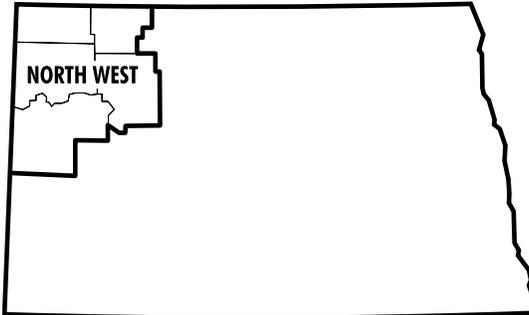




FARM MANAGEMENT PLANNING GUIDE

December 2017

Projected 2018 Crop Budgets



North West North Dakota

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The 2018 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 2018 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.

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.

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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.

The 2014 Farm Bill initiated the Price Loss Coverage (PLC) and Agricultural Risk Coverage (ARC) support programs. PLC and ARC payments have been omitted from the budgets because those payments, if any, are tied to historic farm program base acres, not to current crop selection or production.

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 2010-2016, 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. N fertilizer can be reduced if previous crop was soybean, dry bean, field peas or lentil.

Soil test - recrop:
 Nitrogen - 40 lb
 Phosphorus - 6 ppm
 Potassium - 328 ppm

Fertilizer prices:
 Nitrogen - .37/lb
 Phosphorus - .40/lb
 Potassium - .27/lb

Seed Prices:

Spring Wheat	10.00/bu
Durum	13.00/bu
Barley	8.00/bu
Corn GM	2.65/thou.kern.
Soybean GM	.33/thou.kern.
Oil Sunflower	1.50/thou.kern.
Canola	11.40/lb
Flax	16.00/bu
Field Peas	14.00/bu
Oats	6.50/bu
Lentils	.42/lb
Mustard	2.00/lb
Safflower	.60/lb
Buckwheat	.45/lb
Millet	.25/lb
Small Chickpeas	.80/lb
Winter Wheat	7.75/bu
Rye	7.75/bu

Fuel prices:

Diesel	2.20/gal
Gas	2.45/gal

Lubrication charge: 15% of fuel cost

Crop Insurance: Revenue Protection was used for all wheat, barley, soybeans, corn, canola, sunflowers, field peas and dry beans. Yield Protection or APH insurance was used for other crops. A 70% coverage and optional units were used, except corn for which 80% coverage and enterprise units were assumed.

Miscellaneous: soil testing, machinery rent and custom work.

Operating Interest: Direct costs charged 5.1% 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, \$4.00 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

	Your Per Acre	Figures	Your Per Acre	Figures
Market Yield	38		34	
Market Price	5.57		6.17*	
MARKET INCOME	211.66		209.78	
DIRECT COSTS				
-Seed	15.00		22.75	
-Herbicides	25.20		25.20	
-Fungicides**	5.00		5.00	
-Insecticides***	0.00		0.00	
-Fertilizer	44.11		37.91	
-Crop Insurance	11.50		12.30	
-Fuel & Lubrication	10.10		9.91	
-Repairs	15.74		15.63	
-Drying	0.00		0.00	
-Miscellaneous	7.50		7.50	
-Operating Interest	3.42		3.47	
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	137.57		139.67	
INDIRECT (FIXED) COSTS				
-Misc. Overhead	7.44		7.37	
-Machinery Depreciation	18.45		18.25	
-Machinery Investment	10.19		10.08	
-Land Charge	36.50		36.50	
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	72.59		72.20	
SUM OF ALL LISTED COSTS	210.16		211.87	
RETURN TO LABOR & MANAGEMENT	1.50		(2.09)	
LISTED COSTS PER BUDGET UNIT	(bu)		(bu)	
-Direct Costs	3.62		4.11	
-Indirect Costs	1.91		2.12	
-Total Costs	5.53		6.23	

Wheat notes:

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

**Includes seed treatment and early season foliar fungicide. Although late season fungicides are often not warranted in this region, prothioconazole or metconazole containing products are highly recommended for fusarium head blight (scab) control when conditions are favorable for infection.

***Cereal grain aphid insecticide would cost about \$4. Wheat midge insecticide would cost about \$6.

Malting Barley

Corn Grain

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	59	_____	95	_____
Market Price	3.55*	_____	3.25	_____
MARKET INCOME	209.45	_____	308.75	_____
DIRECT COSTS				
-Seed	10.80	_____	60.95*	_____
-Herbicides	23.70	_____	20.00	_____
-Fungicides	5.00**	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	42.65	_____	61.57	_____
-Crop Insurance	11.90	_____	13.40**	_____
-Fuel & Lubrication	11.12	_____	14.26	_____
-Repairs	16.32	_____	19.43	_____
-Drying	0.00	_____	17.10	_____
-Miscellaneous	7.50	_____	7.50	_____
-Operating Interest	3.29	_____	5.46	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	132.28	_____	219.68	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	7.83	_____	9.76	_____
-Machinery Depreciation	19.53	_____	29.62	_____
-Machinery Investment	10.76	_____	16.19	_____
-Land Charge	36.50	_____	36.50	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	74.62	_____	92.08	_____
SUM OF ALL LISTED COSTS	206.90	_____	311.76	_____
RETURN TO LABOR & MANAGEMENT	2.55	_____	(3.01)	_____
LISTED COSTS PER BUDGET UNIT	(bu)		(bu)	
-Direct Costs	2.24	_____	2.31	_____
-Indirect Costs	1.26	_____	0.97	_____
-Total Costs	3.51	_____	3.28	_____

Barley notes:

*There is risk of not making malting barley quality. Use \$2.70 for feed barley.

**Includes seed treatment and early season foliar fungicide. Although late season fungicides are often not warranted in this region, prothioconazole or metconazole containing products are highly recommended for fusarium head blight (scab) control when conditions are favorable for infection.

Corn notes:

*GM corn with herbicide tolerance and above ground insect control traits.

**Crop insurance is only available by written agreement in most counties of region.

Soybeans

Oil Sunflower

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	28	_____	1470	_____
Market Price	8.70	_____	0.167	_____
MARKET INCOME	243.60	_____	245.49	_____
DIRECT COSTS				
-Seed	65.75*	_____	35.25	_____
-Herbicides	20.00	_____	33.20	_____
-Fungicides	0.00	_____	0.00*	_____
-Insecticides	0.00	_____	5.00**	_____
-Fertilizer	10.34	_____	31.33	_____
-Crop Insurance	15.60**	_____	20.20	_____
-Fuel & Lubrication	10.13	_____	10.88	_____
-Repairs	16.10	_____	16.88	_____
-Drying	0.00	_____	4.41	_____
-Miscellaneous	5.00	_____	15.50	_____
-Operating Interest	3.64	_____	4.40	_____
SUM OF LISTED DIRECT COSTS	146.56	=====	177.05	=====
INDIRECT (FIXED) COSTS				
-Misc. Overhead	7.56	_____	8.06	_____
-Machinery Depreciation	19.63	_____	21.23	_____
-Machinery Investment	10.92	_____	11.97	_____
-Land Charge	36.50	_____	36.50	_____
SUM OF LISTED INDIRECT COSTS	74.61	=====	77.76	=====
SUM OF ALL LISTED COSTS	221.16	_____	254.81	_____
RETURN TO LABOR & MANAGEMENT	22.44	_____	(9.32)	_____
LISTED COSTS PER BUDGET UNIT	(bu)		(lb)	
-Direct Costs	5.23	_____	0.12	_____
-Indirect Costs	2.66	_____	0.05	_____
-Total Costs	7.90	_____	0.17	_____

Soybean notes:

*GM soybeans with herbicide tolerance. The cost includes \$8 for inoculant and fungicide treatment in addition to seed expense.

**Crop insurance is only available in McKenzie county by written agreement.

Oil Sunflower notes:

*Fungicide for rust would cost \$4 plus application.

**One spraying for head feeding insects (red seed weevil, lygus bug and banded moths). Custom application cost of \$8 is under "Miscellaneous." Foliar applied insecticide for cutworms would cost about \$5 per acre plus application (usually tank mixed with herbicide).

Canola

Flax

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	1690	_____	21	_____
Market Price	0.171	_____	9.30	_____
MARKET INCOME	288.99	_____	195.30	_____
DIRECT COSTS				
-Seed	57.00	_____	12.80	_____
-Herbicides	22.50	_____	28.50	_____
-Fungicides	0.00	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	65.07	_____	23.50	_____
-Crop Insurance	14.30	_____	8.90	_____
-Fuel & Lubrication	10.88	_____	10.69	_____
-Repairs	16.99	_____	17.75	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	7.50	_____	1.50	_____
-Operating Interest	4.95	_____	2.64	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	199.20	_____	106.27	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	7.71	_____	7.78	_____
-Machinery Depreciation	20.75	_____	20.99	_____
-Machinery Investment	11.28	_____	11.89	_____
-Land Charge	36.50	_____	36.50	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	76.23	_____	77.16	_____
SUM OF ALL LISTED COSTS	275.43	_____	183.44	_____
RETURN TO LABOR & MANAGEMENT	13.56	_____	11.86	_____
LISTED COSTS PER BUDGET UNIT	(lb)		(bu)	
-Direct Costs	0.12	_____	5.06	_____
-Indirect Costs	0.05	_____	3.67	_____
-Total Costs	0.16	_____	8.74	_____

Field Peas

Oats

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	34		65	
Market Price	6.30		2.01	
MARKET INCOME	214.20		130.65	
DIRECT COSTS				
-Seed	42.00		13.00	
-Herbicides	35.00		10.25	
-Fungicides	1.50		0.00	
-Insecticides	0.00*		0.00	
-Fertilizer	11.14		39.30	
-Crop Insurance	11.20		7.20	
-Fuel & Lubrication	11.30		12.72	
-Repairs	18.08		18.01	
-Drying	0.00		0.00	
-Miscellaneous	9.50		7.50	
-Operating Interest	3.56		2.75	
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	143.28		110.73	
INDIRECT (FIXED) COSTS				
-Misc. Overhead	7.90		8.48	
-Machinery Depreciation	21.52		22.08	
-Machinery Investment	11.83		12.74	
-Land Charge	36.50		36.50	
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	77.75		79.81	
SUM OF ALL LISTED COSTS	221.03		190.53	
RETURN TO LABOR & MANAGEMENT	(6.83)		(59.88)	
LISTED COSTS PER BUDGET UNIT	(bu)		(bu)	
-Direct Costs	4.21		1.70	
-Indirect Costs	2.29		1.23	
-Total Costs	6.50		2.93	

Field Pea notes:

*Foliar insecticide for cutworms and/or pea aphids would cost about \$4 per acre plus application.

Lentils

Yellow Mustard

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	1300		850	
Market Price	0.22		0.31	
MARKET INCOME	286.00		263.50	
DIRECT COSTS				
-Seed	31.50		20.00	
-Herbicides	34.60*		19.70	
-Fungicides	16.00**		0.00	
-Insecticides	0.00***		0.00	
-Fertilizer	7.10		21.85	
-Crop Insurance	21.60		15.80*	
-Fuel & Lubrication	12.56		10.56	
-Repairs	20.84		17.32	
-Drying	0.00		0.00	
-Miscellaneous	9.50		7.50	
-Operating Interest	3.92		2.87	
	=====		=====	
SUM OF LISTED DIRECT COSTS	157.61		115.61	
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.34		7.78	
-Machinery Depreciation	25.33		20.09	
-Machinery Investment	13.74		12.10	
-Land Charge	36.50		36.50	
	=====		=====	
SUM OF LISTED INDIRECT COSTS	83.91		76.47	
SUM OF ALL LISTED COSTS	241.52		192.08	
RETURN TO LABOR & MANAGEMENT	44.48		71.42	
LISTED COSTS PER BUDGET UNIT	(lb)		(lb)	
-Direct Costs	0.12		0.14	
-Indirect Costs	0.06		0.09	
-Total Costs	0.19		0.23	

Lentil notes:

*Includes pre-harvest dessicant.

**Fungicide treatment for ascochyta/anthracnose.

***Foliar insecticide for cutworms, pea aphids and/or grasshoppers would cost about \$4 per acre plus application.

Yellow Mustard notes:

**Crop insurance is only available in McKenzie county by written agreement.

Safflower

Buckwheat

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	1050	_____	850	_____
Market Price	0.175	_____	0.191	_____
MARKET INCOME	183.75	_____	162.35	_____
DIRECT COSTS				
-Seed	10.80	_____	22.50	_____
-Herbicides	21.60	_____	17.10	_____
-Fungicides	18.00*	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	19.63	_____	11.51	_____
-Crop Insurance	19.50	_____	9.10*	_____
-Fuel & Lubrication	9.52	_____	10.18	_____
-Repairs	16.08	_____	16.60	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	7.50	_____	1.50	_____
-Operating Interest	3.13	_____	2.26	_____
SUM OF LISTED DIRECT COSTS	125.75	=====	90.74	=====
INDIRECT (FIXED) COSTS				
-Misc. Overhead	7.34	_____	7.60	_____
-Machinery Depreciation	18.26	_____	19.48	_____
-Machinery Investment	10.20	_____	11.35	_____
-Land Charge	36.50	_____	36.50	_____
SUM OF LISTED INDIRECT COSTS	72.29	=====	74.92	=====
SUM OF ALL LISTED COSTS	198.04	_____	165.66	_____
RETURN TO LABOR & MANAGEMENT	(14.29)	_____	(3.31)	_____
LISTED COSTS PER BUDGET UNIT	(lb)		(lb)	
-Direct Costs	0.12	_____	0.11	_____
-Indirect Costs	0.07	_____	0.09	_____
-Total Costs	0.19	_____	0.19	_____

Safflower notes:

*Fungicide for alternaria leaf spot.

Buckwheat notes:

*Crop insurance is not available in most counties of the region.

Millet

Small Chickpea*

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	1300	_____	1400	_____
Market Price	0.065	_____	0.27	_____
MARKET INCOME	84.50	_____	378.00	_____
DIRECT COSTS				
-Seed	6.25	_____	96.00	_____
-Herbicides	9.25	_____	35.40	_____
-Fungicides	0.00	_____	36.00**	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	14.18	_____	10.70	_____
-Crop Insurance	0.00	_____	22.50	_____
-Fuel & Lubrication	10.83	_____	12.98	_____
-Repairs	16.92	_____	21.69	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	7.50	_____	8.50	_____
-Operating Interest	1.66	_____	6.22	_____
SUM OF LISTED DIRECT COSTS	66.59	=====	249.99	=====
INDIRECT (FIXED) COSTS				
-Misc. Overhead	7.77	_____	8.52	_____
-Machinery Depreciation	20.07	_____	26.07	_____
-Machinery Investment	11.69	_____	14.27	_____
-Land Charge	36.50	_____	36.50	_____
SUM OF LISTED INDIRECT COSTS	76.03	=====	85.36	=====
SUM OF ALL LISTED COSTS	142.62	_____	335.35	_____
RETURN TO LABOR & MANAGEMENT	(58.12)	_____	42.65	_____
LISTED COSTS PER BUDGET UNIT	(lb)		(lb)	
-Direct Costs	0.05	_____	0.18	_____
-Indirect Costs	0.06	_____	0.06	_____
-Total Costs	0.11	_____	0.24	_____

Small Chickpea notes:

*A kabula variety with medium seed size, about 7-8mm, which has some ascochyta resistance.

**Two fungicide treatments for ascochyta blight. Additional treatments may be necessary.

Winter Wheat

Rye

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	43*	_____	40	_____
Market Price	4.25	_____	4.16	_____
MARKET INCOME	182.75	_____	166.40	_____
DIRECT COSTS				
-Seed	7.75	_____	9.30	_____
-Herbicides	22.40	_____	6.50	_____
-Fungicides	9.00	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	51.87	_____	47.22	_____
-Crop Insurance	12.20	_____	7.10	_____
-Fuel & Lubrication	10.17	_____	9.83	_____
-Repairs	15.90	_____	14.97	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	7.50	_____	7.50	_____
-Operating Interest	3.49	_____	2.61	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	140.28	_____	105.03	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	7.45	_____	7.33	_____
-Machinery Depreciation	18.47	_____	17.89	_____
-Machinery Investment	10.03	_____	9.74	_____
-Land Charge	36.50	_____	36.50	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	72.45	_____	71.46	_____
SUM OF ALL LISTED COSTS	212.73	_____	176.49	_____
RETURN TO LABOR & MANAGEMENT	(29.98)	_____	(10.09)	_____
LISTED COSTS PER BUDGET UNIT	(bu)		(bu)	
-Direct Costs	3.26	_____	2.63	_____
-Indirect Costs	1.68	_____	1.79	_____
-Total Costs	4.95	_____	4.41	_____

Winter Wheat notes:

*Yield is per harvested acre. There is some risk of acreage abandonment in spring.

2018 Machinery List

Machine	Purch. Price	Annual Use	Years to trade	Trade in	Deprec.	Invest.	Repairs	Ac/hr
FWA 150HP Tractor	136000	400 hr	20	42564	11.68 /hr	10.04 /hr	13.44 /hr	
FWA 190HP Tractor	178800	500 hr	15	51357	16.99 /hr	10.36 /hr	17.67 /hr	
4WD 370HP Tractor	255000	500 hr	15	73227	24.24 /hr	14.77 /hr	14.40 /hr	
SP Combine (base unit)	290000	250 hr	12	70023	73.33 /hr	32.40 /hr	45.70 /hr	
Tandem Truck (used)	39200	150 hr	15	12500	11.87 /hr	7.76 /hr	8.04 /hr	
Semi & Trailer (used)	46000	150 hr	10	13100	21.93 /hr	8.87 /hr	9.93 /hr	
Pick-up Truck	33000	300 hr	10	7600	8.47 /hr	3.05 /hr	3.78 /hr	
Swather 30 ft	31100	1000 ac	20	7354	1.19 /ac	0.86 /ac	0.50 /ac	13.1
Sprayer 90 ft	39400	5000 ac	10	19574	0.40 /ac	0.27 /ac	0.50 /ac	42.5
Heavy Harrow 70 ft	31500	2000 ac	20	18372	0.33 /ac	0.56 /ac	0.35 /ac	39.7
Air Seeder 40 ft	183500	2400 ac	10	93777	3.73 /ac	2.59 /ac	6.35 /ac	17.0
Planter 12-30	68700	800 ac	20	22870	2.86 /ac	2.58 /ac	3.80 /ac	10.6
Corn head	82500	800 ac	12	23629	6.12 /ac	2.98 /ac	1.91 /ac	6.8
Grain head w/pu	18700	800 ac	20	1807	1.05 /ac	0.58 /ac	0.29 /ac	10.2
Grain str. cut 35 ft	30800	2000 ac	8	12797	1.12 /ac	0.49 /ac	0.41 /ac	11.9
Head w/sunf pans	37100	600 ac	20	3883	2.76 /ac	1.53 /ac	0.49 /ac	11.9
Flex head 35 ft	45100	1000 ac	20	4289	2.04 /ac	1.11 /ac	0.60 /ac	11.9
Rock picker	22600	50 hr	20	7231	0.51 /ac	0.45 /ac	0.34 /ac	29.1
Grain Cart	36600	100 hr	20	6200	15.20 /hr	9.63 /hr	8.60 /hr	
Grain auger	13500	50 hr	20	780	12.72 /hr	6.43 /hr	5.00 /hr	

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