

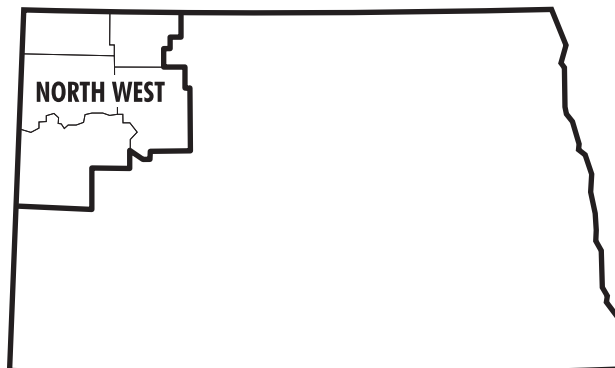
Farm Management Planning Guide



December 2009

Projected 2010 Crop Budgets North West North Dakota

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The 2010 crop budgets provide an estimate of revenues and costs for selected crops. Each set of budgets are developed for a multi-county region. There is considerable variation in soil type and productivity, weather conditions, as well as management and production practices within each region. Therefore, **THESE BUDGETS ARE ONLY INTENDED TO BE USED AS A GUIDE. EVERY INDIVIDUAL IS HIGHLY ENCOURAGED TO DEVELOP HIS/HER OWN BUDGETS!**

The profitability budget accounts for full economic opportunity costs for land and machinery investment, regardless of farm operator equity position. The bottom line is the return to labor and management. This is the expected "payment" to the producer for the labor and managerial efforts required by the crop

enterprise. Each individual must make the decision whether it is sufficient.

The budget can be changed to conform to the more common definition of accounting profit (return to unpaid labor and management, and owner equity) by replacing the machinery investment and land charge cost items with your per acre interest and rental expense of machinery and land, and real estate tax if land is owned.

The budget can be used for long run decisions if the revenues and costs are realistic for several years. (Crop prices, direct costs, and the land charge are best estimates for only the 2010 crop year, but crop yields are historic averages and machinery ownership costs are an average for the total length of ownership). If the budget shows a high return to labor and management, and is representative for several years, increased acreage and corresponding investment should be considered. However, if long-run returns to labor and management are unsatisfactory the best decision may be to exit the crop enterprise and employ the machinery and land investment, and labor and management, in a different enterprise or investment.

NDSU
Extension Service

North Dakota State University, Fargo, ND 58108

For short-run planning decisions you can omit the indirect costs if the land and machinery required to produce the different enterprises are in place. Simply compare the crop enterprises by calculating return over direct costs. Labor requirements and risk should also be considered. Insurance is not available for some crops.

The budget can be used to estimate cashflow by making a few modifications. Machinery depreciation should be omitted and the machinery investment number replaced with your per acre principal and interest payment on machinery debt. For owned land, the land charge should be replaced with your per acre real estate tax and principal and interest payment on land debt.

Direct and counter-cyclical payments under the Farm Bill are omitted from the budgets because those payments are tied to historic farm program base acres and payment yields, not to current crop selection or production. Direct payments for this region are \$7.50 per acre when averaged over all crop acreage. Counter-cyclical payments, which occur if the national average price of program crops are below a certain level, are not expected with the price levels used in the budgets.

Primary Assumptions:

Crops are planted on dryland recrop ground. Costs of moving crop to local market/storage are included.

The budgets for the South West, North West, South Central and North Central regions typically represent production systems where soil disturbance only occurs at seeding.

Market Price: Best estimates of NDSU extension economists. The greater of projected market price and marketing loan rate is used.

Market Yields: Average yield for the 7 year period 2002-2008, after the low and high yield years are removed. Yields for safflower, yellow mustard, buckwheat, millet, rye and chickpeas are from NDSU extension agronomists and industry sources.

Fertilizer: Cost of fertilizer applied, based on soil test, to meet yield goal of 130% of market yield. N fertilizer can be reduced if previous crop was soybean, dry bean, field peas or lentil.

Soil test - recrop:
 Nitrogen - 32 lb
 Phosphorus - 6 ppm
 Potassium - 328 ppm

Fertilizer prices:

Nitrogen - .34/lb
 Phosphorus - .32/lb
 Potassium - .46/lb

Seed Prices:

Spring Wheat 8.40/bu
 Durum 8.25/bu
 Barley 6.60/bu
 Corn grain RR 2.15/thou.kern.
 Oil Sunflower 1.17/thou.kern.
 Canola 8.00/lb
 Flax 12.50/bu
 Field Peas 10.50/bu
 Oats 4.25/bu
 Lentils .40/lb
 Mustard .95/lb
 Safflower .46/lb
 Buckwheat .50/lb
 Millet .22/lb
 Small Chickpeas .60/lb
 Winter Wheat 7.50/bu
 Rye 5.20/bu

Fuel prices:

Diesel 2.50/gal
 Gas 2.7/gal

Lubrication charge: 15% of fuel cost

Crop Insurance: Coverage levels are 70% on all insurable crops. MPCI estimates are used, except for RA-HPO on all wheat, soybeans and canola.

Miscellaneous: soil testing, machinery rent and custom work.

Operating Interest: Direct costs charged 5.25% interest for 6 month period.

Misc. Overhead: Machinery housing and insurance at .5% and .85%, respectively, of average machinery investment. Also, liability insurance and license fees of trucks. In addition, \$2 per acre is assumed for general farm utilities, farm publications, meetings, dues, income tax preparation, legal fees, etc.

Land charge = average cash rent.

Machinery investment: 4.5% real interest rate, over the years of machine ownership, is charged on average machinery investment. The real, or inflation adjusted, rate is the commercial rate minus the inflation rate. Ave. mach. investment = (Purchase price + Disposal price)/2

Depreciation = (Purchase price - disposal price / years ownership)

Spring Wheat

Durum

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	28	_____	28	_____
Market Price	5.30	_____	5.96*	_____
MARKET INCOME	148.40	_____	166.88	_____
DIRECT COSTS				
-Seed	10.50	_____	12.38	_____
-Herbicides	18.90	_____	18.90	_____
-Fungicides**	1.50	_____	1.50	_____
-Insecticides***	0.00	_____	0.00	_____
-Fertilizer	27.85	_____	27.85	_____
-Crop Insurance	9.60	_____	10.30	_____
-Fuel & Lubrication	9.12	_____	9.12	_____
-Repairs	12.07	_____	12.07	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	6.00	_____	6.00	_____
-Operating Interest	2.51	_____	2.58	_____
SUM OF LISTED DIRECT COSTS	98.05	=====	100.69	=====
INDIRECT (FIXED) COSTS				
-Misc. Overhead	4.52	_____	4.52	_____
-Machinery Depreciation	13.72	_____	13.72	_____
-Machinery Investment	7.60	_____	7.60	_____
-Land Charge	30.60	_____	30.60	_____
SUM OF LISTED INDIRECT COSTS	56.44	=====	56.44	=====
SUM OF ALL LISTED COSTS	154.49	_____	157.13	_____
RETURN TO LABOR & MANAGEMENT	(6.09)	_____	9.75	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	3.50	_____	3.60	_____
-Indirect Costs	2.02	_____	2.02	_____
-Total Costs	5.52	_____	5.61	_____

Wheat notes:

*Durum price is for milling quality. There is risk of lower quality and price.

**Early season foliar fungicide would cost about \$3-\$4.50 and late season fungicide would cost about \$4-\$14 per acre, plus application. Trials consistently show yield response of 5-10% with early season fungicide, IF wheat planted into residue, and 15-20% with late application IF weather favors disease development.

***Wheat midge and/or cereal grain aphid insecticide would cost about \$6 per acre plus application.

Malting Barley

Corn Grain

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	47	_____	72	_____
Market Price	3.61*	_____	3.71	_____
MARKET INCOME	169.67	_____	267.12	_____
DIRECT COSTS				
-Seed	8.25	_____	40.85*	_____
-Herbicides	17.30	_____	14.00	_____
-Fungicides	1.50	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	29.76	_____	40.37	_____
-Crop Insurance	4.60	_____	0.00**	_____
-Fuel & Lubrication	11.05	_____	11.42	_____
-Repairs	13.37	_____	13.29	_____
-Drying	0.00	_____	14.40	_____
-Miscellaneous	6.00	_____	6.00	_____
-Operating Interest	2.41	_____	3.68	_____
SUM OF LISTED DIRECT COSTS	94.25	=====	144.01	=====
INDIRECT (FIXED) COSTS				
-Misc. Overhead	5.14	_____	5.72	_____
-Machinery Depreciation	15.95	_____	19.16	_____
-Machinery Investment	9.11	_____	10.43	_____
-Land Charge	30.60	_____	30.60	_____
SUM OF LISTED INDIRECT COSTS	60.80	=====	65.90	=====
SUM OF ALL LISTED COSTS	155.05	_____	209.91	_____
RETURN TO LABOR & MANAGEMENT	14.62	_____	57.21	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	2.01	_____	2.00	_____
-Indirect Costs	1.29	_____	0.92	_____
-Total Costs	3.30	_____	2.92	_____

Barley notes:

*On average, about 35% of production is feed quality.
Use \$2.94 estimate for feed barley price.

Corn notes:

*Roundup (glyphosate) resistant corn. Cost includes insecticide seed treatment for wireworm, rootworm, white grub and suppression of cutworm.

**Crop insurance only available by written agreement.

Oil Sunflower

Canola

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	1240		1260	
Market Price	0.147		0.169	
MARKET INCOME	182.28		212.94	
DIRECT COSTS				
-Seed	27.50*		40.00*	
-Herbicides	27.00		14.00	
-Fungicides	0.00		0.00	
-Insecticides	6.00**		0.00	
-Fertilizer	23.80		42.27	
-Crop Insurance	10.90		10.00	
-Fuel & Lubrication	9.79		10.18	
-Repairs	12.88		12.98	
-Drying	2.48		0.00	
-Miscellaneous	12.00		6.00	
-Operating Interest	3.47		3.56	
SUM OF LISTED DIRECT COSTS	135.82		138.99	
INDIRECT (FIXED) COSTS				
-Misc. Overhead	4.99		4.83	
-Machinery Depreciation	15.66		15.20	
-Machinery Investment	8.83		8.73	
-Land Charge	30.60		30.60	
SUM OF LISTED INDIRECT COSTS	60.08		59.36	
SUM OF ALL LISTED COSTS	195.90		198.35	
RETURN TO LABOR & MANAGEMENT	(13.62)		14.59	
LISTED COSTS PER BUDGET UNIT	(lb):		(lb):	
-Direct Costs	0.11		0.11	
-Indirect Costs	0.05		0.05	
-Total Costs	0.16		0.16	

Oil Sunflower notes:

*Cost includes seed treatment for control of wireworm and flea beetle.

**One spraying for head feeding insects (red seed weevil, lygus bug and banded moths). Custom application cost of \$6 is under "Miscellaneous." Insecticide treatment for cutworms would cost about \$5 plus application (usually tank mixed with herbicide).

Canola notes:

*Cost includes insecticide seed treatment for flea beetles.

Flax

Field Peas

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	16		29	
Market Price	8.04		6.00*	
MARKET INCOME	128.64		174.00	
DIRECT COSTS				
-Seed	7.50		31.50	
-Herbicides	24.50		25.50	
-Fungicides	0.00		0.00	
-Insecticides	0.00		0.00**	
-Fertilizer	15.21		7.60	
-Crop Insurance	6.10		6.40	
-Fuel & Lubrication	9.33		10.92	
-Repairs	12.70		14.22	
-Drying	0.00		0.00	
-Miscellaneous	1.50		7.00	
-Operating Interest	2.02		2.71	
SUM OF LISTED DIRECT COSTS	78.86		105.85	
INDIRECT (FIXED) COSTS				
-Misc. Overhead	4.60		5.00	
-Machinery Depreciation	14.07		16.65	
-Machinery Investment	8.18		9.16	
-Land Charge	30.60		30.60	
SUM OF LISTED INDIRECT COSTS	57.45		61.41	
SUM OF ALL LISTED COSTS	136.31		167.26	
RETURN TO LABOR & MANAGEMENT	(7.67)		6.74	
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	4.93		3.65	
-Indirect Costs	3.59		2.21	
-Total Costs	8.52		5.77	

Field Pea notes:

*Food quality price. Use \$3.25 price estimate for feed quality peas.

**Insecticide treatment for cutworms would cost about \$5 per acre plus application (usually tank mixed with herbicide).

Oats

Lentils

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	51	_____	1250	_____
Market Price	2.22	_____	0.24	_____
MARKET INCOME	113.22	_____	300.00	_____
DIRECT COSTS				
-Seed	8.50	_____	28.00	_____
-Herbicides	7.50	_____	32.50*	_____
-Fungicides	0.00	_____	0.00**	_____
-Insecticides	0.00	_____	0.00***	_____
-Fertilizer	26.87	_____	5.46	_____
-Crop Insurance	8.50	_____	16.20	_____
-Fuel & Lubrication	11.20	_____	10.92	_____
-Repairs	13.44	_____	14.65	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	6.00	_____	7.00	_____
-Operating Interest	2.15	_____	3.01	_____
SUM OF LISTED DIRECT COSTS	84.16	=====	117.73	=====
INDIRECT (FIXED) COSTS				
-Misc. Overhead	5.20	_____	4.99	_____
-Machinery Depreciation	16.07	_____	16.83	_____
-Machinery Investment	9.17	_____	9.35	_____
-Land Charge	30.60	_____	30.60	_____
SUM OF LISTED INDIRECT COSTS	61.05	=====	61.77	=====
SUM OF ALL LISTED COSTS	145.21	_____	179.50	_____
RETURN TO LABOR & MANAGEMENT	(31.99)	_____	120.50	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(lb):	
-Direct Costs	1.65	_____	0.09	_____
-Indirect Costs	1.20	_____	0.05	_____
-Total Costs	2.85	_____	0.14	_____

Lentil notes:

*Includes pre-harvest desiccant.

**Fungicide treatment for ascochyta would cost about \$16 plus application.

***Insecticide treatment for cutworms would cost about \$5 per acre plus application (usually tank mixed with herbicide).

Yellow Mustard

Safflower

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	900	_____	950	_____
Market Price	0.238	_____	0.192	_____
MARKET INCOME	214.20	_____	182.40	_____
DIRECT COSTS				
-Seed	9.50	_____	11.50	_____
-Herbicides	15.00	_____	18.00	_____
-Fungicides	0.00	_____	0.00*	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	23.51	_____	16.75	_____
-Crop Insurance	8.70	_____	12.70	_____
-Fuel & Lubrication	10.42	_____	9.01	_____
-Repairs	13.41	_____	12.02	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	6.00	_____	6.00	_____
-Operating Interest	2.27	_____	2.26	_____
SUM OF LISTED DIRECT COSTS	88.82	=====	88.24	=====
INDIRECT (FIXED) COSTS				
-Misc. Overhead	4.91	_____	4.48	_____
-Machinery Depreciation	15.47	_____	13.62	_____
-Machinery Investment	9.23	_____	7.55	_____
-Land Charge	30.60	_____	30.60	_____
SUM OF LISTED INDIRECT COSTS	60.21	=====	56.25	=====
SUM OF ALL LISTED COSTS	149.02	_____	144.49	_____
RETURN TO LABOR & MANAGEMENT	65.18	_____	37.91	_____
LISTED COSTS PER BUDGET UNIT				
(lb):	(lb):		(lb):	
-Direct Costs	0.10	_____	0.09	_____
-Indirect Costs	0.07	_____	0.06	_____
-Total Costs	0.17	_____	0.15	_____

Safflower notes:

*Fungicide for alternaria leaf spot would cost about \$17 plus application.

Buckwheat

Millet

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	850	_____	1300	_____
Market Price	0.191	_____	0.065	_____
MARKET INCOME	162.35	_____	84.50	_____
DIRECT COSTS				
-Seed	25.00	_____	5.00	_____
-Herbicides	13.50	_____	6.00	_____
-Fungicides	0.00	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	12.39	_____	14.91	_____
-Crop Insurance	0.00	_____	0.00	_____
-Fuel & Lubrication	10.02	_____	10.28	_____
-Repairs	12.90	_____	13.02	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	1.50	_____	6.00	_____
-Operating Interest	1.98	_____	1.45	_____
SUM OF LISTED DIRECT COSTS	77.29	=====	56.66	=====
INDIRECT (FIXED) COSTS				
-Misc. Overhead	4.76	_____	4.86	_____
-Machinery Depreciation	15.04	_____	15.27	_____
-Machinery Investment	8.66	_____	8.77	_____
-Land Charge	30.60	_____	30.60	_____
SUM OF LISTED INDIRECT COSTS	59.07	=====	59.51	=====
SUM OF ALL LISTED COSTS	136.36	_____	116.17	_____
RETURN TO LABOR & MANAGEMENT	25.99	_____	(31.67)	_____
LISTED COSTS PER BUDGET UNIT				
	(lb):		(lb):	
-Direct Costs	0.09	_____	0.04	_____
-Indirect Costs	0.07	_____	0.05	_____
-Total Costs	0.16	_____	0.09	_____

notes:

Small Chickpeas*

Winter Wheat

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	1600	_____	36*	_____
Market Price	0.23	_____	4.59	_____
MARKET INCOME	368.00	_____	165.24	_____
DIRECT COSTS				
-Seed	72.00	_____	7.50	_____
-Herbicides	32.50	_____	15.40	_____
-Fungicides	18.00**	_____	9.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	19.13	_____	38.92	_____
-Crop Insurance	10.40	_____	9.60	_____
-Fuel & Lubrication	12.29	_____	8.98	_____
-Repairs	16.76	_____	11.72	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	7.00	_____	6.00	_____
-Operating Interest	4.94	_____	2.81	_____
SUM OF LISTED DIRECT COSTS	193.02	=====	109.92	=====
INDIRECT (FIXED) COSTS				
-Misc. Overhead	5.47	_____	4.48	_____
-Machinery Depreciation	19.82	_____	13.37	_____
-Machinery Investment	10.77	_____	7.20	_____
-Land Charge	30.60	_____	30.60	_____
SUM OF LISTED INDIRECT COSTS	66.66	=====	55.65	=====
SUM OF ALL LISTED COSTS	259.68	_____	165.57	_____
RETURN TO LABOR & MANAGEMENT	108.32	_____	(0.33)	_____
LISTED COSTS PER BUDGET UNIT				
-Direct Costs	(lb): 0.12	_____	(bu): 3.05	_____
-Indirect Costs	0.04	_____	1.55	_____
-Total Costs	0.16	_____	4.60	_____

Small Chickpea notes:

*The budget is for a kabuli variety with medium size seed, about 7-8mm, which has better ascochyta resistance than large kabuli's.

**Fungicide treatment for ascochyta blight. A second treatment may be necessary.

Winter Wheat notes:

*Yield is per harvested acre, 2002-2008 acreage abandonment averaged 7%.

Rye

	Per Acre	Your Figures
Market Yield	35	_____
Market Price	3.33	_____
MARKET INCOME	116.55	_____
DIRECT COSTS		
-Seed	6.24	_____
-Herbicides	3.50	_____
-Fungicides	0.00	_____
-Insecticides	0.00	_____
-Fertilizer	37.54	_____
-Crop Insurance	4.30	_____
-Fuel & Lubrication	9.08	_____
-Repairs	11.63	_____
-Drying	0.00	_____
-Miscellaneous	6.00	_____
-Operating Interest	2.05	_____
	=====	=====
SUM OF LISTED DIRECT COSTS	80.34	_____
INDIRECT (FIXED) COSTS		
-Misc. Overhead	4.52	_____
-Machinery Depreciation	13.49	_____
-Machinery Investment	7.38	_____
-Land Charge	30.60	_____
	=====	=====
SUM OF LISTED INDIRECT COSTS	56.00	_____
SUM OF ALL LISTED COSTS	136.34	_____
RETURN TO LABOR & MANAGEMENT	(19.79)	_____
LISTED COSTS PER BUDGET UNIT	(bu):	
-Direct Costs	2.30	_____
-Indirect Costs	1.60	_____
-Total Costs	3.90	_____

notes:

2010 Machinery List

Machine	Purch. Price	Annual Use	Years to trade	Trade in	Deprec.	Invest.	Repairs	Ac/hr
2WD 100HP Tractor	60300	400hr	20	19447	5.11 /hr	4.49 /hr	6.14 /hr	
2WD 160HP Tractor	102600	500hr	15	30365	9.63 /hr	5.98 /hr	10.45 /hr	
4WD 330HP Tractor	178000	500hr	15	52675	16.71 /hr	10.38 /hr	10.36 /hr	
SP Combine (base unit)	225000	250hr	12	55965	56.34 /hr	25.29 /hr	36.52 /hr	
Tandem Truck (used)	33000	150hr	15	10500	10.00 /hr	6.53 /hr	6.33 /hr	
Semi & Trailer (used)	37000	150hr	10	10600	17.60 /hr	7.14 /hr	8.00 /hr	
Pick-up Truck	21900	300hr	10	4500	5.80 /hr	1.98 /hr	2.93 /hr	
Swather 25 ft	20500	1000ac	20	4855	0.78 /ac	0.57 /ac	0.36 /ac	12.1
Sprayer 90 ft	32500	5000ac	10	14714	0.30 /ac	0.21 /ac	0.42 /ac	42.5
Heavy Harrow 70 ft	26000	2000ac	20	15164	0.27 /ac	0.46 /ac	0.29 /ac	39.7
Air Seeder 40 ft	140000	2200ac	10	65991	2.80 /ac	2.10 /ac	4.84 /ac	17.0
Planter 12-30	56100	800ac	20	15879	1.99 /ac	1.79 /ac	2.64 /ac	10.6
Corn head	41000	600ac	20	3860	3.09 /ac	1.68 /ac	0.95 /ac	6.8
Grain head w/ptu	13100	800ac	15	2716	0.87 /ac	0.44 /ac	0.25 /ac	8.5
Grain str. cut 30 ft	21800	2000ac	8	8791	0.81 /ac	0.34 /ac	0.34 /ac	10.2
Head w/sunf pans 30 ft	26200	600ac	20	2680	1.96 /ac	1.08 /ac	0.41 /ac	10.2
Rock picker	18700	50hr	20	5976	0.42 /ac	0.37 /ac	0.28 /ac	29.1
Grain auger	7800	50hr	20	590	7.21 /hr	3.78 /hr	4.00 /hr	

Example Sequence of Operations

Field operations sequence for spring wheat and durum

OP. NO.	DESCRIPTION	(FEET) WIDTH	(MPH) SPEED	(AC/HR) Fld Cap	(\$/AC) FUEL & LUBE	(\$/AC) EST. REPAIRS
1	Pick Rocks				0.43	0.49
2	Spray (burn-down)	90	6.0	42.5	0.30	0.56
3	Plant	40	5.0	17.0	2.46	5.46
4	Spray	90	6.0	42.5	0.30	0.56
5	Combine	30	4.0	10.2	2.86	3.92
	Trucks*				1.03	0.47
	Grain auger (ptu)				0.17	0.08
	Pickup truck allocation				1.56	0.53
	Total				9.11	12.07

* Truck costs will vary between crops.

For more information on this and other topics, see: www.ag.ndsu.edu

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