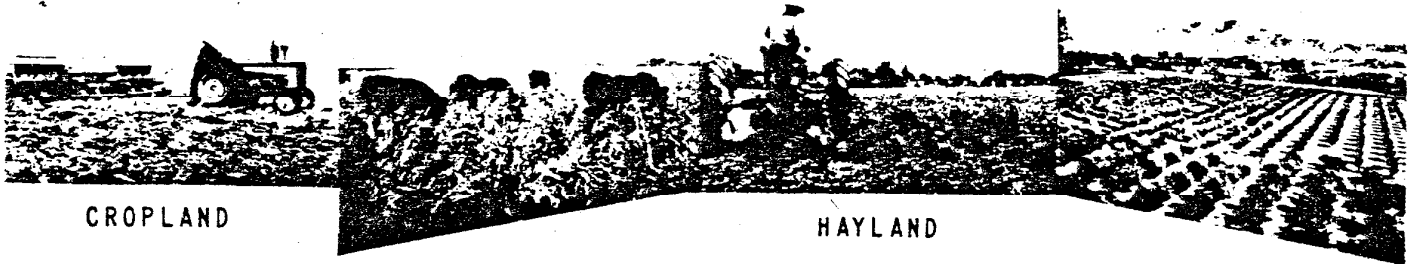


CONSERVATION AGRONOMY TECHNICAL NOTES

PASTURELAND

ORCHARD



CROPLAND

HAYLAND

U. S. DEPARTMENT OF AGRICULTURE

NEW MEXICO

SOIL CONSERVATION SERVICE

AGRONOMY TECH NOTE NO. 36

RE: MINIMUM/NO TILLAGE WHEAT

Attached is an example of no-till wheat and minimum tillage wheat crop budget. These represent a composite of actual no-till and minimum-till wheat being produced in the southern high plains, MLRA 77, New Mexico. These should help in handling inquiries concerning typical field operations.

The yield is held constant on both examples and does not reflect the benefits of conservation tillage moisture management. Note the typical relative difference in the tractor and machine hours of use and note the type and number of tractors and machines used.

Prepared by James L. Hosack, Soil Conservationist
Resource Technology, SCS, New Mexico

Attachment

AC
DC
SRC

NO-TILL
WHEAT

TOTAL CROPLAND ACRES	1280.0	EXPECTED YIELD PER ACRE	20.0
ACRES THIS CROP BUDGET	640.0	ANIMAL UNITS OF GRAZING	0.6

OPERATION	ACRES /HOUR	PURCHASED MATERIALS		MACHINERY COSTS			TOTAL COSTS
		AMOUNT /ACRE	COST /UNIT	FUEL AND LUBE	REPAIR AND MAINT.	FIXED	
SPRAYER	40.00			0.12	0.41	2.34	2.86
GLEAN		0.33	14.00				4.62
2,4D		1.00	1.75				1.75
SPRAYER	40.00			0.12	0.41	2.34	2.86
ROUNDUP		6.00	0.66				3.96
GRAIN DRILL	15.00			0.32	1.10	3.86	5.28
WHEATSEED		0.41	4.00				1.64
30 30 0 10		100.00	0.19				19.00
COMBINE, IH COMBINE	9.70			0.56	2.58	13.23	16.37
TOTALS				1.12	4.49	21.77	58.35

CASH COSTS

PURCHASED MATERIALS	30.97
FUEL AND LUBE	1.12
REPAIRS AND MAINTANANCE	4.49
CUSTOM HIRE AND MACHINE RENTAL	0.0
INTEREST ON OPERATING EXPENSE	3.17
(36.58 X 13.00% FOR 8.0 MONTHS)	
TOTAL CASH COSTS	39.75

LABOR

DIRECT LABOR	0.0
(0.2 HRS X 0.0 /HR X 1.2 (OVERHEAD))	
TOTAL CASH COSTS AND LABOR	39.75

FIXED COSTS

FIXED MACHINERY COSTS (INCLUDES INTEREST AT 13.00%)	21.77
REAL ESTATE TAXES	0.39
INTEREST ON LAND (\$ 250.00 VALUE/A X 0.0 % X 1.0)	0.0
TOTAL FIXED COSTS	22.16
TOTAL COST, EXCEPT OVERHEAD AND MGT.	61.91

OVERHEAD AND MANAGEMENT

OVERHEAD (TOTAL CASH COSTS X 5.00%)	1.99
MANAGEMENT CHARGE (\$ 0.0 X ESTIMATED YIELD)	0.0
TOTAL OVERHEAD AND MANAGEMENT	1.99
TOTAL COST PER ACRE	63.90
TOTAL COST PER UNIT OF PRODUCTION	3.19
(BASED ON ESTIMATED YIELD)	

ESTIMATED RETURNS

ESTIMATED CROP RETURN PER ACRE	66.00
ESTIMATED AUM GRAZING RETURNS	11.20
ESTIMATED TOTAL RETURN PER ACRE	77.20
ESTIMATED NET RETURN PER ACRE	13.30

SECTION 1: * * * FIELD OPERATIONS * * *

OPERATION NUMBER	MACHINE NUMBER	MACHINE STATUS	DESCRIPTION
1	655	OWNED	SPRAYER
2	655	OWNED	SPRAYER
3	205	OWNED	GRAIN DRILL
4	405	OWNED	IH COMBINE

SECTION 2: * * * TRACTORS * * *

TRACTOR NUMBER	HORSE-POWER	FUEL USE GAL/HR	FUEL PRICE \$/GAL	FUEL TYPE CODE	TOTAL ANNUAL USE (HR)	OWNER-SHIP STATUS	LIST PRICE	MODEL NAME
1	100.00	4.40	0.99	1	100.0	1	25000.00	JD

SECTION 4: * * * OWNED, PULL-TYPE MACHINES * * *

LINE NO.	MACHINE NUMBER	TRACTOR USED	ACRES /HOUR	WIDTH (FT)	TOTAL USE/YR	LIST PRICE
1	655	1	40.00	60.00	640.00	8000.00
2	655	1	40.00	60.00	640.00	8000.00
3	205	1	15.00	20.00	640.00	6000.00

SECTION 8: * * * COMBINES * * *

COMB. NO.	ACRES /HOUR	WIDTH (FT)	FUEL GAL/HR	FUEL PRICE	TOTAL THIS HEAD	ACRES BASE UNIT	LIST PRICE THIS HEAD	PRICE BASE UNIT	MODEL NAME
1	9.70	20.00	5.00	0.99	640.0	640.0	10000.00	45000.00	IH COMBINE

SECTION 13: * * * PURCHASED MATERIALS * * *

LINE NO.	UNITS /ACRE	COST /UNIT	DESCRIPTION
OPERATION NO. 1, MACHINE NO. 655, SPRAYER			
1	0.33	14.00	GLEAN
2	1.00	1.75	2,4D
OPERATION NO. 2, MACHINE NO. 655, SPRAYER			
1	6.00	0.66	ROUNDUP
OPERATION NO. 3, MACHINE NO. 205, GRAIN DRILL			
1	0.41	4.00	WHEATSEED
2	100.00	0.19	30 30 0 10

SECTION 14: * * * GENERAL INFORMATION * * *

LINE
NO.

1 1
2 WHEAT
3 OWNED LAND

	EXPECTED YIELD PER ACRE	AUM GRAZING PER ACRE	TOTAL CROPLAND ACRES	ACRES THIS CROP BUDGET
4	20.00	0.56	1280.00	640.00

	INTEREST RATE ON OPERATING EXPENSES, %	TIME (MO)	LABOR COST \$/HR	INTEREST RATE ON MACHINE INVESTMENT, %
5	13.00	8.0	0.0	13.00

	ESTABLISHMENT CHARGE PER YEAR	MANGEMENT CHARGE/UNIT HARVESTED	VALUE OF GRAZING PER AUM	SELLING PRICE/UNIT HARVESTED
6	0.0	0.0	20.00	3.30

	REAL ESTATE TAXES	NO. OF ACRES TAXED	INTEREST RATE ON REAL ESTATE	LAND VALUE \$/ACRE	ACRES FARMED PER ACRE HARVESTED
7	500.00	1280.00	0.0	250.00	1.00

8 OVERHEAD CHARGE (%) 5.00

	COMBINE BASE UNIT FIXED COST FACTOR	COMBINE BASE UNIT REPAIR COST FACTOR
9	15.40	3.00

	TRACTOR FIXED COST FACTOR	TRACTOR REPAIR COST FACTOR
10	14.40	4.50

SECTION 15: * * * TECHNICAL INFORMATION * * *

MACH. NO.	DESCRIPTION	FIXED COST FACTOR % OF LIST	REPAIR COST FACTOR % OF LIST	AVG SPEED	AVG FIELD EFF.
205	GRAIN DRILL	15.60	3.70	4.00	72.50
405	COMBINE, GRAIN HEAD	15.40	3.00	2.80	67.50
655	SPRAYER	11.50	1.00	5.00	65.00

MINIMUM-TILL
WHEAT

TOTAL CROPLAND ACRES	1280.0	EXPECTED YIELD PER ACRE	20.0
ACRES THIS CROP BUDGET	640.0	ANIMAL UNITS OF GRAZING	0.6

OPERATION	ACRES /HOUR	PURCHASED MATERIALS AMOUNT /ACRE	COST /UNIT	MACHINERY COSTS FUEL AND LUBE	REPAIR AND MAINT.	FIXED	TOTAL COSTS
NOBLE BLADE	15.00			0.44	1.01	3.50	4.95
NOBLE BLADE	15.00			0.44	1.01	3.50	4.95
NOBLE BLADE	15.00			0.44	1.01	3.50	4.95
GRAIN DRILL	15.00			0.32	1.85	6.26	8.43
WHEAT SEED		0.41	4.00				1.64
30 30 0 10 FERT		100.00	0.19				19.00
COMBINE, IH COMBINE	9.70			0.56	2.58	13.23	16.37
TOTALS				2.19	7.46	30.00	60.29

CASH COSTS

PURCHASED MATERIALS	20.64
FUEL AND LUBE	2.19
REPAIRS AND MAINTANANCE	7.46
CUSTOM HIRE AND MACHINE RENTAL	0.0
INTEREST ON OPERATING EXPENSE	2.62
(30.29 X 13.00% FOR 8.0 MONTHS)	
TOTAL CASH COSTS	32.91

BOR

DIRECT LABOR	0.0
(0.4 HRS X 0.0 /HR X 1.2 (OVERHEAD))	
TOTAL CASH COSTS AND LABOR	32.91

FIXED COSTS

FIXED MACHINERY COSTS (INCLUDES INTEREST AT 13.00%)	30.00
REAL ESTATE TAXES	0.39
INTEREST ON LAND (\$ 250.00 VALUE/A X 0.0 % X 1.0)	0.0
TOTAL FIXED COSTS	30.39
TOTAL COST, EXCEPT OVERHEAD AND MGT.	63.30

OVERHEAD AND MANAGEMENT

OVERHEAD (TOTAL CASH COSTS X 5.00%)	1.65
MANAGEMENT CHARGE (\$ 0.0 X ESTIMATED YIELD)	0.0
TOTAL OVERHEAD AND MANAGEMENT	1.65
TOTAL COST PER ACRE	64.95
TOTAL COST PER UNIT OF PRODUCTION (BASED ON ESTIMATED YIELD)	3.25

ESTIMATED RETURNS

ESTIMATED CROP RETURN PER ACRE	66.00
ESTIMATED AUM GRAZING RETURNS	11.20
ESTIMATED TOTAL RETURN PER ACRE	77.20
ESTIMATED NET RETURN PER ACRE	12.25

SECTION 1: * * * FIELD OPERATIONS * * *

OPERATION NUMBER	MACHINE NUMBER	MACHINE STATUS	DESCRIPTION
1	140	OWNED	NOBLE BLADE
2	140	OWNED	NOBLE BLADE
3	140	OWNED	NOBLE BLADE
4	205	OWNED	GRAIN DRILL
5	405	OWNED	IH COMBINE

SECTION 2: * * * TRACTORS * * *

TRACTOR NUMBER	HORSE-POWER	FUEL USE GAL/HR	FUEL PRICE \$/GAL	FUEL TYPE CODE	TOTAL ANNUAL USE (HR)	OWNER-SHIP STATUS	LIST PRICE	MODEL NAME
1	135.00	6.00	0.99	1	130.0	1	36000.00	JD
2	100.00	4.40	0.99	1	50.0	1	25000.00	JD

SECTION 4: * * * OWNED, PULL-TYPE MACHINES * * *

LINE NO.	MACHINE NUMBER	TRACTOR USED	ACRES /HOUR	WIDTH (FT)	TOTAL USE/YR	LIST PRICE
1	140	1	15.00	21.00	640.00	3500.00
2	140	1	15.00	21.00	640.00	3500.00
3	140	1	15.00	21.00	640.00	3500.00
4	205	2	15.00	21.00	640.00	6000.00

SECTION 8: * * * COMBINES * * *

COMB. NO.	ACRES /HOUR	WIDTH (FT)	FUEL GAL/HR	FUEL PRICE	TOTAL ACRES THIS HEAD	ACRES BASE UNIT	LIST PRICE THIS HEAD	PRICE BASE UNIT	MODEL NAME
1	9.70	20.00	5.00	0.99	640.0	640.0	10000.00	45000.00	IH COMBINE

SECTION 13: * * * PURCHASED MATERIALS * * *

LINE NO.	UNITS /ACRE	COST /UNIT	DESCRIPTION
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OPERATION NO.	UNITS /ACRE	COST /UNIT	DESCRIPTION
4, MACHINE NO. 205, GRAIN DRILL			
1	0.41	4.00	WHEAT SEED
2	100.00	0.19	30 30 0 10 FERT

LINE
NO.

1 1
2 WHEAT
3 OWNED LAND

	EXPECTED YIELD PER ACRE	AUM GRAZING PER ACRE	TOTAL CROPLAND ACRES	ACRES THIS CROP BUDGET
4	20.00	0.56	1280.00	640.00

	INTEREST RATE ON OPERATING EXPENSES, %	TIME (MO)	LABOR COST \$/HR	INTEREST RATE ON MACHINE INVESTMENT, %
5	13.00	8.0	0.0	13.00

	ESTABLISHMENT CHARGE PER YEAR	MANGEMENT CHARGE/UNIT HARVESTED	VALUE OF GRAZING PER AUM	SELLING PRICE/UNIT HARVESTED
6	0.0	0.0	20.00	3.30

	REAL ESTATE TAXES	NO. OF ACRES TAXED	INTEREST RATE ON REAL ESTATE	LAND VALUE \$/ACRE	ACRES FARMED PER ACRE HARVESTED
7	500.00	1280.00	0.0	250.00	1.00

8 OVERHEAD CHARGE (%) 5.00

	COMBINE BASE UNIT FIXED COST FACTOR	COMBINE BASE UNIT REPAIR COST FACTOR
9	15.40	3.00

	TRACTOR FIXED COST FACTOR	TRACTOR REPAIR COST FACTOR
10	14.40	4.50

SECTION 15: * * * TECHNICAL INFORMATION * * *

MACH. NO.	DESCRIPTION	FIXED COST FACTOR % OF LIST	REPAIR COST FACTOR % OF LIST	AVG SPEED	AVG FIELD EFF.
140	NOBLE BLADE	15.40	3.30	5.50	80.00
205	GRAIN DRILL	15.60	3.70	4.00	72.50
405	COMBINE, GRAIN HEAD	15.40	3.00	2.80	67.50