturity is determined by photosensitivity and the earliest maturing type is considered a **000** variety which is most suitable for Saskatchewan. **2300 to 2400 CHU** is considered low. Refer to the publication "Crop Varieties for Irrigation" for production data specific to irrigation in Saskatchewan.

Seeding:

Plant population	45.0	plants/sq m.
TKW	Variable	grams

Soil temperature needs to be at least 10°C. Roll after seeding. TKW is variety specific; adjust seeding rate accordingly.

Fertilization:

Inoculant- Soybeans require a specific species of rhizobia not native to Saskatchewan soil. Double inoculation is recommended on new fields.

Nitrogen-Soybean are not as efficient as other legumes at nitrogen fixation. If plants start yellowing around flowering consider a top-dress application of (40 – 50 lbs/ac N)

Phosphate- Do not exceed 20 lbs/ac P₂O₅ seed placed phosphorus in solid seeded production. Higher rates need to be side banded.

Crop Water Use and Irrigation:

Irrigation scheduling and recommendation have not yet been developed for Saskatchewan. Critical watering period is between flowering and pod fill.

Harvest:

Harvest will likely begin following a killing frost. Harvest at maximum of 20% moisture. 14% moisture is ideal for harvest. Plants are considered mature when 95% of pods have turned "buckskin".

Handling, Storage and Grading:

Store soybeans from 10-13% moisture. 5% green and 15% splits and cracks are the maximum grading factors before deductions.

Rotations and Crop Protection:

Soybeans fit into rotation similar to any pulse crop. Most soybean varieties are glyphosate tolerant. Seed treatment is a must in our cooler soil with soybeans being affected by pythium, rhizoctonia, and fusarium root rots. Soybeans are not competitive with weeds at the seedling stage and may require more than one herbicide application. A fungicide application may be required to control sclerotinia

* Crop Insurance rates currently under review.

ECONOMICS

AGRONOMICS

CROP: FLAX

ITEM	UNIT	My Farm	
		\$/ac	\$/ac
Seed		\$18.00	
Seed treatment		\$0.00	
Soil test		\$0.65	
Fertilizer:	N 100 lb	\$57.21	
	P ₂ O ₅ 35 lb	\$16.53	
	K ₂ O 15 lb	\$4.94	
Herbicide		\$21.25	
Insecticide		\$0.00	
Fungicide		\$15.00	
Equipment fuel		\$17.00	
Equipment repair		\$8.29	
Custom work		\$7.00	
Irrigation power	10 inches	\$17.00	
Irrigation repair		\$11.28	
Irrigation service/water charge		\$33.76	
Crop insurance *	28 bu/ac	\$7.71	
Hail insurance		\$7.80	
Hired labour	0 hr/ac	\$0.00	
Other		\$0.00	
Farm overhead		\$9.20	
Operating interest	4.2 %	\$5.30	
Total Cash Costs		\$257.92	
Farm Equipment & Buildings		\$55.61	
Irrigation System		\$28.03	
Specialized Equipment		\$0.00	
Land		\$42.19	
Total Non Cash Costs		\$125.82	
Total Costs		\$383.74	
Returns	AVG	Target	
Yield bu/ac	40	50	
Price \$/bu		\$8.68	
Gross	\$347	\$434	
Net Return	-\$37	\$50	
Specialized Equipment		\$/ac/yr	
TOTAL		\$0.00	
Break Even using Target Returns & Total Costs			
Break Even Price	\$/ac	\$7.67	
Break Even Yield	bu/ac	44	

More Information:

Call an Irrigation Agrologist at (306) 867-5500 or check our website: www.irrigationsaskatchewan.com.

† Refer to the Saskatchewan Ministry of Agriculture Irrigation Scheduling Manual

Variety Selection:

Prairie Thunder, CDC Bethune, and Praire Sapphire are high yielding with good lodging resistance. Refer to "Crop Varieties for Irrigation" publication (CSIDC) for assistance. Use certified seed or seed must be tested to be deemed free of GMO flax.

Seeding:

Plant population	500.0	plants/sq m.
TKW	5.0	grams
Seeding Rate	40.0	lb/ac

Early May seeding produces highest yield. If seedbed is dry, irrigate prior to seeding rather than after seeding.

Fertilization:

Apply 90-100 lb/ac N, 30-35 lb/ac P₂O₅ and 10-15 lb/ac K₂O.

A soil test will give recommendations for fertilizer application based on soil nutrient levels and crop needs.

Crop Water Use and Irrigation:

The active root zone of flax is 1.0 metres. Maintain the soil water content at or above 50% field capacity.† The average seasonal crop water use is 410 mm (16 inches). The critical irrigation period extends from flowering through to the initiation of seed ripening. The scheduling goal of flax is to maintain adequate soil moisture to extend flowering and ensure that all flowers develop seed. Irrigation operations must end by the second week of August to reach maturity.

Daily Crop Water Use:

Seedling: 1-3 mm/day

Flowering: peak use of 7 mm/day

Harvest:

Swath or desiccate when 75% of bolls have turned brown.

Immature seed will blacken from -3 to -5 C frost. Early swathng will reduce seed size but not cause blackening.

Handling, Storage and Grading:

Dry 10% ;Tough 10.1%; Damp 13.5%

Rotations and Crop Protection:

Three or more years between flax crops is recommended to control soil and stubble-borne disease such as Fusarium Wilt and rust. Registered flax varieties are resistant to rust and moderately resistant to Fusarium Wilt. Seeding flax on cereal, corn or legume stubble is the best rotation choice. Flax on canola or potato stubble is not recommended. It is important to note that a flax crop seeded on legume or potato stubble is more susceptible to seedling blight (Rhizoctonia diseases). An application of fungicide is recommended to control pasmo.

* Crop Insurance rates currently under review.

ECONOMICS

CROP: PEA

ITEM	UNIT	\$/ac	My Farm \$/ac
Seed		\$37.80	
Seed treatment / inoculant		\$17.50	
Soil test		\$0.65	
Fertilizer: N	0 lb	\$0.00	
P ₂ O ₅	30 lb	\$14.17	
K ₂ O	15 lb	\$4.94	
Herbicide		\$21.25	
Insecticide		\$0.00	
Fungicide		\$15.00	
Equipment fuel		\$20.71	
Equipment repair		\$10.81	
Custom work		\$5.00	
Irrigation power	8 inches	\$13.60	
Irrigation repair		\$11.28	
Irrigation service/water charge		\$33.17	
Crop insurance*	36 bu/ac	\$4.75	
Hail insurance		\$15.60	
Hired labour	0 hr/ac	\$0.00	
Other		\$0.00	
Farm overhead		\$9.20	
Operating int	4.2 %	\$4.94	
Total Cash Costs		\$240.38	
Farm Equipment & Buildings		\$55.61	
Irrigation System		\$28.03	
Specialized Equipment		\$8.55	
Land		\$42.19	
Total Non Cash Costs		\$134.38	
Total Costs		\$374.75	
Returns	AVG	Target	
Yield bu/ac	55	75	
Price \$/bu (#2 or better yellow)		\$5.43	
Gross	\$299	\$407	
Net Return	-\$76	\$32	
Specialized Equipment		\$/ac/yr	
Flex Header		\$5.01	
Land Roller		\$3.54	
TOTAL		\$8.55	
Break Even using Target Returns & Total Costs			
Break Even Price	\$/ac	\$5.00	
Break Even Yield	bu/ac	69	

More Information:

Call an Irrigation Agriologist at (306) 867-5500 or check our website: www.irrigationsaskatchewan.com.

AGRONOMICS

Variety Selection:

Yellow: Agassiz, CDC Centennial, Argus. Green: CDC Raezer. High-yielding, lodging resistant varieties are recommended for irrigation. See 'Crop Varieties for Irrigation' publication.

Seeding:

Plant population	80.0	plants/sq m.
TKW	240.0	grams
Seeding Rate	180.0	lb/ac

Seed in late Apr/early May. Roll after seeding. TKW is variety specific; adjust seeding rate accordingly. Test seed for disease.

Fertilization:

Inoculate with a pea inoculant. Apply 30 lb/ac P₂O₅ and 15 lb/ac K₂O. Use a soil test for field specific fertilizer application based on soil nutrient levels and crop needs. Peas have strong association with mychoriza to supplement P and micronutrient uptake.

Crop Water Use and Irrigation:

Vegetative Stage: 3 to 5 mm/day

Flowering to Pod Formation Stages: 5 to 6 mm/day

Total average seasonal moisture requirement: 400 mm. Allow the canopy to dry between irrigation to reduce disease pressure and lodging. Use a soil probe to check moisture.†

Harvest:

Swath directly ahead of the combine or straight cut when the peas are mature to avoid wind damage. Use a flex header, pick-up reel and vine lifters. Combine at 16-18% moisture and aerate, to prevent seed damage.

Handling, Storage and Grading:

Dry 16 %; Tough 16.1%; Damp 18.0%

Rotations and Crop Protection:

Three years between pea crops. Check recropping restrictions on Group 2 and Group 4 herbicides. Irrigated pea yields have declined in recent years due to increased disease.

* Crop Insurance rates currently under review.

† Refer to the Saskatchewan Ministry of Agriculture Irrigation Scheduling Manual

ECONOMICS

CROP: FABABEAN

ITEM	#	UNIT	\$/ac	My Farm \$/ac
Seed			\$41.40	
Seed treatment / inoculant			\$3.26	
Soil test			\$0.65	
Fertilizer:	N	0	lb	\$0.00
	P ₂ O ₅	50	lb	\$23.62
	K ₂ O	15	lb	\$4.94
Herbicide			\$37.90	
Insecticide			\$0.00	
Fungicide			\$17.50	
Equipment fuel			\$23.98	
Equipment repair			\$9.54	
Custom work			\$0.00	
Irrigation power	16	inches	\$27.20	
Irrigation repair			\$11.28	
Irrigation service/water charge			\$35.51	
Crop insurance *	2130	lb/ac	\$11.06	
Hail insurance			\$15.60	
Hired labour	0	hr/ac	\$0.00	
Other			\$0.00	
Farm overhead			\$9.20	
Operating interest	4.2	%	\$5.73	
Total Cash Costs			\$278.36	
Farm Equipment & Buildings			\$55.61	
Irrigation System			\$28.03	
Specialized Equipment			\$0.17	
Land			\$42.19	
Total Non Cash Costs			\$125.99	
Total Costs			\$404.35	
Returns		AVG	Target	
Yield	lb/ac	2400	3600	
Price	\$/lb		\$0.10	
Gross		\$240	\$360	
Net Return		-\$164	-\$44	
Specialized Equipment			\$/ac/yr	
Sideknife			\$0.17	
TOTAL			\$0.17	
Break Even using Target Returns & Total Costs				
Break Even Price		\$/ac	\$0.11	
Break Even Yield		bu/ac	4043	

More Information:

Call an Irrigation Agrologist at (306) 867-5500 or check our website: www.irrigationsaskatchewan.com. Use The Pulse Production Manual from The Sask Pulse Growers Assoc.

AGRONOMICS

Variety Selection:

Marketing prospects should guide variety choice. Florent is an early maturing variety with high yield potential and is suitable for food markets. Snowbird is a small-seeded zero tannin variety suitable for feed markets and silage harvest. Malik is a large seeded tannin variety suitable for the export food market See 'Crop Varieties for Irrigation' publication.

Seeding:

Plant population	40.0	plants/sq m.
TKW	440.0	grams
Seeding Rate	180.0	lb/ac

Fababean is late maturing, and should be sown early for to help raise the height of the lowest pods and for best yield results.

Fertilization:

Fababean fixes a large amount of nitrogen. Inoculate with a fababean inoculant. Apply 40-50 lb/ac P₂O₅ and 10-15 lb/ac K₂O. A soil test will give recommendations for fertilizer application based on soil nutrient levels and crop needs.

Crop Water Use and Irrigation:

Vegetative Stage: 2.5 to 6 mm/day

Flowering to Pod Filling Stages: 6 to 8 mm/day

Ripening Stage: <6 mm/day

Total average seasonal moisture requirement: 610 mm.

Maintain good soil moisture through the growing season. Allow the canopy to dry between irrigations to minimize disease pressure and lodging. Use a soil probe to check moisture status.†

Harvest:

Swath when 25% of plants have lower pods turning black, or September 7 whichever occurs first. Lay down a light swath as swaths take a long time to dry. Combine at 16-18% moisture and aerate to prevent seed damage. Early swathing will reduce seed size but not quality. Frost on immature seed will reduce quality.

Handling, Storage and Grading:

Dry 16% ; Tough 16.1%; Damp 18.0%

Rotations and Crop Protection:

Two years between Fababean and another pulse crop. Check recropping restrictions on Group 2 (Ally, Everest, Sundance) and Group 4 herbicides. Fababean is a good "break crop" as it is less susceptible to disease than other pulses. Chocolate spot (botrytis) can be a problem.

* Crop Insurance rates currently under review.

† Refer to the Saskatchewan Ministry of Agriculture Irrigation Scheduling Manual

ECONOMICS

CROP: RED LENTIL

ITEM	#	UNIT	\$/ac	My Farm \$/ac
Seed			\$16.20	
Seed treatment / inoculant			\$3.20	
Soil test			\$0.65	
Fertilizer:	N	0	lb	\$0.00
	P ₂ O ₅	30	lb	\$14.17
	K ₂ O	15	lb	\$4.94
Herbicide			\$39.25	
Insecticide			\$0.00	
Fungicide			\$15.00	
Equipment fuel			\$19.00	
Equipment repair			\$10.81	
Custom work			\$5.00	
Irrigation power	4	inches	\$6.80	
Irrigation repair			\$11.28	
Irrigation service/water charge			\$32.01	
Crop insurance *	1254	lb/ac	\$7.56	
Hail insurance			\$15.60	
Hired labour	0	hr/ac	\$0.00	
Other			\$0.00	
Farm overhead			\$9.20	
Operating interest	4.2	%	\$4.42	
Total Cash Costs			\$215.09	
Farm Equipment & Buildings			\$55.61	
Irrigation System			\$28.03	
Specialized Equipment			\$8.55	
Land			\$42.19	
Total Non Cash Costs			\$134.38	
Total Costs			\$349.46	
Returns		AVG	Target	
Yield	lb/ac	2000	2400	
Price	\$/lb (#2 or better sm red)		\$0.17	
Gross		\$340	\$408	
Net Return		-\$9	\$59	
Specialized Equipment			\$/ac/yr	
Flex Header			\$5.01	
Land Roller			\$3.54	
TOTAL			\$8.55	
Break Even using Target Returns & Total Costs				
Break Even Price		\$/ac	\$0.15	
Break Even Yield		bu/ac	2056	

More Information:

Call an Irrigation Agrologist at (306) 867-5500 or check our website: www.irrigationsaskatchewan.com. Also refer to SK Pulse Growers website at www.saskpulse.com

AGRONOMICS

Variety Selection:

Red lentil varieties have not been evaluated under irrigation. Choose variety with determinate growth habit.

Seeding:

Plant population	120.0	plants/sq m.
TKW	40.0	grams
Seeding Rate	45.0	lb/ac

Test seed for disease. Seed in late April to early May. Roll after seeding.

Fertilization:

Inoculate with a lentil inoculant. Apply 30 lb/ac P₂O₅ and 15 lb/ac K₂O. Use a soil test for field specific fertilizer application based on soil nutrient levels and crop needs. Lentil has a strong association with mychoriza to supplement P and micronutrient uptake.

Crop Water Use and Irrigation:

Total seasonal average moisture requirement: 275 mm. Allow the canopy to dry between irrigations to minimize disease pressure and lodging. Lentils are sensitive to waterlogging; excessive water application reduces lentil yields. Lentils are sensitive to moisture stress during flowering and pod fill. Use soil probe to check moisture status.†

Harvest:

Desiccate when lower pods are tan and seeds rattle. Combine at 18% moisture and aerate to prevent seed damage. Straight cut with a flex header.

Handling, Storage and Grading:

Dry 14% ; Tough 14.1%; Damp 16.0%

Rotations and Crop Protection:

Three years between lentil crops. Check recropping restrictions on Group 2 (Ally, Everest, Sundance) and Group 4 herbicides. Control the spread of disease by fungicide application.

* Crop Insurance rates currently under review.

† Refer to the Saskatchewan Ministry of Agriculture Irrigation Scheduling Manual

ECONOMICS

AGRONOMICS

CROP: DRY BEAN

Variety Selection:

ITEM	#	UNIT	My Farm	
			\$/ac	\$/ac
Seed			\$75.00	
Seed treatment / inoculant			\$9.85	
Soil test			\$0.65	
Fertilizer: **	N	60	lb	\$34.32
	P ₂ O ₅	40	lb	\$18.89
	K ₂ O	15	lb	\$4.94
Herbicide			\$40.00	
Insecticide			\$0.00	
Fungicide			\$70.00	
Equipment fuel			\$20.71	
Equipment repair			\$10.81	
Custom work			\$14.00	
Irrigation power	8	inches	\$13.60	
Irrigation repair			\$11.28	
Irrigation service/water charge			\$33.17	
Crop insurance *	1914	lb/ac	\$30.65	
Hail insurance			\$15.60	
Hired labour	0	hr/ac	\$0.00	
Other			\$14.00	
Farm overhead			\$9.20	
Operating interest	4.2	%	\$8.96	
Total Cash Costs			\$435.64	
Farm Equipment & Buildings			\$55.61	
Irrigation System			\$28.03	
Specialized Equipment			\$17.87	
Land			\$42.19	
Total Non Cash Costs			\$143.70	
Total Costs			\$579.33	
Returns		AVG	Target	
Yield	lb/ac	2700	3000	
Price	\$/lb		\$0.33	
Gross		\$891	\$990	
Net Return		\$312	\$411	
Specialized Equipment		\$/ac/yr	\$/ac/yr	
		Custom	Own	
Planter		\$19.00	\$5.01	
Row Crop Cultivator		\$24.00	\$1.34	
Band Sprayer			\$1.50	
Undercutter/windrower		\$20.00	\$5.01	
Tractor accessories - 3Pt hitch			\$3.34	
10" tube belt conveyor			\$1.67	
Combine		\$34.00		
TOTAL		\$97.00	\$17.87	

More Information:

Call an Irrigation Agrologist at (306) 867-5500 or check our website: www.irrigationsaskatchewan.com. Use The Pulse Production Manual from The Sask Pulse Growers Assoc.

AC Island and Medicine Hat have improved plant structure and high yield potential. 'White Mountain' type pinto beans may receive a quality premium. Choose an indeterminate short vine type plant for irrigated production. Refer to CSIDC's 'Crop Varieties for Irrigation' publication.

Seeding:

Plant population	96000.0	plants/ac
TKW	345.0	grams
Seeding Rate	75.0	lb/ac

Seed after the danger of frost: May 20-25th. Seed weights vary with each market class and seed lot. See 'Crop Varieties for Irrigation' for averages. Row crop equipment is required.

Fertilization:

Inoculate with a dry bean inoculant. Dry beans have a total soil and fertilizer N requirement of 80 to 90 lb/ac. A soil test will give recommendations for fertilizer application based on soil nutrient levels and crop needs. Apply 50-60 lb/ac N, 30-40 lb/ac P₂O₅ and 10-15 lb/ac K₂O. Dry beans may respond to the micronutrient zinc, a soil test for micronutrients is recommended

Crop Water Use and Irrigation:

Total average seasonal moisture requirement: 370 mm.

Vegetative Stage: 2 to 3.5 mm/day

Flowering Stage: 3.5 to 5 mm/day

Pod Formation Stage: 5 to 6.5 mm/day

Ripening Stage: < 5 mm/day

Allow the canopy to dry between irrigations to minimize disease pressure and lodging. Use a soil probe to check moisture status.†

Harvest:

Undercut when 40% of pods are buckskin colour and leaves are still attached. Combine at 14-16% moisture to avoid seed damage. Handle beans gently, use conveyors and bean ladders.

Handling, Storage and Grading:

Dry 15.4% ;Tough 15.5%; Damp 18.0%

Rotations and Crop Protection:

Check recropping restrictions on Group 2, 4, 6, 27 herbicides. Reduce White Mold (sclerotinia) incidence by with crop rotation to non-host crops like cereals and flax, choosing a less susceptible upright variety like Winchester, and treating at the appropriate stage with a fungicide . Bacterial blight may require control with a copper-based foliar product.

* Crop Insurance rates currently under review.

** May require 5lb./ac of zinc

† Refer to the Saskatchewan Ministry of Agriculture Irrigation Scheduling Manual

ECONOMICS

CROP: GRAIN CORN

ITEM	UNIT	My Farm	
		\$/ac	\$/ac
Seed			\$70.00
Seed treatment			\$0.00
Soil test			\$0.65
Fertilizer: N	90 lb		\$51.49
	P ₂ O ₅ 35 lb		\$16.53
	K ₂ O 15 lb		\$4.94
Herbicide			\$8.50
Insecticide			\$0.00
Fungicide			\$0.00
Equipment fuel			\$15.26
Equipment repair			\$5.37
Custom work			\$12.50
Irrigation power	13 inches		\$22.10
Irrigation repair			\$11.28
Irrigation service/water charge			\$34.63
Crop insurance			\$0.00
Hail insurance			\$0.00
Hired labour	0 hr/ac		\$0.00
Grain Drying			\$0.00
Farm overhead			\$9.20
Operating interest	4.2 %		\$5.51
Total Cash Costs			\$267.96
Farm Equipment & Buildings			\$55.61
Irrigation System			\$28.03
Specialized Equipment			\$5.01
Land			\$42.19
Total Non Cash Costs			\$130.83
Drying Costs			
Custom Drying \$/ac			19
Total Costs			\$418
Returns	AVG	Target	
Yield bu/ac	100	150	
Price \$/bu		\$2.77	
Gross	\$277	\$416	
Net Return	-\$141	-\$2	
Specialized Equipment			\$/ac/yr
Planter			\$5.01
Corn Header			\$3.34
TOTAL			\$5.01
Break Even using Target Returns & Total Costs			
Break Even Price	\$/ac	\$2.78	
Break Even Yield	bu/ac	151	

More Information:

Call an Irrigation Agrologist at (306) 867-5500 or check our website: www.irrigationsaskatchewan.com.

AGRONOMICS

Variety Selection:

Select a variety for grain corn production that can reach maturity prior to first fall frost in your area. For corn heat unit map and variety selection information refer to the SK Ministry of Agriculture website. The Alberta Corn Committee website provides variety trial data for Saskatchewan.

Seeding:

TKW	380.0	grams
Seeding Rate	32,000	seeds/ac

Fertilization:

Apply 90-100 lb/ac N, 35-40 lb/ac P₂O₅ and 10-15 lb/ac K₂O. Spring banding of fertilizer prior to seeding is recommended. Soil testing including micronutrients is recommended every 5 to 10 years.

If field conditions or soil texture cause concern for a high nutrient loss, fertigation may be an option. Sulfur application may be required.

Crop Water Use and Irrigation:

Total seasonal moisture use - 520 mm

Tasseling Stage: 5 mm/day

Silking Stage: 6 mm/day

Kernel Formation: 5 mm/day

Maintain soil moisture above 50 % field capacity throughout the growing season. Use a soil probe to check moisture status.†

Harvest:

Can combine <30% moisture with more cracking, but aim for <20%. Safe storage is 14-15%.

Handling, Storage and Grading:

Drying costs are based on \$0.125/bushel. Expect to dry corn in most years.

Rotations and Crop Protection:

Specialized equipment is required for seeding, but can be hired custom. Group 3 residues can stunt corn. Be aware of the potential problem of volunteers that may result from the consecutive use of the same herbicide system annually. Early weed control is essential for optimal production. Corn is susceptible to Fusarium infection.

† Refer to the Saskatchewan Ministry of Agriculture Irrigation Scheduling Manual

ECONOMICS

AGRONOMICS

CROP: CORN GRAZING

My Farm

ITEM	#	UNIT	\$/ac	\$/ac
Seed			\$70.00	
Seed treatment			\$0.00	
Soil test			\$0.65	
Fertilizer:	N	90	lb	\$51.49
	P ₂ O ₅	35	lb	\$16.53
	K ₂ O	15	lb	\$4.94
Herbicide			\$8.50	
Insecticide			\$0.00	
Fungicide			\$0.00	
Equipment fuel			\$7.63	
Equipment repair			\$5.50	
Custom work			\$0.00	
Irrigation power	13	inches	\$22.10	
Irrigation repair			\$11.28	
Irrigation service/water charge			\$34.63	
Crop insurance			\$6.18	
Hail insurance			\$0.00	
Hired labour	0	hr/ac	\$0.00	
Other			\$0.00	
Farm overhead			\$9.20	
Operating interest	4.2	%	\$5.22	
Total Cash Costs			\$253.85	
Farm Equipment & Buildings			\$55.61	
Irrigation System			\$28.03	
Specialized Equipment			\$13.53	
Land			\$42.19	
Total Non Cash Costs			\$139.35	
Total Costs			\$393.20	
			Target	
Cow days/ac			500	
Cost \$/ac			\$393	
Cost/Hd/day			\$0.79	
Specialized Equipment			\$/ac/yr	
Planter			\$5.01	
Cross Fencing			\$1.16	
Perimeter Fencing			\$4.27	
Water Supply			\$3.09	
TOTAL			\$13.53	

More Information:

Call an Irrigation Agrologist at (306) 867-5500 or check our website: www.irrigationsaskatchewan.com.

†Refer to the Saskatchewan Ministry of Agriculture Irrigation Scheduling Manual

Variety Selection:

To select a corn variety for grazing, select an early-maturing silage corn variety. Silage varieties are more palatable and better suited for grazing than grain corn varieties. Refer to the corn heat unit map on the SK Ministry website. Early seeding date is critical to ensuring crop receives adequate heat units for yield potential.

Seeding:

TKW	380.0	grams
Seeding Rate	32,000	seeds/ac

Fertilization:

Apply 90-100 lb/ac N, 30-35 lb/ac P and 10-15 lb/ac K. Spring banding of fertilizer prior to seeding is recommended. If corn is planted on a field previously grazed, fertilizer recommendations are 75-80 lb/ac N, 0 lb/ac P and 10 lb/ac K. Sulfur application may be required. Soil testing including micronutrients is recommended every 5 to 10 years.

Crop Water Use and Irrigation:

Total seasonal moisture use - 520 mm
Tasseling Stage: 5 mm/day
Silking Stage: 6 mm/day
Kernel Formation: 5 mm/day

Maintain soil moisture above 50% field capacity throughout the growing season. Use a soil probe to check moisture status.†

Rotations and Crop Protection:

Early weed competition delays growth and decreases yield. Weed control up until inter-row closure (mid-July) is important.

Grazing Management:

When grazing corn, pregnant beef cows receive adequate levels of energy, protein and phosphorus. Supplementation of calcium, trace minerals and vitamins is essential when grazing corn. Four oz. of 3:1 mineral per day will generally satisfy these requirements. Consult a nutritionist to discuss your specific situation. Controlled grazing through the use of electric fence is essential to efficiently graze standing corn. Three day allocations work well to minimize wastage. Cows with free access to corn will graze the cobs first, putting them at risk of grain overload and rumen acidosis. Corn maturity at the time of a killing frost will also dictate grazing management. If corn maturity has progressed to fully dent stage and is moving into physiological maturity, paddock size should be restricted to less than 3 days grazing. Cattle should receive other forages to reduce onset of acidosis and grain overload.

ECONOMICS

AGRONOMICS

CROP: CORN SILAGE

My Farm

ITEM	#	UNIT	\$/ac	\$/ac
Seed			\$70.00	
Seed treatment			\$0.00	
Soil test			\$0.65	
Fertilizer:	N	90	lb	\$51.49
	P ₂ O ₅	35	lb	\$16.53
	K ₂ O	15	lb	\$4.94
Herbicide			\$8.50	
Insecticide			\$0.00	
Fungicide			\$0.00	
Equipment fuel			\$7.63	
Equipment repair			\$5.50	
Custom work			\$0.00	
Irrigation power	12	inches	\$20.40	
Irrigation repair			\$11.28	
Irrigation service/water charge			\$34.34	
Crop insurance			\$0.00	
Hail insurance			\$0.00	
Hired labour	0	hr/ac	\$0.00	
Other			\$0.00	
Farm overhead			\$9.20	
Operating int	4.2	%	\$5.05	
Total Cash Costs			\$245.51	
Farm Equipment & Buildings			\$55.61	
Irrigation System			\$28.03	
Specialized Equipment			\$5.01	
Land			\$42.19	
Total Non Cash Costs			\$130.83	
Harvest Costs				
Custom Silage \$/ac			264	
Total Costs			\$640	
Returns		AVG	Target	
Yield t/ac		16	24	
Price \$/t *			\$30	
Gross Return		\$480	\$720	
Net Return		-\$160	\$80	
Specialized Equipment			\$/ac/yr	
Planter			\$5.01	
TOTAL			\$5.01	

More Information:

Call an Irrigation Agrologist at (306) 867-5500 or check our website: www.irrigationsaskatchewan.com.

Variety Selection:

To select a corn variety for silage, choose a variety that is high yielding and reaches dent stage before frost damage. For corn heat unit map refer to the SK Ministry of Agriculture website. Early seeding date is critical to ensuring corn receives adequate heat units for yield potential.

Seeding:

TKW	380.0	grams
Seeding Rate	32,000	seeds/ac

Fertilization:

Spring banding of fertilizer prior to seeding is recommended. Apply 90-100 lb/ac N, 35-40 lb/ac P₂O₅ and 10-15 lb/ac K₂O. Soil testing including micronutrients is recommended every 5 to 10 years.

If field conditions or soil texture cause concern for a high nutrient loss, fertigation may be an option. Sulfur application may be required.

Crop Water Use and Irrigation:

Total seasonal moisture use - 470 mm

Tasseling Stage: 5 mm/day

Silking Stage: 6 mm/day

Kernel Formation: 5 mm/day

Maintain soil moisture above 50 % field capacity throughout the growing season. Use a soil probe to check moisture status.†

Harvest:

Cut at about 3/4 milk line. Moisture content will be about 65 - 70%. Corn silage price is for silage already at the pit. Price (adjusted to 65% moisture) of corn silage per tonne is based on the feed barley grain price times 11. Distance of haul will determine feasibility.

Rotations and Crop Protection:

Early weed control is essential. Early weed competition delays growth and decreases yield. Weed control up until inter-row closure (mid-July) is important.

† Refer to the Saskatchewan Ministry of Agriculture Irrigation Scheduling Manual

* Value very dependent on location and market need.

ECONOMICS

AGRONOMICS

CROP: CEREAL SILAGE

ITEM	#	UNIT	\$/ac	My Farm \$/ac
Seed			\$26.00	
Seed treatment			\$3.00	
Soil test			\$0.65	
Fertilizer: N	90	lb	\$51.49	
P ₂ O ₅	35	lb	\$16.53	
K ₂ O	15	lb	\$4.94	
Herbicide			\$16.25	
Insecticide			\$0.00	
Fungicide*			\$0.00	
Equipment fuel			\$7.41	
Equipment repair			\$5.50	
Custom work			\$0.00	
Irrigation power	8	inches	\$13.60	
Irrigation repair			\$11.28	
Irrigation service/water charge			\$33.17	
Crop insurance			\$0.00	
Hail insurance			\$0.00	
Hired labour	0	hr/ac	\$0.00	
Other			\$0.00	
Farm overhead			\$9.20	
Operating interest	4.2	%	\$4.18	
Total Cash Costs			\$203.20	
Farm Equipment & Buildings			\$55.61	
Irrigation System			\$28.03	
Specialized Equipment			\$0.00	
Land			\$42.19	
Total Non Cash Costs			\$125.82	
Harvest Costs				
Custom Silage \$/ac			154	
Total Costs			\$483	
Returns		AVG	Target	
Yield t/ac		12	14	
Price \$/t *			\$23	
Gross Return		\$276	\$322	
Net Return		-\$207	-\$161	
Specialized Equipment			\$/ac/yr	
TOTAL			\$0.00	

More Information:

Call an Irrigation Agrologist at (306) 867-5500 or check our website: www.irrigationsaskatchewan.com.

Variety Selection:

Choose variety based on dry matter yield and disease and lodging resistance. The six-row barley AC Rosser is recommended. Lodging and disease resistant varieties are best suited. Barley, CPS wheat, oats and triticale are grown. Refer to CSIDC's 'Crop Varieties for Irrigation'.

Seeding:

Plant population	320.0	plants/sq m.
TKW	41.0	grams
Seeding Rate	130.0	lb/ac

Fertilization:

Apply 90 N/ac, 35 P₂O₅/ac and 15 K₂O/ac. A soil test will give field specific recommendations for fertilizer application based on soil nutrient levels and crop needs. Soil testing including micronutrients is recommended every 5 to 10 years

Crop Water Use and Irrigation:

Total seasonal moisture requirement: 390 mm

Tillering: 1 to 3 mm/day

Flag Leaf to Flowering: 7 to 8 mm/day

Critical stages for moisture are at tillering and at flowering.

Maintain soil at >50% available moisture. Use a soil probe to check moisture status. †

Cut cereals at soft dough stage. Moisture content 65 - 70%. Barley silage is commonly priced on a per ton basis at 65% moisture, using the formula of feed barley grain price per bushel times a factor of 10. Distance of haul will determine feasibility.

* Value very dependent on location and market need.

Rotations and Crop Protection:

Fungicide seed treatment recommended. Cereal on cereal will yield at least 15% less than cereal on broadleaf stubble, including silaged cereals. Break from cereal for one year to get higher yields and reduce disease build-up. Spot & net blotch can be severe in irrigated barley.

† Refer to the Saskatchewan Ministry of Agriculture Irrigation Scheduling Manual

* May require an application of fungicide to control leaf disease

ECONOMICS

CROP: SEEDLING ALFALFA (NO COVER CROP)

ITEM	#	UNIT	\$/ac	My Farm \$/ac
Seed (c/w inoculant)			\$42.00	
Seed treatment			\$0.00	
Soil test			\$0.65	
Fertilizer: N	21	lb	\$12.01	
P ₂ O ₅	100	lb	\$47.23	
K ₂ O	40	lb	\$13.17	
Herbicide			\$4.25	
Insecticide			\$0.00	
Fungicide			\$0.00	
Equipment fuel			\$16.68	
Equipment repair			\$5.00	
Custom work			\$0.00	
Irrigation power	6	inches	\$10.20	
Irrigation repair			\$11.28	
Irrigation service/water charge			\$32.59	
Crop insurance			\$6.18	
Hail insurance			\$0.00	
Hired labour	0	hr/ac	\$0.00	
Other			\$3.00	
Farm overhead			\$9.20	
Operating interest	4.2	%	\$4.48	
Total Cash Costs			\$217.93	
Farm Equipment & Buildings			\$55.61	
Irrigation System			\$28.03	
Specialized Equipment			\$10.74	
Land			\$42.19	
Total Non Cash Costs			\$136.56	
Total Costs			\$354.49	
Returns		AVG	Target	
Yield t/ac		2.0	2.5	
Price \$/t			\$70	
Gross Return		\$140	\$175	
Net Return		-\$214	-\$179	
Specialized Equipment			\$/ac/yr	
Mower/condition			\$4.15	
Round Baler			\$6.60	
			\$0.00	
TOTAL			\$10.74	

More Information:

Call an Irrigation Agrologist at (306) 867-5500 or check our website: www.irrigationsaskatchewan.com.

AGRONOMICS

Variety Selection:

Select a variety that exhibits rapid re-growth, good winter hardiness and disease resistance. Refer to the Crop Varieties for Irrigation publication by CSIDC for yield data on 50 different varieties.

Seeding:

Plant population	30 to 40	PLS/sq ft
Seed size	200,000	seeds/lb
Seeding Rate	10	lb/ac

Pure live seed (PLS) = Germination x Purity

Calculate seeding rate using formula:

$$\text{Seeding rate (lb/ac)} = \frac{\text{seeds/sq ft} \times \text{sq ft/acre}}{\text{PLS}} \div \text{seeds/lb}$$

Recommended row spacing for irrigation is six inches

Fertilization:

Soil testing prior to planting is recommended. Ensure purchased seed is inoculated. Apply 100 lb/ac actual P prior to establishment. On coarse textured soils, application of 40-45 lb/ac actual K is recommended.

Crop Water Use and Irrigation:

Irrigate seedling alfalfa to maintain soil moisture above 60% field capacity in top foot of soil. Frequent, light irrigation applications (15 mm/app) following germination are optimal. Once stand is well established, about six weeks after seeding, irrigate to maintain soil moisture above 50% field capacity in the top two feet. Use a soil probe to check moisture status.† Irrigate after cutting for fall regrowth to restore soil profile to field capacity. Monitor soil moisture to ensure that crop enters winter with 70% available soil water in the profile to avoid alfalfa winter kill or injury.

Harvest:

Cut at 25% bloom, mid to late July for a single cut of hay in establishment year.

Handling, Storage and Grading:

% Moisture limits to prevent spoilage: small square bale - 18%; round soft core - 17%; round hard core - 16%

Rotations and Crop Protection:

Do not seed the year after treatment with Lontrel or other Group 4 residual broadleaf herbicides. Annual weeds can be controlled in-crop through cutting of crop prior to weed seed set.

† Refer to the Saskatchewan Ministry of Agriculture Irrigation Scheduling Manual

ECONOMICS

CROP: ESTABLISHED ALFALFA 2-Cut Harvest

ITEM	UNIT	My Farm	
		\$/ac	\$/ac
Seed		\$0.00	
Seed treatment/inoc		\$0.00	
Soil test		\$0.65	
Fertilizer: N	11 lb	\$6.29	
P ₂ O ₅	75 lb	\$35.42	
K ₂ O	75 lb	\$24.70	
Herbicide		\$0.00	
Insecticide		\$0.00	
Fungicide		\$0.00	
Equipment fuel		\$13.90	
Equipment repair		\$5.37	
Custom work		\$0.00	
Irrigation power	15 inches	\$25.50	
Irrigation repair		\$11.28	
Irrigation service/water charge		\$35.22	
Crop insurance		\$6.18	
Hail insurance		\$0.00	
Hired labour	1 hr/ac	\$20.00	
Other		\$5.00	
Farm overhead		\$9.20	
Operating int	4.2 %	\$4.17	
TOTAL CASH COSTS		\$202.88	
Farm Equipment & Buildings		\$55.61	
Irrigation System		\$28.03	
Specialized Equipment		\$13.63	
Land		\$42.19	
Total Non Cash Costs		\$139.45	
Total Costs		\$342.33	
Returns	AVG	Target	
Yield t/ac*	3.0	4.0	
Price \$/t		\$85	
Gross Return	\$255	\$340	
Net Return	-\$87	-\$2	
Specialized Equipment		\$/ac/yr	
Mower/condition		\$4.15	
Round Baler		\$6.60	
Hay rake (21-30 ft wheel)		\$2.89	
TOTAL		\$13.63	

More Information:

Call an Irrigation Agrologist at (306) 867-5500 or check our website: www.irrigationsaskatchewan.com.

AGRONOMICS

Establishment year costs (p. 21) over 5 years of production are not included in budget.

Fertilization:

Most of the crop's nitrogen needs are met by fixation, if properly inoculated. Phosphorus should be supplied annually or applied prior to establishment in large amounts. Fertilizer application is optimized with a disc bander or dribble band over broadcast application. Apply 50-75 lb/ac actual P annually. Increase this amount by two to three times if broadcast application is used. Potassium fertilizer can be broadcast supplied at a rate of 50-75 lb/ac actual K annually. Soil testing is recommended.

Crop Water Use and Irrigation:

Total average seasonal moisture requirement: 540-680 mm

Peak moisture use (before cutting): 9 mm/day (First cut)

8 mm/day (Second cut)

Maintain soil moisture above 50 % field capacity throughout the growing season. Use a soil probe to check moisture status. Irrigate immediately following each cut. Irrigate to restore root zone to 100 % available moisture. Manage irrigations to ensure crop enters winter with 70% available moisture in the profile.

Harvest:

For good quality alfalfa, cut at 10% flower. First cut late June or early July; second cut completed by Aug 15. Delaying a cut will set back the dates of subsequent cuts & increase the chance of winter injury. To reduce the incidence of winter injury, the recommendation is to no cut alfalfa during the critical period of four to six weeks prior to the first killing frost of -5°C

Handling, Storage and Grading:

Hay moisture limits to prevent spoilage: small square bale - 18%; round soft core - 17%; round hard core - 16%. Storing for quality is just as important as harvesting for quality.

Rotations and Crop Protection:

Aim for at least 6" regrowth before freeze-up.

* Total yield per year

† Refer to the Saskatchewan Ministry of Agriculture Irrigation Scheduling Manual

ECONOMICS

AGRONOMICS

CROP: ESTABLISHED ALFALFA
3-Cut Harvest

Establishment year costs (p. 21) over 4 years of production are not included in budget.

ITEM	#	UNIT	My Farm	
			\$/ac	\$/ac
Seed			\$0.00	
Seed treatment/inoc			\$0.00	
Soil test			\$0.65	
Fertilizer:	N	11 lb	\$6.29	
	P ₂ O ₅	75 lb	\$35.42	
	K ₂ O	75 lb	\$24.70	
Herbicide			\$0.00	
Insecticide			\$0.00	
Fungicide			\$0.00	
Equipment fuel			\$20.87	
Equipment repair			\$8.06	
Custom work			\$0.00	
Irrigation power	15	inches	\$25.50	
Irrigation repair			\$11.28	
Irrigation service/water charge			\$35.22	
Crop insurance			\$0.00	
Hail insurance			\$0.00	
Hired labour	1	hr/ac	\$15.00	
Other			\$10.50	
Farm overhead			\$9.20	
Operating interest	4.2	%	\$4.26	
Total Cash Costs			\$206.94	
Farm Equipment & Buildings			\$55.61	
Irrigation System			\$28.03	
Specialized Equipment			\$20.77	
Land			\$42.19	
Total Non Cash Costs			\$146.60	
Total Cost			\$353.54	
Returns		AVG	Target	
Yield t/ac *		4.0	5.0	
Price \$/t			\$100	
Gross Return		\$400	\$500	
Net Return		\$46	\$146	
Specialized Equipment			\$/ac/yr	
Mower/condition			\$6.90	
Round Baler			\$10.98	
Hay rake (21-30 ft wheel)			\$2.89	
TOTAL			\$20.77	

Fertilization:

Most of the crop's nitrogen needs are met by fixation, if properly inoculated. Phosphorus should be supplied annually. Apply fertilizer with disc bander or dribble band is optimal over broadcast application. Apply 50-75 lb actual P/ac annually. Increase this amount by two to three times if broadcast application is used. Potassium fertilizer can be broadcast supplied at a rate of 50-75 lb/ac actual annually. Soil testing is recommended.

Crop Water Use and Irrigation:

Total average seasonal moisture requirement: 540-680 mm
 Peak moisture use (before cutting): 9 mm/day (First cut)
 8 mm/day (Second cut), 7 mm/day (Third cut)

Maintain soil moisture above 50% field capacity throughout the growing season. Use a soil probe to check soil moisture status. Irrigate immediately following each cut. Irrigate to restore root zone to 100% available moisture. Manage irrigations to ensure crop enters winter with 70% available moisture in the profile.

Harvest:

For good quality alfalfa, cut at 10% flower. First cut late June or early July; second cut completed by Aug 15. Delaying a cut will set back the dates of subsequent cuts & increase the chance of winter injury. To reduce the incidence of winter injury, the recommendation is to no cut alfalfa during the critical period of four to six weeks prior to the first killing frost of -5°C

Handling, Storage and Grading:

Hay moisture limits to prevent spoilage: small square bale - 18%; round soft core - 17%; round hard core - 16%. Storing for quality is just as important as harvesting for quality.

Rotations and Crop Protection:

Aim for at least 6" regrowth before freeze-up.

More Information:

Call an Irrigation Agrologist at (306) 867-5500 or check our website: www.irrigationsaskatchewan.com.

* Total yield per year

† Refer to the Saskatchewan Ministry of Agriculture Irrigation Scheduling Manual

ECONOMICS

CROP: SEED POTATO

Norland Elite II

My Farm

ITEM	#	UNIT	\$/ac	\$/ac
Seed			\$676.00	
Seed treatment/inoc			\$86.45	
Soil test			\$0.65	
Fertilizer: N	105	lb	\$60.07	
P ₂ O ₅	60	lb	\$28.34	
K ₂ O	30	lb	\$9.88	
Herbicide			\$48.00	
Insecticide			\$21.49	
Fungicide			\$154.98	
Equipment fuel			\$146.28	
Equipment repair			\$75.00	
Custom work			\$80.00	
Irrigation power	13	inches	\$21.25	
Irrigation repair *			\$0.00	
Irrigation service/water charge *			\$0.00	
Crop insurance **	14	tons/ac	\$201.80	
Hail insurance			\$0.00	
Hired labour	15	hr/ac	\$300.00	
Inspection Fees & Testing			\$120.00	
Storage O & M			\$71.00	
Farm overhead			\$9.20	
Operating int	4.2	%	\$44.32	
Total Cash Costs			\$2,154.70	
Farm Equipment & Buildings			\$26.50	
Irrigation System *			\$0.00	
Specialized Equipment			\$310.84	
Land Rental Rate			\$250.00	
Total Non Cash Costs			\$587.34	
Total Costs			\$2,742.05	
Returns		AVG		Target
Yield ton/ac		12		14
Price \$/ton				\$440
Gross Return		\$5,280		\$6,160
Net Return		\$2,538		\$3,418
Specialized Equipment			\$/ac/yr	
Potato Field Equipment			\$130.30	
Potato Handling Equipment			\$60.14	
Potato Storage Facility			\$120.40	
TOTAL			\$310.84	

* Provided by landowner.

More Information:

Call an Irrigation Agrolgist at (306) 867-5500 or check our website: www.irrigationsaskatchewan.com.

AGRONOMICS

This potato budget is based on 500 acre potato farm that rents land.

Variety Selection:

Choose varieties based on the intended market.

Seeding:

Plant population	21780.0	plants/acre
Weight of Seed Piece	60.0	grams
Seeding Rate	1.3	tons/ac

Fertilization:

Fertilize according to soil test recommendations. Response to nitrogen varies by cultivar. Apply 90- 105 lb/ac N, 45-60 lb/ac P₂O₅ and 20-30 lb/ac K₂O.

Crop Water Use and Irrigation:†

Average seasonal crop water use: 520 mm

Average weekly crop water use:

June: 19 mm increasing to 38 mm weekly

July: 38 mm weekly through the month

Aug.: 38 mm decreasing to 19 mm in 3rd week

Effect of adequate and consistent irrigation by crop stage:

Planting to Emergence (1 to 2 weeks) - increases stem number and promotes early tuber initiation.

Emergence to Stolon Initiation (2 to 3 weeks) - increases vegetative growth and tuber set.

Stolon Initiation to Tuber Set (3 to 4 weeks) - increases stolon growth and tuber initiation.

65 - 70%. Corn silage price is for silage already at the pit. Price (adjusted to 65% moisture) of corn. silage per tonne

Maintain the soil water content above 70% field capacity.

Harvest:

Top kill: to ensure removal of vine growth that interferes with harvest; to initiate skin set and mature tubers; to control tuber size and to prevent the spread of disease.

Handling, Storage and Grading:

Field & storage inspection must be done by CFIA.

Rotations and Crop Protection:

Use a four year rotation to minimize disease and weed problems. Do not seed where residues of Group 2 and 4 herbicides may be present. When renting out land for potato production, it is the land owner's responsibility to disclose herbicide use, including spot usage for perennial weed control. When in doubt, consult a potato specialist.

** Crop Insurance rates currently under review.

† Refer to the Saskatchewan Ministry of Agriculture Irrigation Scheduling Manual

ECONOMICS

AGRONOMICS

CROP: TABLE POTATO

Norland

My Farm

ITEM	#	UNIT	\$/ac	\$/ac
Seed			\$396.00	
Seed treatment/inoc			\$59.85	
Soil test			\$0.65	
Fertilizer: N	135	lb	\$77.23	
P ₂ O ₅	60	lb	\$28.34	
K ₂ O	30	lb	\$9.88	
Herbicide			\$48.00	
Insecticide			\$21.49	
Fungicide			\$154.98	
Equipment fuel			\$150.34	
Equipment repair			\$75.00	
Custom work			\$80.00	
Irrigation power	13	inches	\$21.25	
Irrigation repair *			\$0.00	
Irrigation service/water charge *			\$0.00	
Crop insurance **	11	tons/ac	\$167.01	
Hail insurance			\$0.00	
Hired labour	15	hr/ac	\$300.00	
Other			\$0.00	
Storage O & M			\$71.00	
Farm overhead			\$9.20	
Operating interest	4.2	%	\$35.07	
Total Cash Costs			\$1,705.30	
Farm Equipment & Buildings			\$26.50	
Irrigation System *			\$0.00	
Specialized Equipment			\$310.84	
Land Rental Rate			\$350.00	
Total Non Cash Costs			\$687.34	
Total Costs			\$2,392.64	
Returns		AVG		Target
Yield ton/ac		14		16
Price \$/ton				\$330
Gross Return		\$4,620		\$5,280
Net Return		\$2,227		\$2,887
Specialized Equipment			\$/ac/yr	
Potato Field Equipment			\$130.30	
Potato Handling Equipment			\$60.14	
Potato Storage Facility			\$120.40	
TOTAL			\$310.84	

* Provided by landowner.

More Information:

Call an Irrigation Agrologist at (306) 867-5500 or check our website: www.irrigationsaskatchewan.com.

This potato budget is based on 500 acre potato farm that rents land.

Variety Selection:

Choose varieties based on the intended market.

Seeding:

Plant population	14520.0	plants/acre
Weight of Seed Piece	60.0	grams
Seeding Rate	0.9	tons/ac

Fertilization:

Soil test to ensure adequate fertility for yield and quality. Fertigation with 28-0-0 is often utilized to meet fertility requirements and avoid nutrient leaching. Apply 120- 135 lb/ac N, 45-60 lb/ac P₂O₅ and 20-30 lb/ac K₂O.

Crop Water Use and Irrigation:†

Average seasonal crop water use: 520 mm

Average weekly crop water use:

June: 19 mm increasing to 38 mm weekly

July: 38 mm weekly through the month

Aug.: 38 mm decreasing to 19 mm in 3rd week

Effect of adequate and consistent irrigation by crop stage:

Planting to Emergence (1 to 2 weeks) - increases stem number and promotes early tuber initiation.

Emergence to Stolon Initiation (2 to 3 weeks) - increases vegetative growth and tuber set.

70%. Corn silage price is for silage already at the pit. Price (adjusted to 65% moisture) of corn. silage per tonne is based

Bulking (4 to 8 weeks) - increases tuber size and uniformity

Maintain soil water content above 70% field capacity.

Harvest:

Top kill: to remove vine growth that interferes with harvest; to initiate skin set and mature tubers; to control tuber size and to prevent the spread of disease.

Rotations and Crop Protection:

Use a four year rotation to minimize disease and weed problems. Do not seed where residues of Group 2 and 4 herbicides may be present. When renting out land for potato production, it is the land owner's responsibility to disclose herbicide use, including spot usage for perennial weed control. When in doubt, consult a potato specialist.

** Crop Insurance rates currently under review.

† Refer to the Saskatchewan Ministry of Agriculture Irrigation Scheduling Manual