8-15-1981

Purdue Crop Budget (Model B-96)

D. Howard Doster

Bruce A. McCarl

P. R. Robbins

EC-541 Adm new yes

PURDUE CROP BUDGET

Model B-96, 8-15-81

Your Name _____

Address _____

City _____

State _____ Zip _____

Phone _____

Mail Completed Form to:

D. Howard Doster
Agricultural Economics Department
Krannert Building, Purdue University
West Lafayette, Indiana 47907
Phone: (317) 49-44250

Make check payable to:

Purdue University

Cost per solution:

$10.00

Computer File Number for this Base Plan: B96

Use this number to identify your base plan when you want to run alternative plans. See Alternative Plan Input Form attached to back of this booklet.

Enter some identifying information (farm names, owner's or operator's name, etc) in the space provided below. This information will appear on your computer printout.

Our Plan

P	U	R	D	U	E
	B	A	S	E	

Label for Output

Please print Capital Letters only

Your Plan

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PURDUE CROP BUDGET

by

D. Howard Doster, Bruce A. McCarl and P.R. Robbins[1/]

How profitable is your present crop operation? What would happen to your profits if you shifted to more corn? More beans? Planted some seed corn or other specialty crop? Tried another eighty acres? Which of your present machinery items is most seriously affecting your timeliness? WHERE ARE THE REALLY BIG OPPORTUNITIES FOR YOU?

This computer crop budget is designed to help you find better answers to your many management questions. By using this budget you can see the impact of how a change in one factor "ripples through" the entire business. The computer is fantastically fast and accurate in measuring changes based on your answers to input form questions.

Everyone recognizes the value of timely planting. Yet no one has enough equipment to plant his crop in one day. What is the trade-off between crop yield losses and extra machinery costs, or may be extra part-time labor hired in for a second shift, or may be a switch to a different crop on the last acres planted, or may be sharing work with a neighbor?

You supply ALL the basic numbers (you may use some of "Our Plan" figures, if they look O.K. for your farm.) The computer does the arithmetic and comes up with the best possible farm plan-based on your data-and our ability to realistically direct the computer to solve the problem via a linear programming approach.

Earlier versions of this budget have been used by farmers in Indiana and throughout North America. This was probably the first and continues to be the most used large scale linear program budget by farmers. In the past thirteen years 6000 farmers and others have attended 140 workshops where they have learned how to drive this new machine - the computer - across the fields of their own farms. It is their testimonials regarding the successful changes in farming they have made which have caused us to prepare this current version.

Many persons, both at Purdue and at other universities, Extension field staff, agribusinessmen and farmers have placed their mark on this program. We thank you for your helpfulness and solicit your continued support.

Special acknowledgements: Purdue Agricultural Economists; Noah Hadley guided the early sessions and won the American Agricultural Economics Award for this project, Will Candler wrote earlier versions of this computer program, Robert Rades coordinated computer processing.

1/ Associate Professor, Associate Professor and Professor, Department of Agricultural Economics, Purdue University, West Lafayette, Indiana.

INTRODUCTION

The Purdue Crop Budget is designed to solve the problem of how much of each "crop" you should produce considering your estimates of crop yields, prices and costs, as well as your relative labor and machinery scarcities during land preparation, planting and harvesting. In addition to using your present resources, you may obtain additional land, hire part-time labor and "hire in" custom harvest. Crops may be priced (a) "wet" out of the field, (b) "dry" out of your dryer or other processor, and (c) dry out of your farm storage.

With the Purdue Crop Budget, you use information from your corn, soybean, wheat and other crops to develop a "good" cropping plan for your farm. The computer is programmed to produce an optimum plan. However, it does not take direct account of weather variability, price variability or machinery breakdown. Thus, the plan will not be realized in any one year, but will precisely represent the estimates of resource use which you input.

The budget is a "long term" or "pre-season" planning budget, and not a day-to-day operating plan. The main objective is to formulate a working plan based on the various expectations you have when you plan ahead. These include expected planting and harvesting rates, expected number of working days per week during a particular time period, expected prices and costs, etc. In practice we know, of course, that you will have an above or below average season, and actual planting and/or harvesting patterns will deviate somewhat from those planned. In spite of this, the budget will be very useful as a relatively quick way of preparing detailed and high-profit farm plans.

This program can be used for a crop-livestock farm as well as a specialized corn/soybean farm. If you have livestock, remember that labor availability and machinery field hours represent time availability for corn/corn, silage/soybean/wheat production only. These times are presumably less than the corresponding times available for all farm work.

As you learn to interpret the solutions, you will find the budget is quite valuable in suggesting both short-run and long-run planning adjustments. As you make changes in your inputs on alternative budgets, you will see precisely how each change impacts on your potential profits. Thus you have the opportunity to "Test Before You Invest" your time and money.

THE PURDUE BASE CASE

As you read through the input form, you will notice that an "our plan" entry is shown for each input cell. Each of these entries is stored in the computer program.

"Our Plan" entries are intended to show you, by example, how to fill out your plan. That is, fertilizer cost is in dollars per acre, planter working rate is in acres per hour, etc. Take the necessary time to note how we have programmed the input entry; if you report your corn drying cost at $1.00 instead of $.01 per point of moisture, your optimum farm plan will likely include no corn!

Secondly, "Our Plan" numbers may serve as "Your Plan" numbers. If you wish to use "Our Plan" entries as your plan entries, you should leave your plan cells blank. This really saves computer keypunch time.

As a matter of policy, the computer is programmed to use only the last numbers entered in each cell. Since "Our Plan" is already there, you need to input your data only where it differs. The same policy holds for alternative plans you input; you need to report only the input data which is different from your previous input form.

TABLE 3. QUESTIONS INDIANA FARMERS CONSIDER WITH THE PURDUE LP MODEL:

A. With Present Machinery, Labor, Land and Time

1. What am I now making from my crop operation, and how can I make more?
2. At about what date should I shift from corn planting to soybean planting?
3. Under what price and yield relationships would I consider planting second year beans? Third year beans?
4. When should I plant short, medium or full season corn? beans?
5. Suppose I am short of harvesting capacity: What is the significance of a switch to unloading-on-the-go?
6. Suppose I am short of planting capacity, what is the significance of a shift to some wheat and double crop beans?
7. What is the likely effect of drying wheat on double crop profits?
8. Should I hire in a custom combine for some of my work?
9. Where are my present labor bottlenecks?

B. With A Change In Machinery

1. Where should I invest my next $10,000 - $25,000 - $50,000 in machinery?
2. How is profit affected by a different sized combine, tractor, planter?
3. To be more specific, what would the next larger size really cost me?
4. Would a shift to a different tillage system likely increase or decrease net return?
5. How many acres of beans are necessary to justify adding a second planter for narrow row beans?
6. Suppose I am short of land preparation capacity: What is the effect of hiring custom fertilizer applications? Hiring custom herbicide applications?

C. With A Change In Labor

1. Can I afford to pay $4-$6-$10 per hour for part-time labor at critical periods?
2. Which is more profitable: Hire extra labor and run my present equipment longer hours, buy larger equipment, or hire custom work?
3. Perhaps I should work off-farm and farm part-time. How would this affect my cropping program and profits?

D. With A Change In Time

1. What would be the value of adding one more hour per day of field time during May? October?
2. How would a second shift at planting or harvest affect profits?
3. Suppose I farm 780 acres of poorly drained soils with 6-row equipment: What are the economic implications of putting a good drainage system on the first quarter section?

E. With A Change In Land Size

1. With extremely high asking prices for land, could I afford to buy it? Cash rent it?
2. If I can somehow get some additional acres, what changes, if any, should I make in my machinery?
3. With high cash rental rates, should I rent out some of my land?

NOW, GET YOUR ATTITUDE ADJUSTED TO LEARN THE SPECIFICS OF HOW TO COMPLETE THE INPUT FORM. FIRST, GET ACQUAINTED WITH TABLE 1. ON PAGE 7.

TIME PERIODS

The crop year has been divided into 15 periods as shown in Table 1. For each "crop", jobs may be performed only in the periods indicated in the table. Jobs have been classified into the following categories: fall and spring prep, planting, post-plant and harvest. Therefore, for corn, the "planting" jobs can be performed in periods 4-9 (from April 26 through June 6). Later, you will have an opportunity to indicate different expected yields for each of those six planting periods (periods 4-9).

CROP NAMES

Five crops are included in this version of Model B-96. In the "Our Plan" example, these "crops" are named as shown in table 1. Corn and soybeans are "modeled" in detail. In addition, corn silage, wheat and double crop beans are included.

CROP SUBSTITUTIONS

This version of Model B-96 will print the names of the crops as shown in table 1. That is, crop 1 will be called corn throughout the input form and on the computer printout of your solution.

Of course, particularly after you have had experience with the model, you may wish to test other "crops". For example, you might want to see how mid-season corn competes with full-season corn.

Reread this section again after you have some experience with the model. When you are considering substitutions it is essential that your substitutions "fit" the job schedule and rotation sets as outlined in Table 1.

ADDITIONAL VERSIONS OF MODEL B-96

As you express your needs for them, other versions of the model can be developed with different time periods and/or different crop names. "Everyone in Indiana is a corn farmer". Learn how to use this version of the model. Learn what you can about improving your crop farming operation. In the process, you will improve your ability to help us write new versions of the model.

Best wishes as you proceed.

TABLE

PURDUE MODEL B-95 CROP PRODUCTION ACTIVITIES BY TIME PERIODS

TIME PERIOD	PERIOD LENGTH	CORN	SOYBEANS	WHEAT	DOUBLE CROP SOYBEANS	CORN SILAGE
1. Nov 29-March 14	15 weeks	Spring Prep	Spring Prep			Spring Prep
2. March 15-April 4	3 weeks					
3. April 5-April 25	3 weeks	Spring Prep	Spring Prep			Spring Prep
4. April 26-May 2	1 week	Plant	Plant			Plant
5. May 3-May 9	1 week	Post Plant	Post Plant			Post Plant
6. May 10-May 16	1 week					
7. May 17-May 23	1 week					
8. May 24-May 30	1 week					
9. May 31-June 6	1 week					
10. June 7-June 13	1 week	Post Plant	Post Plant			Post Plant
11. June 14-July 18	5 weeks	Post Plant	Post Plant	Harvest	Plant	Post Plant
12. Sept 13-Sept 26	2 weeks		Harvest Fall Prep			Harvest Fall Prep
13. Sept 27-Oct 17	3 weeks	Harvest Fall Prep		Plant		Harvest Fall Prep
14. Oct 18-Nov 7	3 weeks			Plant	Harvest	
15. Nov 8-Nov 28	3 weeks					

PRESENT FARM SIZE

What is your present acreage of corn, soybeans and wheat land?

		Our Plan	Your Plan
Presently Owned Grain Crop Acres	Acres	600	10
Presently Rented Grain Crop Acres	Acres	150	12

Present total Grain Crop Acres (The answer must be the same as the total acreage you list below in cells 18, 19, 20 and 21) ←

PRESENT GRAIN CROP ACREAGE

The computer will make two budgets. The first budget will include your present acreage of each crop assuming you communicate correctly and the computer can "farm" your land pretty much as you do. The second budget will be the "best" crop mix the computer can find, considering all the information you can provide.

What is your present corn grain acreage	Acres	375	18
What is your present corn silage acreage	Acres	0	19
(List your silage acres planted on page 12, cells 335-340)			20
What is your present single crop soybean acreage	Acres	375	
What is your present wheat acreage	Acres	0	21

The total of cells 18, 19, 20 and 21 should equal the total of cells 10 and 12. ←

What is your present soybean double crop acreage	Acres	0	22

MAXIMUM CROP ACREAGE

You may wish to limit your acreage of corn, soybeans or wheat, particularly on an alternative plan. Note that the 9999 maximum corn, bean and wheat acreage in "Our Plan" is not a restriction for most farms. However, "Our Plan" Double Crop Bean acreage is set at 50 to restrict that crop. Since this computer program includes only one planting period for DC Beans (see page 18) you must limit acreage here.

What is the maximum corn acreage you will permit?	9999	49
What is the maximum soybean acreage you will permit?	9999	199
What is the maximum wheat acreage you will permit?	9999	320
What is the maximum double crop bean acreage you will permit?	50	327
What is the maximum corn silage acreage you will permit?	0	334

FIELD TIME, LABOR AND TRACTOR AVAILABILITY

This budget is designed to solve the problem of how much corn, soybeans, and/or wheat to produce considering machinery and labor scarcities for land preparation, planting, post planting and harvesting.

Good field time available depends on weather, soil type, drainage, day length you are willing to have your equipment operate and whether you work on Sundays. In "Our Plan" Field Time Available, we are willing to have our equipment operate 9-12 hours on good days, and we do not work on Sundays.

We have decided to list the number of good days available per period on a fair to poorly drained Central Indiana farm in the 15th worst year in the last 20 seasons. Penalties in the Eastern Cornbelt for late planting and harvest are severe. We have found that we can afford to "tool up" for this type weather. Of course, you may want to take a different amount of risk. In an average season perhaps 50% more days are suitable for work. Also, on sandy soils up to 50% more days are suitable for work. Of course, machinery preparation and breakdowns, meals, travel to fields, funerals, etc. reduce the hours of good time actually available in the field.

Field Time Multipliers: There are two kinds of "multipliers" on the two weather pages. The column multipliers adjust all the numbers in the column. For example, to have Sundays available for good field time, you would write 1.16 in cell 350. Sunday is 16% of a 6-day week; thus, good field time is increased to 116% of our plan in all the periods, both spring and fall. This type of multiplier is cell 350 (to change the number of days) or 351 (to change the number of hours).

The second type of multiplier adjusts a specific type of work time such as for planting. You can adjust the good planting field time by increasing or decreasing Cell 352. For corn harvesting and fall land prep, you can adjust the good field time by scaling Cells 415 or 416, etc. For the field operations of land preparation and post planting during the six planting weeks, for wheat harvest and for silage and soybean harvest, you can adjust the field time available for the whole period affected (see Cells 412, 413, 414, 450, 451).

Labor Availability: Describe your labor in two ways. First in the cells under Permanent Labor, indicate the number of full-time permanent men you have available for crop field work. This includes yourself, permanent hired labor, and family labor. List only the labor available for crops on good weather days suitable for field work. (For example, if you milk cows 4 hours each day and you indicated 10 hour days in the field hour section, then you may have available 6 hours per day for field work. If so, list .6 permanent men in cell 353). Second, if you wish to consider hiring part-time labor, indicate the most men you could expect to hire in any period. (For example, if you could hire a high school student for 3 hours a day during Sept. 13-27 where you have said your good field hour time was 10 hours a day, then list .3 in cell 440). You will hire part-time labor only when it is profitable to do so.

Tractor Availability: Indicate the number you have available to do the jobs that need to be done in each time period. SPECIAL NOTE: In order to simplify the explanation and use of "Our Plan" figures for you to modify, we have stored in the computer one part-time man and one tractor available. Thus, you can list your expected part-time men and tractors available. Actually, when we ran a budget of the Our Plan data, we used 2 part-time men available and 2 tractors available.

SPRING AND SUMMER FIELD TIME, LABOR and TRACTOR AVAILABILITY

Time Periods	Good Field Time Available: Our Plan Good Days Per Period	Our Plan Hrs. Per Day	Our Plan Total Hours	Your Plan No. Good Days	Your Plan Hrs. Per Day	Scalers 1/: Planting Time Our Plan	Planting Time Your Plan	Labor Available: Full Time Our Plan	Full Time Your Plan	Part Time Our Plan	Part Time Your Plan	Tractors Available: Our Plan	Tractors Available: Your Plan
Use this line to Adjust "Our Plan" for the Entire Season													
1. Column Multipliers	1.0	1.0		350 2/ x	351 2/	1.0	352	1.0	353	1.0	354	1.0	355
LAND PREPARATION								No. Perm. Men Avail.		Max. P.T Men Avail. to hire		No. of Tractors Available	
2. Mar.15-Apr.4 (3 wks)	4.5	x 9.	= 41.	356 x	366			1.0	382	1.0	392	1.0	402
3. Apr. 5-Apr.25(3 wks)	6.5	x 9.	= 58.	357 x	367			1.0	383	1.0	393	1.0	403
PLANTING, LAND PREP POST PLANT													
4. Apr. 26-May 2(1 wk)	2.1	X 12.	= 25.	358 x	368			1.0	384	1.0	394	1.0	404
5. May 3-May 9 (1 wk)	2.1	x 12.	= 25.	359 x	369			1.0	385	1.0	395	1.0	405
6. May 10-May 16(1 wk)	2.7	x 12.	= 32.	360 x	370			1.0	386	1.0	396	1.0	406
7. May 17-May 23(1 wk)	2.7	x 12.	= 32.	361 x	371			1.0	387	1.0	397	1.0	407
8. May 24-May 30(1 wk)	3.3	x 12.	= 40.	362 x	372			1.0	388	1.0	398	1.0	408
9. May 31-June 6(1 wk)	3.3	x 12.	= 40.	363 x	373			1.0	389	1.0	399	1.0	409
POST PLANT,													
10. June 7-June13(1 wk)	3.3	x 12.	= 40.	364 x	374			1.0	390	1.0	400	1.0	410
WHEAT HARVEST													
11. June14-July18(5 wks)	16.6	x 12.	= 199.	365 x	375			1.0	391	1.0	401	1.0	411

MULTIPLIERS FOR ADJUSTING GOOD FIELD TIME AVAILABLE

	Our Plan	Your Plan
Land Prep. Apr. 26-June 6	1.0	412
Post Plant Apr. 26-July 18	1.0	413
Wheat Harvest June 14-July 18	1.0	414

2/ To increase the number of good days by 16%, enter 1.16 in cell 358. To increase the number of hours by 10%, enter 1.10 in cell 351. Do not enter numbers in both cell 350 and 351 unless you wish to change both units.

1/ The Numbers you indicate in the Scalers Section cells are multiplied by "Your Plan" good field time to arrive at the Planting Time Available, the Land Prep Time, Post Plant Time, Wheat Harvest Time, Soybean Harvest Time, Silage Harvest Time and the Labor and Tractor Time available for each period. You can scale some periods by either of two methods. However, if you place a number in both cells, such as 353 and 385, your cell 353 affects the permanent labor available in all periods on pages 14 and 15 but your cell 385 determines you May 3-9 permanent labor time available and overrides your cell 353 entry.

FALL FIELD TIME, LABOR AND TRACTOR AVAILABILITY

Time Period	Good Field Time Available — Our Plan: Good Days	Hrs. per Day	Total Hours	Your Plan: No. Good Days	Hrs. per Day	Corn Harvest Time: Our Plan	Your Plan	Fall Land Prep. Time: Our Plan	Your Plan	Labor Available — Full Time: Our Plan	Your Plan	Part Time: Our Plan	Your Plan	Tractors: Our Plan	Your Plan
1. Column Multiplier for the fall season				See Cells 350 & 351, page 14		Multipliers 1.0	415 ____	Multipliers 1.00	416 ____	See Cells 353, 354 and 355 page 14					
12. Sep.13-Sep.26(2wks)	7.0	x 10.	= 70.	417 ____	422 ____					1.0	435 ____	1.0	440 ____	1.0	445 ____
13. Sep.27-Oct.17(3wks)	10.9	x 10.	=109.	418 ____	423 ____					1.0	436 ____	1.0	441 ____	1.0	446 ____
14. Oct.18-Nov. 7(3wks)	10.2	x 10.	=102.	419 ____	424 ____					1.0	437 ____	1.0	442 ____	1.0	447 ____
15. Nov. 8-Nov.28(3wks)	9.9	x 10.	= 99.	420 ____	425 ____					1.0	438 ____	1.0	443 ____	1.0	448 ____
16. Nov.29-Mar.14	5.0	x 10.	= 50.	421 ____	426 ____					1.0	439 ____	1.0	444 ____	1.0	449 ____

MULTIPLIERS FOR ADJUSTING GOOD FIELD TIME AVAILABLE

		Our Plan	Your Plan
Silage Harvest	Sep.13-Oct.17	1.0	450 ____
Soybean Harvest	Sep.13-Nov. 7	.67	451 ____

FALL LAND PREPARATION

What is the most acreage you can prepare for Corn & Beans in the fall (Before Nov. 29) Acres 750 — 452 ____

Wheat land prep and planting is done in Fall Land Prep Periods, Sep. 27-Nov. 7.

SPECIAL TRACTOR INFORMATION

	Our Plan	Your Plan
No. of Your Tractors used for Corn/Soybean Harvest for hauling but not for land preparation	1.0	453 ____
No. of Your Tractors used for silage harvesting: when you use your own equipment?	2.0	454 ____
when a custom operator harvests your silage	0	455 ____

1/ The numbers you indicate in the scalers section cells are multiplied by "Your Plan" good field time to arrive at the Planting Time Available, the Land Prep Time, Post Plant Time, Wheat Harvest Time, Soybean Harvest Time, Silage Harvest Time and the Labor and Tractor Time available for each period. You can scale some periods by either of two methods. However, if you place a number in both cells, such as 354 and 442, your cell 354 affects the number of part-time men available in the other time periods, but your cell 442 indicates the number of part-time men available in the Oct. 18-Nov. 7 period.

NOTES ON TECHNOLOGY DECISIONS FOR ROTATION CORN

(For Continuous Corn, reduce yield 7%; increase nitrogen 20#, increase insecticide $7.)

The following table is essentially a statement of planned inputs or expected conditions. That is, IF you plant in one particular period, and IF you harvest in one particular period, THEN you would expect a particular yield and cost situation. The computer program uses this table, along with the field time and equipment available and information about other crops to actually schedule planting, harvesting, and other field operations to maximize profits.

"OUR PLAN" values are given. Enter "YOUR PLAN" values if they are different.

1/ YIELDS: "Our Plan" yields are reduced for delays in planting by about 1 bu/acre/day from May 10 to 23, and 2 bu/acre/day from May 24 to June 6. Harvesting field losses in "Our Plan" are about 2% between the first and second harvest periods, and about 3-6% between the last two harvest periods. This assumes corn grown in rotation of corn - soybeans or corn - wheat & soybean double crop. For continuous corn reduce yield about 7%.

2/ HARVEST MOISTURE: To mature to 30% moisture it is assumed the full-season hybrid (see SEED) required 2800 Heat Degree days and the mid-season hybrid, 2650 Heat Degree days. Field drying rate is assumed to be about .4% per day from 30% to 17.5% moisture.

3/ SEED COSTS: We assumed use of a full-season hybrid @ $60/bu in ten plant/harvest periods. Mid season and short season hybrids @ $56 are assumed in six periods (see footnote). Seeding rate is varied from 27,000 kernels per acre in the first planting period down to 22,000 kernels per acre in the last planting period. A mortality factor of 15% is assumed in the first planting period, 10% in the last 5 planting periods.

4/ FERTILIZER: Assumed soil test: Ph - 6.5, P - 30#/A or high medium, K - 210#/A or high medium. Also, 1.1 # N added per bushel corn produced following soybeans. The following annual application rates are assumed: N - 150#/A knifed-in as NH_3 (16¢/lb actual N not including application costs); P_2O_5 - 45#/A bulk spread (30¢/lb); K_2O - 90#/A bulk spread (13.5¢/lb.); Pop-up fertilizer - 50#/A of 10-34-0 ($290/ton); Lime - in corn - bean rotation (custom applied at 2 tons/A every 8 years - 10.00/ton). All lime charged to corn crop. Micro nutrients will need to be added on some soils.
If you apply fertilizer to the corn crop expecting it to be used by the soybean crop, charge the beans with this fertilizer on page 15. Note, only 110# N as anhydrous was applied on June plantings.

5/ HERBICIDE: It is assumed that 2# Atrazine @ $2.50/lb. and 2 qt. Lasso @ $4.75/quart would be broadcast and disced-in at a cost of $14.50/A for materials. It is also assumed that 20% of the total acreage would be cultivated each year, but the cost of this is considered in the machinery section.

6/ INSECTICIDE: In a corn - beans rotation we assumed no insecticide is needed. If needed for rootworm control, an organo phosphate or carbamate is applied in the row each year at a cost of $7.00. Insecticides should be applied only as needed, perhaps upon recommendation from a scouting program.

7/ CREDIT AND MISCELLANEOUS: It is assumed that financing is required for 6 months at 15% per annum for fuel, oil, machinery maintenance cost-, and for seed, fertilizer, herbicide, insecticide, and drying and miscellaneous costs. Miscellaneous costs include farm share of auto, telephone, magazine subscriptions, professional meetings, etc. and are listed at $6.00/Acre for corn.

Corn Technology Decisions -- Yield[1/] and Input Costs for Corn

Multiplier to Adjust Corn Yield — Our Plan: 140/140 — Your Plan: ___/140

Harvest Periods	Production Item	Planting Periods: Apr. 26-May 2		May 3-May 9		May 10-May 16		May 17-May 23		May 24-May 30		May 31-June 6	
		Our Plan	Your Plan	Our Plan	Your Plan	Our Plan	Your Plan	Our Plan	Your Plan	Our Plan	Your Plan	Our Plan	Your Plan
Sept. 27 to Oct. 17	Yield[1/] (bu/A)	51 144.		52 137.		53 132.		54 116.		55 0		56 0	
	Moisture[2/] Content %	71 28.		72 27.		73 28.5		74 27.5		75 30.5		76 33.5	
	Seed Costs[3/] ($/A)	91 19.		92 18.		93 18.		94 17.		95 17.		96 16.	
	Fertilizer[4/] ($/A)	111 62.		112 62.		113 62.		114 62.		115 62.		116 62.	
	Herbicide[5/] ($/A)	131 14.5		132 14.5		133 14.5		134 14.5		135 14.5		136 14.5	
	Insecticide[6/] ($/A)	151 0.		152 0.		153 0.		154 0.		155 0.		156 0.	
	Credit & Misc.[7/] ($/A)	171 14.		172 14.		173 14.		174 14.		175 14.		176 14.	
Oct. 18 to Nov. 7	Yield (bu/A)	57 139.		58 139.		59 134.		60 126.		61 105.		62 87.	
	Moisture Content %	77 24.		78 24.5		79 26.5		80 29.5		81 27.5		82 27.5	
	Seed Costs ($/A)	97 19.		98 18.		99 18.		100 18.		101 17.		102 16.	
	Fertilizer ($/A)	117 62.		118 62.		119 62.		120 62.		121 62.		122 54.5	
	Herbicide ($/A)	137 14.5		138 14.5		139 14.5		140 14.5		141 14.5		142 14.5	
	Insecticide ($/A)	157 0.		158 0.		159 0.		160 0.		161 0.		162 0.	
	Credit & Misc. ($/A)	177 14.		178 14.		179 14.		180 14.		181 14.		182 14.	
Nov. 8 to Nov. 28	Yield (bu/A)	63 132.		64 132.		65 125.		66 117.		67 103.		68 83.	
	Moisture Content %	83 21.		84 21.5		85 22.5		86 24.		87 27.		88 24.	
	Seed Costs ($/A)	103 19.		104 18.		105 18.		106 18.		107 17.		108 16.	
	Fertilizer ($/A)	123 62.		124 62.		125 62.		126 62.		127 62.		128 54.5	
	Herbicide ($/A)	143 14.5		144 14.5		145 14.5		146 14.5		147 14.5		148 14.5	
	Insecticide ($/A)	163 0.		164 0.		165 0.		166 0.		167 0.		168 0.	
	Credit & Misc. ($/A)	183 14.		184 14.		185 14.		186 14.		187 14.		188 14.	

Place your own number in EACH Cell OR take shortcuts as follows:

CORN YIELD: To adjust "Our Plan" yield cells, say 5 bushels lower, enter "135" in Cell 50. Caution: Cell 50 will not affect any yield you write into cells 51 thru 68. A zero yield in any yield cell will cause no corn to be grown in that period.

Seed, Fertilizer, Herbicide, Insecticide, Interest Costs: Costs which you enter in the "Boxed In" first period (cells 91, 111, 131, 151, and 171) will be used in all the periods, unless you put different costs in other periods.

1/ Our Plan Yields are for full season corn except for medium season in cells, 52, 53, 61, 68; short season, cells 54, 62.

NOTES ON TECHNOLOGY DECISIONS FOR SOYBEANS

The following table is essentially a statement of planned inputs or expected conditions. That is, IF you plant in one particular period, and IF you harvest in one particular period, THEN you would expect a particular yield and cost situation. The computer program uses this table, along with the field time and equipment available and information about other crops to actually schedule planting, harvesting, and other field operations to maximize profits.

"OUR PLAN" values are given. Enter "YOUR PLAN" values if they are different.

1/ YIELD: All yields are based on mid-season varieties except for medium early varieties in September 13-26 harvest and for late May - early June planting with September 27-October 17 harvest.

2/ HARVEST MOISTURE: Soybean drying may be considered if you have a farm dryer. Soybeans should be dried to 11% moisture for safe farm storage, although the base moisture content for sale at harvest is 13%. In "OUR PLAN" we delay harvest until beans require no drying (13% moisture).

3/ SEED COSTS: Fifty-four pounds of seed at $14.50/bu. is assumed for both the medium and full season planting.

4/ FERTILIZER: The following annual application rates are assumed: P_2O_5 - 50#/A bulk spread (30¢/1b); K_2O - 80#/A bulk spread (13.5¢/1b.). All limestone was charged against corn crop. Some of this fertilizer might have been applied to the corn crop.

5/ HERBICIDE: It is assumed that 2 quarts of Lasso @ $4.75/qt. and 1 1/2 pounds of Lorox 50W @ $4.25/1b. is broadcast overall.

6/ CREDIT AND MISCELLANEOUS: It is assumed that financing is required for 6 months at 15% per annum for fuel, oil, machinery maintenance costs, and for seed, fertilizer, herbicide and miscellaneous costs. Miscellaneous costs are listed at $5.00/acre for soybeans.

Technology -- Yield[1/] and Input Costs for Soybeans

Multiplier to Adjust Soybean Yield — Our Plan: 43/43 — Your Plan: 200/43

Harvest Periods	Production Item	Planting Periods: Apr. 26-May 2		May 3-May 9		May 10-May 16		May 17-May 23		May 24-May 30		May 31-June 6	
		Our Plan	Your Plan	Our Plan	Your Plan	Our Plan	Your Plan	Our Plan	Your Plan	Our Plan	Your Plan	Our Plan	Your Plan
Sept. 13 to Sept. 26	Yield[1/] (bu/A)	201 0.	.	202 40.	.	203 0.	.	204 0.	.	205 0.	.	206 0.	.
	Moisture Content %[2/]	221 13.	.	222 13.	.	223 13.	.	224 13.	.	225 13.	.	226 13.	.
	Seed Costs[3/] ($/A)	241 13.	.	242 13.	.	243 13.	.	244 13.	.	245 13.	.	246 13.	.
	Fertilizer[4/] ($/A)	261 26.	.	262 26.	.	263 26.	.	264 26.	.	265 26.	.	266 26.	.
	Herbicide[5/] ($/A)	281 16.	.	282 16.	.	283 16.	.	284 16.	.	285 16.	.	286 16.	.
	Credit & Misc.[6/]	301 11.	.	302 11.	.	303 11.	.	304 11.	.	305 11.	.	306 11.	.
Sept. 27 to Oct. 17	Yield (bu/A)	207 0.	.	208 43.1	.	209 44.	.	210 43.9	.	211 39.1	.	212 37.	.
	Moisture Content %	227 13.	.	228 13.	.	229 13.	.	230 13.	.	231 13.	.	232 13.	.
	Seed Costs ($/A)	247 13.	.	248 13.	.	249 13.	.	250 13.	.	251 13.	.	252 13.	.
	Fertilizer ($/A)	267 26.	.	268 26.	.	269 26.	.	270 26.	.	271 26.	.	272 26.	.
	Herbicide ($/A)	287 16.	.	288 16.	.	289 16.	.	290 16.	.	291 16.	.	292 16.	.
	Credit & Misc.	307 11.	.	308 11.	.	309 11.	.	310 11.	.	311 11.	.	312 11.	.
Oct. 18 to Nov. 7	Yield (bu/A)	213 0.	.	214 42.1	.	215 43.	.	216 42.9	.	217 42.	.	218 39.	.
	Moisture Content %	233 13.	.	234 13.	.	235 13.	.	236 13.	.	237 13.	.	238 13.	.
	Seed Costs ($/A)	253 13.	.	254 13.	.	255 13.	.	256 13.	.	257 13.	.	258 13.	.
	Fertilizer ($/A)	273 26.	.	274 26.	.	275 26.	.	276 26.	.	277 26.	.	278 26.	.
	Herbicide ($/A)	293 16.	.	294 16.	.	295 16.	.	296 16.	.	297 16.	.	298 16.	.
	Credit & Misc.	313 11.	.	314 11.	.	315 11.	.	316 11.	.	317 11.	.	318 11.	.

Place your own numbers in EACH CELL OR take Shortcuts as follows:

SOYBEAN YIELD: To adjust "Our Plan" yield cells, say 5 bushels lower, enter "35" in cell 200. CAUTION: Cell 200 will not affect any yield you write into cells 201 thru 218. A zero yield in any yield cell will cause no soybeans to be grown in ther period.

SEED, FERTILIZER, HERBICIDE, INTEREST, MISCELLANEOUS COSTS: Costs which you enter in the "Boxed In" first period (cells 241, 261, 281, and 301) will be used in all the periods, unless you put different costs in other periods.

All yields are for mid season varieties except for medium early varieties in cells 202, 211, and 212.

CONSENSUS CROP COEFFICIENTS[1/]

CORN YIELDS

YIELD: = (Optimum Yield) X (Tillage/soil coefficient) X (Seed/timeliness coefficients)

Optimum yield is your long-term average for fall-plowed or chiseled continuous corn planted April 26-May 9 and harvested September 27-October 12, using full season varieties. Consider special weed or disease problems existing on your farm as you estimate your optimum yield.

TILLAGE/SOIL COEFFICIENTS

CROP SEQUENCE	TILLAGE	SOILS GROUP 1/ 2/ I Dark, poorly drained si.c.l. to clays. 0-2% slope. Es. Brookston Chalmers	II Light colored low OM, nearly level, somewhat poorly drained si.l. to si.c.l. Ex. Fincastle Blount	III Soils subject to wind or water erosion and or drouth. Light colored shallow terrace soils, s.l. and s.; si.l. with 3% slope or greater. Ex. Bedford Fox
CONTINUOUS CORN	Fall plow.	1.00[3/]	1.00[3/]	1.00[3/]
	Fall Chisel or big disk.	1.00	1.02	1.05
	Spring plow.	.90	1.00	1.05
	Shallow till.	.95	1.00	1.05
	No-till.	.85	.95	1.10
ROTATION CORN	Fall Plow.	1.07	1.07	1.07
	Fall chisel or Big disk.	1.07	1.09	1.13
	Spring Plow	.96	1.07	1.13
	Shallow till.	1.02	1.07	1.13
	No-till.	1.00	1.01	1.18

1/ The following soils are not included in these groups: mucks, bottomlands, dark sands with high water table, and flat low OM soils over fregiapans (Clermont, Aveonberg). For information relating tillage to specific soil series refer to AY-210 "Adaptability of Various Tillage-Planting Systems to Indiana Soils".

2/ Soil abbreviations are as follows: s=sand, si = silt, si cl = silty clay, c = clay, l = loom.

3/ Fall plow is used as reference point for each soils group, but actual yield potential should be different for each soils group. Yield relationships refer to early May planting dates. As planting is delayed, no plow system yields compare more favorably to plow systems. No-till plantings in April compare less favorably than above.

Seed-Timeliness Coefficients and Moisture Contents

FULL SEASON VARIETIES

	April 19-25		April 26 May 2		May 3-9		May 10-16		May 17-23		May 24-30		May 31 June 6	
	MC[2/]	Coeff	MC	Coeff	MC	Coeff	MC	Coeff	MC	Coeff	MC	Coeff	MC	Coeff
9/27-10/10	28	.96	30	1.0	32		34		38		43		46	
10/11-10/31	24	.94	24	.98	26	.98	28	.94	31		36		39	
11/ 1-11/21	21	.89	21	.93	22	.93	23	.89	25	.83	28	.73	31	
11/22-12/ 5	20	.84	20	.88	21	.88	21	.84	22	.78	24	.69	25	.55

MEDIUM SEASON VARIETIES

	April 19-25		April 26 May 2		May 3-9		May 10-16		May 17-23		May 24-30		May 31 June 6	
	MC	Coeff	MC	Coeff	MC	Coeff	MC	Coeff	MC	Coeff	MC	Coeff	MC	Coeff
9/27-10/10	25	.94	26	.95	28	.95	30	.92	33		37		41	
10/11-10/31	22	.92	23	.93	24	.93	25	.90	26	.84	29	.74	34	
11/ 1-11/21	20	.87	21	.88	21	.88	22	.86	22	.80	24	.71	26	.59
11/22-12/ 5	19	.83	19	.84	20	.84	20	.81	21	.76	21	.67	23	.55

SHORT SEASON VARIETIES

	April 19-25		April 26 May 2		May 3-9		May 10-16		May 17-23		May 24-30		May 31 June 6	
	MC	Coeff	MC	Coeff	MC	Coeff	MC	Coeff	MC	Coeff	MC	Coeff	MC	Coeff
9/13- 9/26	30	.90												
9/27-10/10	24	.89	25	.90	25	.90	26	.87	29	.82	32		35	
10/11-10/31	21	.87	22	.88	22	.88	23	.85	24	.80	25	.73	29	.61
11/ 1-11/21	20	.83	20	.84	20	.84	21	.81	21	.76	22	.70	23	.58
11/22-12/ 5	18	.78	19	.79	19	.79	19	.77	20	.72	21	.66	21	.55

1/ Mositure content at harveat is likely to be 1% higher for chiseled cont. corn and 2% higher for no-till cont. corn.

2/ This information was prepared by a committe of Purdue Agronomists, Ag Engineers, Ag Economists, Entomologists and Plant Pathologists. Yield relationships are thought to typical for the situations described based on several different research projects a the experiences of the committee members. D. H. Doster, Chairman, C. R. Edwards D. R. Griffith, J. V. Mannering, D. L. Matthews, D.B. Mengel, S. D. Parsons, R. M. K. R. Polizotto, H. F. Reetz, C. B. Richey, P. R. Robbins, M. A. Ross, D. H. Scott C. D. Spies, M. L. Swearingin, J. L. Williams.

CONSENSUS CROP COEFFICIENTS

SOYBEANS YIELDS

YIELD[1/] = (Optimum Yield) X (Tillage/Soil Coefficient) X (Maturity/Row Width Coefficient) X (Maturity/Timeliness Coefficient)

Optimum yield is your long-term average for medium season maturity rotation beans planted in 30" rows during the second and third weeks (May 10-24 in Northcentral Indiana) and harvested September 27-October 10. Consider special weed or disease problems existing on your farm as you estimate your optimum yield.

TILLAGE	SOILS GROUP 1/ 2/ I Dark, poorly drained si.c.l. to clays. 0-2% slope.	II Light colored, low OM, nearly level, somewhat poorly drained si.l. to si.c.l.	III Soils subject to wind or water erosion and or drouth. Light colored shallow terrace soils, s.l. and s.: si.l. with 3% slope or greater.
Rotation Soybeans			
Fall Plow.	1.00 3/	1.00 3/	1.00 3/
Fall Chisel or big disk.	1.00	1.02	1.05
Spring Plow	.90	1.00	1.05
Shallow till.	.95	1.00	1.05

1/ 2nd year soybeans yield 5% less than 1st year and 3rd year soybeans yield 10% less than 1st year.

2/ The following soils are not included in these groups: mucks, bottomlands, dark sands with high water table, and flat low OM soils over fregiapans (Clermont, Avonberg). For information relating tillage to specific soil series refer to AY-210 "Adaptability of Various Tillage-Planting Systems to Indiana Soils."

3/ Soil abbreviations are as follows: s = sand, si = silt, si cl = silty clay. c = clay, l = loom.

4/ Fall plow is used as reference point for each soils group, but actual yield potential should be different for each soils group.

MATURITY-ROW WIDTH COEFFICIENTS:

	ROW-WIDTH INCHES 7	14-18	30	36
Full Season	1.06	1.06	1.00	.95
Medium Season	1.16	1.12	1.00	.92
Medium-early Season	1.18	1.15	1.00	.90

Maturity-timeliness yield coefficients:

HARVEST — Planting Week

FULL SEASON

	1 2/	2	3	4	5	6	7	8	9	10
10/11-10/31	.95	.97	.97	.93						
11/ 1-11/21	.93	.95	.94	.92	.89	.84	.73			
11/22-12/ 5	.92	.94	.93	.91	.87	.82	.72			

MEDIUM SEASON

	1 2/	2	3	4	5	6	7	8	9	10
9/27-10/10	.98	1.0	1.0						Double Crop	
10/11-10/31	.96	.98	.98	.94	.90	.85	.78	.69	.59	
11/ 1-11/21	.94	.96	.96	.92	.88	.83	.76	.67	.56	.46
11/22-12/ 5	.92	.94	.94	.90	.86	.81	.74	.66	.55	.44

MEDIUM EARLY SEASON

	1 2/	2	3	4	5	6	7	8	9	10
9/13- 9/26	.92									
9/27-10/10	.87	.89	.89	.88	.85	.80				
10/11-10/31	.86	.87	.87	.86	.82	.79	.67			
11/ 1-11/21	.84	.85	.85	.84	.80	.77	.66			
11/22-12/ 5	.81	.84	.84	.81	.78	.75	.64			

YIELD = (Optimum yield) (System coefficient) (Maturity-row width coefficient) (Maturity-timeliness coefficient)

Optimum yield refers to your predicted yield for rotation soybeans of medium-season maturity planted in 30" rows during the second and third weeks and harvested 9/27-10/10.

2/ For North Central Indiana, week 1 is considered to be May 3-9.

WHEAT OPTION

Wheat will compete with corn and soybeans for the limiting resources available on your farm. Land is a limiting resource, and so are machinery and labor during land preparation, planting, and harvesting times. Two time periods are allowed for wheat land preparation and planting, i.e., Sept. 27-Oct. 17 and Oct. 18-Nov. 7; and only one period has been allocated for harvesting, i.e., June 14-July 18.

	Our Plan	Your Plan	
bu/acre	60	321	Yield: Sept. 27-Oct. 17 planting
bu/acre	54.	322	Yield: Oct. 18-Nov. 7 planting
$/acre	17.	323	Seed Costs
$/acre	40.	324	Fertilizer
$/acre	0.	325	Herbicides
$/acre	10.	326	Credit Interest and Miscellaneous

DOUBLE CROPPING SOYBEAN OPTION

Double crop soybeans, after wheat, are planted in the June 14-July 18 period and harvested in the Oct. 18-Nov. 7 period only. Since this budget includes no penalty for late planted double crop beans, you should limit your expected average in cell 327, page 6, to the acres you can plant in a timely fashion.

	Our Plan	Your Plan	
bu/acre	24	328	Soybean Double Crop Yield
%	13.	329	Moisture Content
$/acre	21.	330	Seed Costs
$/acre	15.	331	Fertilizer
$/acre	24.	332	Herbicides
$/acre	7.	333	Credit Interest and Miscellaneous

CORN SILAGE

List your present acreage by <u>planting dates</u> in cells 335 through 340 below. The computer is programmed to grow your stated present acreage, even if another crop is more profitable, since you presumably need the forage for livestock. If you indicate you want to consider more acreage than you are presently growing, the program is decigned to consider this and determine the <u>planting period</u> for it. Allowance for the extra acreage is provided by increasing cell 334 on page 6.

	Our Plan	Your Plan	
Acres	0	335	Apr. 26-May 2
Acres	0	336	May 3-May 9
Acres	0	337	May 10-May 16
Acres	0	338	May 17-May 23
Acres	0	339	May 24-May 30
Acres	0	340	May 31-June 6
(Tons)	20	341	What is your silage yield per Acre?
Example $15.	0	342	What is your silage value per ton?

Note: Silage will be harvested from Sept. 13-Oct. 17.

PRODUCTION JOBS

Jobs Performed

Earlier you indicated the time, the men and the tractors you had available for producing crops. In this section, you indicate the jobs you and your crew actually perform.

The "job year" is divided into the following periods:

- fall and spring land preparation
- planting
- post planting
- harvesting

First, think about what jobs you do and when you perform them. Second, study "Our Plan" data to see what jobs were done and when they were done. Then, list your jobs in the appropriate periods and indicate the proper working rates for each job.

Custom Work

You do not report work done by custom operators here. You indicate only jobs done by you and your crew.

For example, if your bulk fertilizer or your herbicide is done by a custom applicator, your fertilizer or herbicide cost will likely be more expensive. Of course, obtaining a custom applicator for these operations may significantly improve the timeliness of your planting.

Number of Units

Please list the number of plows, discs, etc. that you actually use. Do not report small or stand-by units that are seldom operated.

Working Rates (acres per hour)

Carefully think about how many acres of a job you accomplish in a day. Remember how many hours you indicated earlier that your equipment was available to work. Then list your working rate per hour for each job. Be conservative! Remember the computer is quite precise. You should use a working rate that represents your whole season, not just your best hour!

Guideline working rates for several jobs are listed on pages 42-43. These may help you, particularly as you input other sizes of machines on alternative plan input forms.

Working rates per hour are to be listed per unit. That is, if you have more than one plow, list the working rate per typical plow. If both plows perform equally, list their individual working rate.

Suppose the bigger plow is actually used more than the smaller plow. You should favor the individual working rate toward the larger plow.

Do not list plows on two lines. The computer would plow all your acres twice!

Note that "Our Plan" applied P & K on ½ the acres, rotary hoed ½ and cultivated 1/5 of the acres. The working rate was "speeded up" to account for the fractional acreage actually covered.

Labor Per Unit

List the number of people required per unit. Most production operations require 1 person. Note that "Our Plan" requires 1.33 men for P & K spreading to account for the extra help used in that operation.

If you have two units (say, two plows or two planters) list the number of persons required per unit.

Notes On Work Sheet for Machinery Decisions

This information is required as an aid in estimating the rate (acres/hour) at which machinery and labor can perfrom the various operations connected with preparation, planting, cultivating, and harvesting of corn and soybeans. First, we have listed all field operations to be completed with our equipment and labor -- do not list jobs done by custom operators. The next step is to determine how many acres/hour can be covered with each operation. This can be done two ways:

First way: Think back to how many acres you were able to cover in a certain amount of field time. Say, for instance, with your equipment and on your own soil conditions you were able to disc 42 acres of stalks in 8 hours of actual field time. Your field capacity for discing stalks would be (42 acres/8 hours) = 5.25 acres per hour. If you estimate field capacity in this way, it is unnecessary to estimate width of machine, speed of operation, and field efficiency. In other words, you complete the column for field capacity directly.

Second way: Use the formula, as we have done:

$$\text{Field Capacity (A/Hr.)} = \frac{\text{Width (ft.)} \times \text{Speed (mph)} \times \text{Field Efficiency (\ \ \%)}}{8.25}$$

If two implements are used for a particular operation, use the above formula for each machine separately, then add to get the (total) field capacity estimate, and divide by two to get the average rate. Our field efficiency values are typical, but use your own if you know them. Field efficiency is the percent of total field time spent operating at the desired speed and width. (It cannot be 100% because you must turn at the ends, stop for adjustment, stop for planter refills, stop for fuel and maintenance, etc) see pages 42-43 for example field efficiencies

1/ Some operations are completed every year, others every two or three years. e.g., In OUR PLAN, P & K is spread on 1/2 of the total acreage each year. Also, in OUR PLAN we assumed 50% of the corn acreage rotary hoed each year, and 20% of the acreage cultivated each year. We assumed the total soybean acreage was hoed and cultivated.

2/ The field capacity rate divided by the proportion of your acreage treated gives the adjusted field capacity (acres/hour) to be applied to your total acreage. This estimate is transferred to the next page and is an important part of the computer data.

Work Sheet for Machinery Decisions (not a part of computer input)

This information is NOT a part of the computer input data. It is simply an aid to allow you to develop suitable working rates (acres/hour) which are required in the table on page 23. You may ignore this page if you can complete successfully the table shown on page 23.

6-Row Conventional Fall Plow (Silty Clay Loam)

	Operation and/or Equipment	Width of Machine (ft)		Speed of Operation (mph)		Field Efficiency (%)		Field Capacity (A/Hr)		Proportion of Acreage Treated Each Year 1/ Corn	Proportion of Acreage Treated Each Year 1/ Soybeans		Adjusted Field Capacity (A/Hr) 2/ Corn	Adjusted Field Capacity (A/Hr) 2/ Soybeans
OUR PLAN	Spread P & K (6-ton)	(40.	x	6.	x	82.)	÷ 8.25 =	24.	÷	1.0	1.0	=	24.	24.
	Plow Corn Stalks (5-16" bot)	(6.67	x	4.5	x	80.)	÷ 8.25 =	2.92	÷	1.0	0	=	2.92	0.
	Chisel Bean Stubble	(10.	x	5.	x	80.)	÷ 8.25 =	4.85	÷	0.	1.0	=	0	4.85
	Disc + Herbicide	(14.	x	5.	x	77.)	÷ 8.25 =	6.53	÷	1.0	1.0	=	6.53	0
	NH_3	(12.5	x	5.5	x	80.)	÷ 8.25 =	6.67	÷	1.0	0	=	6.67	0
	Disc	(14.	x	5.	x	81.)	÷ 8.25 =	6.87	÷	1.0	1.0	=	6.87	8.87
	Plant (6-row,30-inch)	(15.	x	5.	x	69.)	÷ 8.25 =	6.27	÷	1.0	1.0	=	6.27	6.27
	Rotary Hoe (6-row)	(15.	x	8.	x	86.)	÷ 8.25 =	12.51	÷	.5	1.0	=	25.02	12.51
	Cultivate (6-row)	(15.	x	4.	x	78.)	÷ 8.25 =	5.67	÷	.2	1.0	=	28.35	5.67
										Wheat			Wheat	
	Disc Stalks	(14.	x	5.	x	81.)	÷ 8.25 =	6.87	÷	1.0		=	6.87	
	Drill	(12.	x	5.	x	83.)	÷ 8.25 =	6.0	÷	1.0		=	6.0	
	Plant Dbl.Crop Soybeans	(15.	x	4.	x	69.)	÷ 8.25 =	5.02	÷		1.0	=		5.02
YOUR PLAN	______	(.	x	.	x	.)	÷ 8.25 =	.	÷	. 1/	.	=	. 2/	.
	______	(.	x	.	x	.)	÷ 8.25 =	.	÷	.	.	=	.	.
	______	(.	x	.	x	.)	÷ 8.25 =	.	÷	.	.	=	.	.
	______	(.	x	.	x	.)	÷ 8.25 =	.	÷	.	.	=	.	.
	______	(.	x	.	x	.)	÷ 8.25 =	.	÷	.	.	=	.	.
	______	(.	x	.	x	.)	÷ 8.25 =	.	÷	.	.	=	.	.
	______	(.	x	.	x	.)	÷ 8.25 =	.	÷	.	.	=	.	.
	______	(.	x	.	x	.)	÷ 8.25 =	.	÷	.	.	=	.	.
	______	(.	x	.	x	.)	÷ 8.25 =	.	÷	.	.	=	.	.
	______	(.	x	.	x	.)	÷ 8.25 =	.	÷	.	.	=	.	.
	______	(.	x	.	x	.)	÷ 8.25 =	.	÷	.	.	=	.	.
										Wheat			Wheat	
	______	(.	x	.	x	.)	÷ 8.25 =	.	÷	.	.	=	.	.
	______	(.	x	.	x	.)	÷ 8.25 =	.	÷	.	.	=	.	.
	______	(.	x	.	x	.)	÷ 8.25 =	.	÷	.	.	=	.	.
	______	(.	x	.	x	.)	÷ 8.25 =	.	÷		.			.

1/ 2/: Footnotes on opposite page.

Notes on Machinery and Labor Working Rates

We have listed all the essential operations for corn and/or soybean production in Our Plan. An estimate of the field capacity (acres/hour) at which these operations can be performed is required. For certain operations the rate is also the same for corn and soybeans. On your farm the working rate will depend upon the size, quality and quantity of equipment available.

Operations	Number of Units of Equipment	OUR PLAN Adjusted Field Capacity For One Unit Corn (acres/hour)	Soybeans (acres/hour)	Labor Time Man Per Unit of Equipment
LAND PREP. FALL OR SPRING				
Spread P & K	1. 1/	24. 2/	24. 2/	1.33 3/4/
Plow Corn Stalks	1.	2.92	0.	1.
Chisel Bean Stubble	1.	0.	4.85	1.
Disc & Herbicide	1.	6.53	6.87	1.
NH_3 Corn	1.	6.67	0.	1.
PLANTING				
Disc (late)	1.	6.87	6.53	1.
Planting	1.	6.27	6.27	1.
POST-PLANT 5/ (3 weeks after each planting for corn) (2 weeks after each planting for soybeans)				
Rotary Hoe	1.	25.02	12.51	1.
POST-PLANT 5/ (5 weeks after each planting for corn) (5 weeks after each planting for soybeans)				
Cultivate	1.	28.	5.67	1.
		Wheat		
Disc Stalks	1.	6.87	xxxxx	1.
Drill	1.	6.	xxxxx	1.
			Soybean Double Crop	
Plant	1.	xxxxx	5.02	1.

1/ The number of pieces of equipment is important. To illustrate, a farmer with 2 tractors, 2 men and 2 plows available to work can plow approximately 2 times as much as a farmer who has 2 tractors and 2 men, but only 1 plow. The "Our Plan" farm has only 1 plow, 1 disc, 1 planter, etc. If a second unit-say a plow-were to be added, you would simply change one cell on your page 23. You would insert a "2" in the No. of Units cell on your plowing line.

2/ List the adjusted field capacity in acres/hours. (This is the average or typical rate per hour for one unit of your equipment - plowing, discing, etc.)

3/ Labor has to perform work connected with plowing, fertilizing, etc. In other words, preparation for fertilization takes time. For instance, before fertilizer can be spread "in the field", the spreader must be filled and moved to the field. Our 1.33 estimate for Spread P & K assumes that for every hour the operator will spend in the field, he or his helper will spend .33 of an hour doing other things.

4/ This labor rate is for one unit, i.e., one tractor and plow. If you have 2 tractors, 2 men and 2 plows, the computer may schedule to use one plow part of the time while the other man and/or tractor is used elsewhere.

5/ These operations (rotary hoeing, cultivating, etc.) are performed "some time" after planting. In Our Plan we have assumed rotary hoeing is done 3 weeks after each corn crop" is planted and cultivating is done 5 weeks after each week of corn planting. Enter an estimate representing your practice.

Machinery and Labor Working Rates (Acres per hour)

NOTE: Refer to pages 40, 41, 42, 43 and 44 for help in estimating working rates in acres per hour.

YOUR PLAN

Operations	Number of Units of Equipment	Adjusted Field Capacity Rate Per One Unit		Men Per Machine
		Corn	Soybeans	
LAND PREP. - FALL OR SPRING	500* 1/	501 (A/Hour) 2/	502 (A/Hour)	503 3/4/
1.	.	.	.	.
2.	504 .	505 .	506 .	507 .
3.	508 .	509 .	510 .	511 .
4.	512 .	513 .	514 .	515 .
5.	516 .	517 .	518 .	519 .
6.	520 .	521 .	522 .	523 .
PLANTING	524	525	526	527
7.	.	.	.	.
8.	528 .	529 .	530 .	531 .
9.	532 .	533 .	534 .	535 .
10.	536 .	537 .	538 .	539 .
POST-PLANT 5/ 540 ____ weeks after each planting for corn 541 ____ weeks after each planting for soybeans	542	543	544	545
11.	.	.	.	.
12.	546 .	547 .	548 .	549 .
POST-PLANT 5/ 550 ____ weeks after each planting for corn 551 ____ weeks after each planting for soybeans	552	553	554	555
13.	.	.	.	.
14.	556 .	557 .	558 .	559 .
WHEAT, PREP. AND PLANT	560	Wheat 561	XXXXXXXX	562
15.	.	.		.
16.	563 .	564 .	XXXXXXXX	565 .
17.	566 .	567 .	XXXXXXXX	568 .
18.	569 .	570 .	XXXXXXXX	571 .
DOUBLE CROP SOYBEAN PREP. AND PLANT	572	Double Crop Beans	573	574
19.	.	XXXXXXXXXX	.	.
20.	575 .	XXXXXXXXXX	576 .	577 .
21.	578 .	XXXXXXXXXX	579 .	580 .

* "Our Plan" information is shown on the facing page, and "Our Plan" is stored in the computer. However, when you place a number in cell 500 all the "Our Plan" data in cells 500 thru 580 on this page is deleted from the computer. Thus, you must list all of "Your Plan" information even though some of it is the same as "Our Plan".

HARVEST CONSIDERATIONS

Answer these questions differently from the previous page on machinery.working rates. Indicate the acres per hour you can harvest when all your units are operating. For example, if you have two combines and each will harvest 2 acres per hour, then you should write 4.0 in Cell 617.

Operations	Number of Units Our Plan	Your Plan	Adjusted Field Capacity (Acres/Hour) Corn Our Plan Acres per Hour	Corn Your Plan[2] Acres per Hour	Soybeans and Wheat Our Plan Acres per Hour	Soybeans and Wheat Your Plan[2] Acres per Hour	Silage Our Plan Acres	Silage Your Plan Acres
			610	611		614		625
Corn Only	0	1[1] . 613	2.50	.	xxxxx	xxxxx	xxxx	xxxx
Soybeans Only	0	. 616	xxxx	xxxxxx 617	4.60	. 619	xxxx	xxxx
Corn & Soybeans	1	. 621	2.50	.	4.60	. 622	xxxx	xxxx
Wheat	1	. 624	xxxx	xxxxxx	4.60	.	xxxx	xxxx
Silage	1[3]	.	xxxx	xxxxxx	xxxx	xxxxx	2.0	.
			Labor Time (men per field hour)[4]					
Corn Harvest			2.3	626 .	xxxxx	xxxxx 628	xxxx	xxxx
Soybean Harvest			xxxx	xxxxxx	1.67	. 630	xxxx	xxxx
Wheat			xxxx	xxxxxx	1.67	.	xxxx	xxxx
Silage			xxxx	xxxxxx	xxxx	xxxxx	4.0	632 .

1/ List the number of units of harvesting equipment available. If you jointly own a harvesting unit with someone, place a "1" in the appropriate cell (610, 613, 616, 621, 624). Then on page 15, reduce your harvest field hours available for that machine to your share of that machine's time. If you have no harvesting equipment, place a zero (0) in cell 610, 613, 616, 621, or 624 and indicate expected working rate for custom operator in cell 611, 614, 617, 619 622, or 625.

2/ List the harvest rate (acres/hr) for the total number of machines you have listed in cells 610, 613, 616, 621, or 624.

3/ One harvesting unit is placed in the "Purdue Base" here to assist persons who have silage. Actually no silage and no silage machinery fixed cost is included elsewhere in the Purdue Base.

4/ List the number of your men involved with your harvest when all the units you listed at the top of this page are operating. If you have no harvesting equipment, list the number of your men involved with custom harvest

CUSTOM HARVEST

Some farmers have all their own harvest equipment. Some farmers have no harvest equipment. Some farmers have excess harvest equipment and do custom work for others. Some farmers have small harvest equipment and rely, or perhaps should rely, on custom operators to complete their harvest.

Your have an opportunity to consider how custom harvesting applies to your own farm. In your first budget, you will probably want to describe how you now accomplish your harvest. For example, if you now hire in NO corn harvest enter a big number (like 999.99) in cell 640. If you now do NO corn harvest for others, enter a small number (like 0.00) in cell 641.

In later budgets, you may want to consider other alternatives. When both "Hire In" and "Hire Out" options are available, a surprising solution is sometimes found. Your optimum plan might suggest that you Hire In Custom Harvest early in the season when yields are highest and then Hire Out and work for other farmers later in this season.

	Example	Our Plan	Your Plan
Cost of Corn Combine Hired In	$.20/bu	$999.00	640 .
Cost of Corn Combine Hired Out	$.19/bu	$ 0.00	641 .
Cost of Soybean Combine Hired In	$.50/bu	$999.00	642 .
Cost of Soybean Combine Hired Out	$.49/bu	$ 0.00	643 .
Cost of Wheat Combine Hired In	$16.5/Ac	$999.00	644 .
Cost of Wheat Combine Hired Out	$16. /Ac	$ 0.00	645 .
Cost of Silage Harvest Hired In	$75. /AC	$999.00	646 .
No. of men supplied, custom harvest - corn, soybeans, wheat	men	1.1	647
No. of men supplied, custom harvest - corn silage	men	2.0	648

Machinery Decisions -- Fuel and Repairs (Before Corn Harvest)

OUR PLAN - 6 Row Conventional Fall Plow - Silty Clay Soil

Operations	Expected Fuel (Gal/A)	Expected Fuel ($/A) 1/	Expected Repairs ($/A) 2/	Total ($/A)	CORN % Acres	CORN Adjusted Total ($/A)	SOYBEANS % Acres	SOYBEANS Adjusted Total ($/A)	WHEAT % Acres	WHEAT Adjusted Total ($/A)
Production										
Spread P & K	.2	$ .30	$ 1.60	$ 1.90	100	$ 1.90	100	$ 1.90		
Plow Corn Stalks	2.6	3.90	1.80	5.70	100	5.70				
Chisel Bean Stubble	1.75	2.60	1.80	4.40			100	4.40		
Disc Corn Ground	.6	.90	.40	1.30	100	1.30				
Apply NH_3 to corn ground	.8	1.20	1.80	3.00	100	3.00				
Disc corn & bean ground	.55	.80	.40	1.20	100	1.20	100	1.20		
Plant corn & beans	.6	.90	.90	1.80	100	1.80	100	1.80		
Rotary Hoe	.25	.40	.10	.50	50	.25	100	.50		
Cultivator	.4	.60	.20	.80	20	.20	100	.80		
Disc Stalks for Wheat	.5	.75	.40	1.15					100	1.15
Drill Wheat	.35	.50	1.10	1.60					100	1.60
Tractors Repair			2.60	2.60	100	2.60	100	2.60	100	1.30
Between Fields Tractor and Observation	3.75	5.25	.80	6.05		6.05		6.05		3.00
Production Total						24.00		19.25		7.05
Harvest & Haul Corn Silage		24.70	20.30	45.00						
Combine 3/	3.	4.00	6.00	10.00	100	10.00	100	9.00		9.00
Hauling to Farmstead	.3	.50	1.10	1.60	100	1.60	100	.60		.60
Harvesting Total						11.60		9.60		9.60

1/ These figures would be approximately the same regardless of the size equipment used. The assumption is that larger equipment which covers more acres per hour also used more fuel per hour, but used about the same amount of fuel per acre as smaller equipment. Diesel fuel was figured at $1.30 per gallon, gasoline at $1.40 per gallon, and oil and grease at 15% of fuel cost. For instance, with plowing our figure is equivalent to about $11.40 per hour for each tractor and plow combination (2.92 A/hr. X $3.90/A = $11.40 per hour).

2/ With the plow, for instance, our figure would be equivalent to about $675 average annual repair cost on our 375 acre base plan. ($1.80 X 375 = 675).

3/ Dryer and handling equipment fuel and repairs are included in Drying Costs on page 28.

Technology -- Yield[1/] and Input Costs for Soybeans

	Our Plan	Your Plan
Multiplier to Adjust Soybean Yield	43/43	200/43

Harvest Periods	Production Item	Planting Periods: Apr. 26-May 2		May 3-May 9		May 10-May 16		May 17-May 23		May 24-May 30		May 31-June 6	
		Our Plan	Your Plan	Our Plan	Your Plan	Our Plan	Your Plan	Our Plan	Your Plan	Our Plan	Your Plan	Our Plan	Your Plan
Sept. 13	Yield[1/] (bu/A)	0.	201	40.	202	0.	203	0.	204	0.	205	0.	206
	Moisture Content %[2/]	13.	221	13.	222	13.	223	13.	224	13.	225	13.	226
to	Seed Costs[3/] ($/A)	13.	241	13.	242	13.	243	13.	244	13.	245	13.	246
	Fertilizer[4/] ($/A)	26.	261	26.	262	26.	263	26.	264	26.	265	26.	266
	Herbicide[5/] ($/A)	16.	281	16.	282	16.	283	16.	284	16.	285	16.	286
Sept. 26	Credit & Misc.[6/]	11.	301	11.	302	11.	303	11.	304	11.	305	11.	306
	Yield (bu/A)	0.	207	43.1	208	44.	209	43.9	210	39.1	211	37.	212
Sept. 27	Moisture Content %	13.	227	13.	228	13.	229	13.	230	13.	231	13.	232
	Seed Costs ($/A)	13.	247	13.	248	13.	249	13.	250	13.	251	13.	252
to	Fertilizer ($/A)	26.	267	26.	268	26.	269	26.	270	26.	271	26.	272
	Herbicide ($/A)	16.	287	16.	288	16.	289	16.	290	16.	291	16.	292
Oct. 17	Credit & Misc.	11.	307	11.	308	11.	309	11.	310	11.	311	11.	312
	Yield (bu/A)	0.	213	42.1	214	43.	215	42.9	216	42.	217	39.	218
Oct. 18	Moisture Content %	13.	233	13.	234	13.	235	13.	236	13.	237	13.	238
	Seed Costs ($/A)	13.	253	13.	254	13.	255	13.	256	13.	257	13.	258
to	Fertilizer ($/A)	26.	273	26.	274	26.	275	26.	276	26.	277	26.	278
	Herbicide ($/A)	16.	293	16.	294	16.	295	16.	296	16.	297	16.	298
Nov. 7	Credit & Misc.	11.	313	11.	314	11.	315	11.	316	11.	317	11.	318

Place your own numbers in EACH CELL OR take Shortcuts as follows:

SOYBEAN YIELD: To adjust "Our Plan" yield cells, say 5 bushels lower, enter "35" in cell 200. CAUTION: Cell 200 will not affect any yield you write into cells 201 thru 218. A zero yield in any yield cell will cause no soybeans to be grown in ther period.

SEED, FERTILIZER, HERBICIDE, INTEREST, MISCELLANEOUS COSTS: Costs which you enter in the "Boxed In" first period (cells 241, 261, 281, and 301) will be used in all the periods, unless you put different costs in other periods.

All yields are for mid season varieties except for medium early varieties in cells 202, 211, and 212.

CONSENSUS CROP COEFFICIENTS[1/]

CORN YIELDS

YIELD: = (Optimum Yield) X (Tillage/soil coefficient) X (Seed/timeliness coefficients)

Optimum yield is your long-term average for fall-plowed or chiseled continuous corn planted April 26-May 9 and harvested September 27-October 12, using full season varieties. Consider special weed or disease problems existing on your farm as you estimate your optimum yield.

TILLAGE/SOIL COEFFICIENTS

CROP SEQUENCE	TILLAGE	SOILS GROUP [1/] [2/] I Dark, poorly drained si.c.l. to clays. 0-2% slope. Es. Brookston Chalmers	II Light colored low OM, nearly level, somewhat poorly drained si.l. to si.c.l. Ex. Fincastle Blount	III Soils subject to wind or water erosion and or drouth. Light colored shallow terrace soils, s.l. and s.; si.l. with 3% slope or greater. Ex. Bedford Fox
CONTINUOUS CORN	Fall plow.	1.00[3/]	1.00[3/]	1.00[3/]
	Fall Chisel or big disk.	1.00	1.02	1.05
	Spring plow.	.90	1.00	1.05
	Shallow till.	.95	1.00	1.05
	No-till.	.85	.95	1.10
ROTATION CORN	Fall Plow.	1.07	1.07	1.07
	Fall chisel or Big disk.	1.07	1.09	1.13
	Spring Plow	.96	1.07	1.13
	Shallow till.	1.02	1.07	1.13
	No-till.	1.00	1.01	1.18

1/ The following soils are not included in these groups: mucks, bottomlands, dark sands with high water table, and flat low OM soils over fregiapans (Clermont, Aveonberg). For information relating tillage to specific soil series refer to AY-210 "Adaptability of Various Tillage-Planting Systems to Indiana Soils".

2/ Soil abbreviations are as follows: s=sand, si = silt, si cl = silty clay, c = clay, l = loom.

3/ Fall plow is used as reference point for each soils group, but actual yield potential should be different for each soils group. Yield relationships refer to early May planting dates. As planting is delayed, no plow system yields compare more favorably to plow systems. No-till plantings in April compare less favorably than above.

Seed-Timeliness Coefficients and Moisture Contents

FULL SEASON VARIETIES

	April 19-25		April 26 May 2		May 3-9		May 10-16		May 17-23		May 24-30		May 31 June 6	
	MC[2/]	Coeff	MC	Coeff	MC	Coeff	MC	Coeff	MC	Coeff	MC	Coeff	MC	Coeff
9/27-10/10	28	.96	30	1.0	32		34		38		43		46	
10/11-10/31	24	.94	24	.98	26	.98	28	.94	31		36		39	
11/ 1-11/21	21	.89	21	.93	22	.93	23	.89	25	.83	28	.73	31	
11/22-12/ 5	20	.84	20	.88	21	.88	21	.84	22	.78	24	.69	25	.55

MEDIUM SEASON VARIETIES

	April 19-25		April 26 May 2		May 3-9		May 10-16		May 17-23		May 24-30		May 31 June 6	
	MC	Coeff	MC	Coeff	MC	Coeff	MC	Coeff	MC	Coeff	MC	Coeff	MC	Coeff
9/27-10/10	25	.94	26	.95	28	.95	30	.92	33		37		41	
10/11-10/31	22	.92	23	.93	24	.93	25	.90	26	.84	29	.74	34	
11/ 1-11/21	20	.87	21	.88	21	.88	22	.86	22	.80	24	.71	26	.59
11/22-12/ 5	19	.83	19	.84	20	.84	20	.81	21	.76	21	.67	23	.55

SHORT SEASON VARIETIES

	April 19-25		April 26 May 2		May 3-9		May 10-16		May 17-23		May 24-30		May 31 June 6	
	MC	Coeff	MC	Coeff	MC	Coeff	MC	Coeff	MC	Coeff	MC	Coeff	MC	Coeff
9/13- 9/26	30	.90												
9/27-10/10	24	.89	25	.90	25	.90	26	.87	29	.82	32		35	
10/11-10/31	21	.87	22	.88	22	.88	23	.85	24	.80	25	.73	29	.61
11/ 1-11/21	20	.83	20	.84	20	.84	21	.81	21	.76	22	.70	23	.58
11/22-12/ 5	18	.78	19	.79	19	.79	19	.77	20	.72	21	.66	21	.55

1/ Mositure content at harvest is likely to be 1% higher for chiseled cont. corn and 2% higher for no-till cont. corn.

2/ This information was prepared by a committe of Purdue Agronomists, Ag Engineers, Ag Economists, Entomologists and Plant Pathologists. Yield relationships are thought to typical for the situations described based on several different research projects a the experiences of the committee members. D. H. Doster, Chairman, C. R. Edwards D. R. Griffith, J. V. Mannering, D. L. Matthews, D.B. Mengel, S. D. Parsons, R. M. K. R. Polizotto, H. F. Reetz, C. B. Richey, P. R. Robbins, M. A. Ross, D. H. Scott C. D. Spies, M. L. Swearingin, J. L. Williams.

PRODUCT PRICING

Price Units

The budget is programmed to calculate all yields in bushels. Therefore, prices are to be given in dollars per bushel.

Crop Prices and Price Relationships

"Our Plan" corn is priced direct (i.e., delivered wet to the elevator) at $2.90 (cell 42). The corn processed price (i.e., delivered to the elevator immediately after it is farm dried) is $2.90 (cell 41). The corn stored price (i.e., delivered to the elevator the following spring-summer) is $3.20 (cell 40).

In addition to whatever other factors you consider as you determine your crop prices, you need to carefully evaluate your price relationships in two ways. The price relationship between crops, i.e. between corn, beans and wheat, varies considerably from year to year but beans average about 2.5 times corn prices and wheat averages 1.3 times corn price in Central Indiana.

You also need to consider a special relationship created by the way the budget is written. The best corn price option is selected as if the prices were at the same instant of time, i.e., at harvest. Variable costs for holding stored crops should be subtracted from your expected stored corn selling price. In "Our Plan", stored corn is expected to sell for $3.40. The $3.20 price is net after subtracting interest on the grain, perhaps extra shrink and property tax. Therefore, the difference between the stored price of $3.20 and the processed price of $2.90 is the return for on-farm storage. (The fixed cost for on-farm storage is reported elsewhere).

		Our Plan	Your Plan
Corn Prices			
a. Farm dried and farm stored	$/bu	$3.20	40 _____
b. Farm dried and sold at harvest	$/bu	$2.90	41 _____
c. Sold wet out of field and elevator dried	$/bu	$2.90	42 _____
Soybean Prices			
a. Farm dried and farm stored	$/bu	$7.60	43 _____
b. Farm dried and sold at harvest	$/bu	$7.25	44 _____
c. Sold wet out of field and elevator dried	$/bu	$7.25	45 _____
Wheat Price			
(net of all discounts and marketing costs)	$/bu	$4.00	46 _____

UNALLOCATED VARIABLE COSTS

On the next two pages, you will find questions for unallocated but still variable costs. "Your Plan" part-time hired labor wage is inputted in cell 458. To be used only on alternative plans, cells 16 and 17 permit you to indicate potential additional acreage and the cash rent equivalent for that acreage.

PART-TIME LABOR

"Our Plan" part-time labor is paid $5.00 per hour only for the hours actually hired; thus, it is a variable cost. Also, in "Our Plan", part-time labor is assumed to be as efficient as permanent labor (cell 459 = 1.00). If your part-time labor is less efficient, or if your permanent labor is less efficient when part-time labor is employed (i.e., you must stop driving a tractor yourself and direct part-timers some of the time.), indicate a part-time efficiency of less than 1.00 in cell 459.

Part-Time Hired Labor

	Our Plan	Your Plan
Wage Rate for Part-Time Hired Labor	$5.00	458 ___.___
Hired Labor Efficiency	1.00	459 ___.___

EXTRA ACRES

After you have developed a satisfactory plan of your present acreage, you may wish to test the possibility of adding more acres. Even though these acres will be farmed last (in the computer logic), you will have no more fixed machinery or fixed labor cost. The computer is programmed to consider adding these acres, one acre at a time, provided the added returns more than cover the added variable costs including the "Cash Rent Equivalent" charge you input in cell 17.

The computer will continue adding acres until (a) you farm all the extra acres available in cell 16 or (b) you use all the available capacity for some operation such as planting or harvesting or (c) yields are so low in late planting and/or harvesting periods that costs are more than sales.

Finally, after completing an alternative budget with additional acres, you will want to study that solution carefully. You may find signals that suggest you might increase your profit still further if you increased your machinery and/or labor on another input form with this new farm size.

Extra Acres

		Our Plan	Your Plan
Extra acres that could be rented in (Note: Use cell 16 only when making alternative plans in the back of the Input Form).	Acres	0	16 .
At Cash Rent Equivalent per Acre	$per Acre	$145.50	17 .

MACHINERY DECISIONS - FIXED COSTS

OUR PLAN: 6 Row Conventional Fall Plow Silty Clay Soil

Machinery	Rating or Size	No. of Units		Unit List Price		Total List Price ($)		Annual Fixed Cost 1/ (% of list)		Annual Fixed Cost 1/ ($/Year)
Tractors	110 PTOHP	2	X	$ 37,000	=	$ 74,000	X	18	=	$13,320
Fertilizer Spreader	6 ton	1	X	6,700	=	6,700	X	19	=	1,270
Plow	5-16"	1	X	8,600	=	8,600	X	19	=	1,630
Chisel	10'	1	X	2,000	=	2,000	X	19	=	380
Disc	14'	1	X	4,815	=	4,815	X	19	=	920
Planter	6-30"	1	X	13,000	=	13,000	X	19	=	2,470
Rotary Hoe	6-30"	1	X	3,000	=	3,000	X	19	=	570
Cultivator	6-30"	1	X	3,300	=	3,300	X	19	=	630
Combine & Small Grain Head	16.5'	1	X	74,000	=	74,000	X	18.8	=	13,910
Corn Head	6-30"	1	X	15,000	=	15,000	X	18.8	=	2,820
Handling, Drying & Storage 2/	68,000 bu.			179,000	=	179,000	X	11	=	19,690
Wagon	300 bu.	2	X	3,000	=	6,000	X	19	=	1,140
Truck	425 bu.	1	X	27,000	=	27,000	X	15.6	=	4,210
Wheat Drill	12	1	X	6,000	=	6,000	X	19	=	1,140
				TOTAL	=	$422,415		TOTAL	=	$64,100

1/ For production, harvesting and hauling equipment, this fixed cost percentage was determined using the following assumptions: a) a 5-year trading schedule (10 years for trucks); b) a purchase price of 85% of list; c) tractors depreciate to 46% of list, combines to 41% of list, trucks to 22% of list and all other pieces of equipment to 37% of list; d) interest, taxes and insurance charge for tractors, combine and other equipment to 12.0%, 2.0% and 1.5% of average value, but for trucks 12.0%, 3.0% and 2.5% of average value. Useful life of dryer assumed to be 10 years; storage 20 years; handling equipment, 5 - 10 years.

2/ Handling equipment includes 2 legs, 2 WH bins; 385 bu. 10 pt/hr. C. F. Dryer; 1-17110 bu. and 2-23395 bu. bins (total storage, 64,000 + 4000 wet holding bushels) Fixed costs based on 70% of list price to account for purchase at less than list price.

FIXED COSTS

Why calculate fixed costs? Fixed cost charges provide the opportunity for recognizing something for the present labor, land and machinery resources. These charges do not affect the "action" of the budget, however. That is, they have no affect on crop choices or on the value of "bottleneck" limitations.

Recognition of fixed costs is useful when you prepare alternative plans with different machinery items and/or different amounts of permanent labor and/or different acreages of owned land. For example, the difference in machinery fixed costs between two plans can be compared to the difference in crop sales. If the extra income in the larger machinery plan more than offsets the extra costs of the larger machinery in that plan, you may decide to get the larger machinery.

Fixed charges are a normal part of income tax statements, cash flow reports and changes in net worth. You may wish to report your fixed costs in such a way as to provide any one of these reports. "Our Plan" fixed costs are a combination of these three accounting reports.

MACHINERY

Machinery and grain storage fixed costs include charges for depreciation, interest, property taxes, insurance and shelter. Using new list prices as a base and considering 12% interest rates, these charges are approximately 19% of new list price for equipment up to five years old and perhaps 15% of new list price for older equipment. Precise accounting reports would also consider investment credit as well as inflation effects on the value of used machinery.

On "Our Plan", machinery and grain storage fixed costs are estimated to be $64,100 as calculated in the table on page 32. If you carefully study this table, you will note that fixed costs for field machinery amount to about $54 per acre. Fixed costs for the drying and 68000 bushels of storage plus the truck add another $32 per acre. Perhaps surprisingly, these costs are almost size neutral. That is, if you operate <u>different sizes</u> of machinery, the <u>same</u> number of hours (small machinery on small acreage versus big machinery on large acreage), the machinery costs will be about the same.

You may choose to estimate your base plan fixed costs quickly at about $54 per acre for field machinery plus $32 per acre for drying, handling and storage. Later, on alternative plans in which you change some of your machinery, you can more precisely estimate the <u>difference</u> in machinery costs. At that time, you may want to look at cash flow differences, income tax differences or net worth change differences.

Machinery Fixed Costs

	Our Plan	Your Plan
Total Annual Machinery and Grain Storage Fixed Costs (Depreciation, Interest, Taxes, Insurance)	$64,100	650

LABOR

Great differences in labor productivity exist among different size farms. Persons using small equipment on small acreage farms may work the same number of hours as persons using large equipment on large acreage farms. These persons may have the same total family living costs.

On "Our Plan" farm, the operator hires no permanent salaried labor. An allocation of $15,000 of the operator's family living was charged to crops. Salaries for permanent hired labor should be included in cell 456 as well.

Permanent Labor

	Our Plan	Your Plan
Permanent Labor Cost Allocation	$15,000	456 _____
Minimum Hourly Earnings for which You will work on Farm Crops (Example: $2.00)	$ 0.000	457 _____

LAND

Because of the way Model B-96 is programmed, crop share rented land needs to be described as cash rent equivalent. That is, the operator performs the work, uses the grain storage, receives the sales and is charged for the fertilizer, seed, etc. Therefore, if you are now crop share renting land, you can convert your lease terms to cash rent equivalent as follows:

	TOTAL FARM */				LANDLORD SHARE			
	Our Plan		Your Plan		Our Plan		Your Plan	
	Corn	Soybean	Corn	Soybean	Corn	Soybean	Corn	Soybean
Per Acre Sales:								
140/bu/Ac Corn @ $3.20 43/bu/Ac Soybean @ $7.60	$448	$326	$_____	$_____	$224	$163	$_____	$_____
Expenses:								
Seed	19.	13.	_____	_____	9.5	6.5	_____	_____
Fertilizer and Lime	62.	26.	_____	_____	31.	13.	_____	_____
Herbicide and Insecticide	14.50	16.	_____	_____	7.25	8.	_____	_____
Harvesting	--	--	_____	_____	--	--	_____	_____
Drying	21.	--	_____	_____	10.50	--	_____	_____
Interest & Miscellaneous	14.	11.	_____	_____	6.00	4.25	_____	_____
TOTAL EXPENSES					64.25	31.75	_____	_____
Cash Rent Equivalent					159.75	131.25	_____	_____
Average Cash Rent Equivalent					145.50		_____	

PRESENTLY RENTED LAND

For your presently rented land, list your average cash rent equivalent per acre in cell 13. In this way, you have accounted for the landlord's share of the receipts and expenses. Because you may have several different leases this is really only an approximation of your "Cash Rent Equivalent".

One of the problems with approximating rent as per the above method occurs on your alternative plans where you improve your timeliness and thus your yields by inputting larger equipment. The problem is this. As a tenant, you provide the larger equipment, but "in real life" the crop share landlord gets half the added yield, whereas, in this computer budget, you get all the added yield.

PRESENTLY OWNED LAND

In "Our Plan", the cash rent equivalent per acre is also used for owned land (cell 11) and for extra acres that might be rented in (cell 17). Depending on the report you wish to estimate, you may list some other costs in those cells.

If you want to consider the possibility of renting land out to someone else, list the acreage in cell 14 and the cash rent in cell 15.

LAND

		Our Plan	Your Plan
Owned Land Charge per Acre	$ Per Acre	145.50	11 .
Presently Rented "Cash Rent Equivalent Land Charge	$ Per Acre	145.50	13 .
Present Acres That Could Be Rented Our	Acres	0	14 .
At Cash Rent, per Acre (Example: $50)	$ Per Acres	0	15 .

Annual charges for machinery, labor and land are quite dependent upon the purpose you wish to make of the report. For example, note which of the accounting transactions listed in the following table affect each of the three accounting reports.

	Cash Flow	Income Tax	Net Worth Change
MACHINERY			
Depreciation		$_____	$_____
Loan interest paid	$_____	_____	_____
Property taxes	_____	_____	_____
Insurance	_____	_____	_____
Loan principal paid	_____		
Inflation of machinery			_____
LABOR			
Wages paid	_____	_____	_____
Family living expenditures	_____		_____
Personal tax examptions		_____	
Income tax	_____		_____
OWNED LAND			
Real estate taxes	_____	_____	_____
Tile repairs	_____	_____	_____
Loan interest paid	_____	_____	_____
Loan principal paid	_____		
Tile depreciation		_____	_____
Change in land value			_____
RENTED LAND			
Cash rent	_____	_____	_____
Crop share rent		_____	_____

Note: Some of the charges appear on all three reports. Note also the differences. Loan principal payments are "Cash Flow", but are not a part of one's income tax report and do not affect the net worth since the payment is merely a decrease in an asset (checking account) and also a decrease in a liability (loan outstanding).

Depreciation is not a cash flow, but it does appear on the income tax and it does reduce the net worth on the balance sheet. Inflation of land values affects only the net worth.

MACHINERY PRICES - JANUARY 1, 1981

COMBINES (Self-Propelled)

Priced with Cab, Air, Radio, and Diesel Engines

	List Price
I.H. 1420	
120 bu tank	$61,075
15' grain table, add	7,813
4 row corn head, add	11,511
I.H. 1440	
145 bu tank	69,598
16.5' grain table, add	8,068
6-30" corn head, add	15,734
I.H. 1460	
180 bu tank	81,947
20' grain table, add	9,323
6-30" corn head, add	15,734
I.H. 1480	
208 bu tank	92,484
22.5' grain head, add	10,123
8-30" corn head, add	20,507
J.D. 4420	
102 bu tank	47,854
13' grain table, add	6,850
4-30" corn head, add	10,500
J.D. 6620	
166 bu tank	65,959
20' grain table, add	8,450
6-30" corn head, add	14,616
J.D. 7720	
190 bu tank	74,356
20' grain table, add	8,450
6-30" corn head, add	14,616
J.D. 8820	
222 bu tank	94,016
22' grain table, add	8,947
8-30" corn head, add	19,200
12-30" corn head, add	30,000

TRACTORS (all diesel)

All tractors priced without weights, duals or excessively large singles. Tractors below 100 PTO Hp are not priced with cab, heater or air. Tractors above 100 PTO Hp are equipped with cab, heater, air and radio.

I.H.	684	62 hp		18,196
	786	80 hp		24,505
	886	86 hp		31,415
	986	105 hp		34,908
	1086	131 hp		40,672
	1486	145 hp		44,862
	1586	161 hp		50,127
(2+2)	3388	130 hp		48,579
(2+2)	3588	150 hp		58,466
(2+2)	3788	170 hp		62,196
With Duals	4586	300 hp	4WD	82,346
With Duals	4786	350 hp	4WD	92,683
J.D.	2240	50 hp		14,282
	2940	85 hp		26,500
	4240	110 hp		39,000
	4440	130 hp		45,593
	4640	155 hp		51,308
	4840	180 hp		55,254
	8440	175 hp	4WD	69,770
	8640	225 hp	4WD	82,835

DISC

I.H.	475	14'	(7.5 spacing, 20" blades)	4,815
	(All include hydraulic fold)			
	475	17'5"	(7.5 spacing, 20" blades)	9,746
		18'7"	(7.5 spacing, 20" blades)	9,972
	490	21'	(7.5 spacing, 20" blades)	10,518
		24'7"	(7.5 spacing, 20" blades)	11,525
		28'	(7.5 spacing, 20" blades)	13,351
		31'8"	(7.5 spacing, 20" blades)	14,837
	490	32'	(7.5 spacing, 22" blades)	15,703
New	496	18'7"	(7.5 spacing, 20" blades)	10,592
Series		22'2"	(7.5 spacing, 20" blades)	11,618
		24'7"	(7.5 spacing, 20" blades)	12,345
		28'1"	(7.5 spacing, 20" blades)	14,852
J.D.	235	18'4"		11,508
		25'		14,300
		30'		18,700

OFFSET DISK

I.H.	780	12'1"	(26" Blades)	13,305
		13'11"	(26" Blades)	14,306
		15'10"	(26" Blades)	15,443

PLANTERS

All planters have liquid fertilizer and insecticide except 4 row I.H.

I.H.	800	4-30"	Plate, w/dry fertilizer	7,783
		6-30"	Plate, w/liquid fertilizer & insecticide	11,045
	800	4-30"	Liquid fertilizer & insecticide	9,453
		6-30"	Liquid fertilizer & insecticide	13,315
		8-30"	Tool bar, w/liquid fertilizer & insecticide	19,720
		12-30"	Tool bar, w/liquid fertilizer & insecticide	29,155
J.D.		4-38"		8,949
		6-30"		13,236
		8-30"		18,526
		12-30"		25,598
		12-30"	Folding	34,075
		16-30"	Folding	44,000

CULTI-MULCHER

I.H.	415	12'2"	5,464
		14'2"	5,955
		20'10"	11,400

SEEDBED CONDITIONER

I.H.	13'	(4 row)	5,159
	19'	(6 row)	8,564

FIELD CULTIVATORS

I.H.		18'8"	Pull Type	6,200
		22'6"	Pull Type	6,800
		26'6"	Pull Type	7,400
		31'6"	Pull Type	8,000
J.D.	1010	25'		7,800
	1010	31'6"		9,800
	1010	40'6"		10,800

GRAIN DRILLS

I.H.	5100	Basic Drill (18 x 7) 10.5'	4,349
		Soybean Package, Add	1,147
	5100	Basic Drill (21 x 7) 12'	4,778
		Soybean Package, Add	1,327
	6200	Press Wheel (24 x 7) 14'	8,053
	Tandem Hitch for	5100	3,059
		6200 Lead Unit	5,995
		Trailing Unit	1,285
J.D.	8300	(23 x 7) 13.4'	6,279
		Tandem Hitch w/markers	3,000

CULTIVATORS

I.H.		4 row wide	2,760
		6-30"	3,450
		8-30"	4,945
		12-30"	6,900
J.D.		4 row wide	3,100
	Rm 630	6-30"	3,184
	8500	8-30"	6,971
		12-30"	9,431
		16-30"	11,796

ROTARY HOE

I.H.		4 Row		2,990
		6 Row		3,565
		8 Row		6,210
J.D.	415	15'	End Wise Transport	2,600
	420	20'	End Wise Transport	4,559
	428	28'	Folding Transport	7,578
	430	30'	Folding Transport	8,017
	440	40'	Folding Transport	10,134

WAGON

M & W	300 bu.	10 Ton Gears	3,000

PLOWS

I.H.	720	5-16"	Infurrow	8,683
		6-16"	Infurrow	10,016
	720	6-18"	Onland	11,053
	700	7-16"	Onland	12,646
		7-18"	Onland	12,936
		8-18"	Onland	14,605
	800	9-18"	Onland	18,187
		10-18"	Onland	19,259
J.D.	2600	5-18"	Infurrow	8,841
	2600	6-18"	Infurrow	9,551
	2800	7-18"	Onland	14,819
	3600	7-18"	Pull Type	12,155
	3600	8-18"	Pull Type	13,155

CHISEL PLOWS

I.H.	10'	Trailing	2,700
	13'	Trailing	2,950
	16'	Single Wing	4,550
Conserv.	10'	Trailing	5,000
	13'	Trailing	6,200
J.D.	16'	Mounted	4,155
	19'	Pull Type	8,115
	29'	Pull Type	12,078
	37'	Pull Type	14,078

PRELIMINARY DRAFT RATIOS

January 1980

Maximum PTO Horsepower refers to "Nebraska" or "Dynometer" tests.

DRAFT FIGURES-- Maximum PTO HP/foot of implement width

		PREDOMINANT SOIL TYPE				
	MPH	SAND	SANDY LOAM	LOAM	SILT LOAM	CLAY
Moldboard plow	3	9.5	10.5	11.5	13.0	16.0
	4	10.0	11.0	12.0	15.0	18.0
	5	11.0	12.5	14.0	17.0	20.0
	6	11.5	13.0	16.0	19.0	23.0
	7	12.0	13.5	18.0	22.0	27.5
Chisel plow	3	6.3	7.0	7.7	8.7	10.6
	4	6.6	7.3	8.0	10.0	11.5
	5	7.3	8.3	9.3	10.7	12.0
	6	7.7	8.6	10.6	11.5	13.0
	7	8.0	9.0	11.0	13.0	15.0
Offset disk	3	5.8	6.5	7.1	7.9	9.4
	4	6.2	6.8	7.5	8.8	10.0
	5	6.8	7.5	8.3	9.4	10.4
	6	7.0	7.9	9.4	10.0	10.7
	7	7.2	8.2	9.7	10.7	12.5
Tandem disk	3	5.2	5.4	5.6	6.2	7.0
	4	5.4	5.6	6.0	6.6	7.5
	5	5.6	5.8	6.4	7.1	8.0
	6	6.0	6.5	7.2	7.8	9.0
	7	7.1	7.8	8.4	8.8	9.3
Field cultivator	3	4.3	4.6	5.1	5.7	6.4
	4	4.6	5.0	5.6	6.2	7.0
	5	5.1	5.5	6.1	6.8	7.6
	6	5.6	6.1	6.7	7.4	7.8
	7	6.5	7.1	7.8	8.2	8.6

1/ Preliminary data from an Impliment Width Analysis being conducted by Donald H. Tyler, Research Assistant, and Samual D. Parsons, Extension Agricultural Engineer Purdue University.

Examples for the use of draft figures:

Calculating draft or width ratios:

$$\text{Ratio} = \frac{\text{draft of base implement}}{\text{draft of other implement}} = \frac{Db}{DI}$$

Example:

assume soil type is loam and all operations are @ 5mph

base implement = moldboard plow

Implement	PTO HP/ft	Db/DI	
moldboard plow	14.0	-----	
chisel plow	9.3	1.5	(feet of chisel per foot of plow)
tandem disk	6.4	2.2	
field cultivator	6.1	2.3	

If a known tractor can pull a 5-18" plow the other implement widths can be calculated as follows:

moldboard plow= 5 bottoms X 18" per bottom X 1 ft/12"=7.5 ft of width

Implement	base width	X	ratio of width	=	implement width
chisel plow	7.5 ft		1.5		11.25 ft
tandem disk	7.5 ft		2.2		16.5 ft
field cultivator	7.5 ft		2.3		17.2 ft

estimated tractor PTO HP = 7.5 ft of moldboard plow X 14 PTO HP/ft = 105 PTO HP

Calculating implement widths when tractor PTO HP is known:

Use the formula:

$$\frac{\text{Tractor PTO HP}}{\text{PTO HP/ft of implement width}} = \text{implement width}$$

Example:

$$\frac{150 \text{ PTO HP tractor}}{9.3 \text{ PTO HP/ft of chisel plow width}} = 16.1 \text{ ft chisel plow}$$

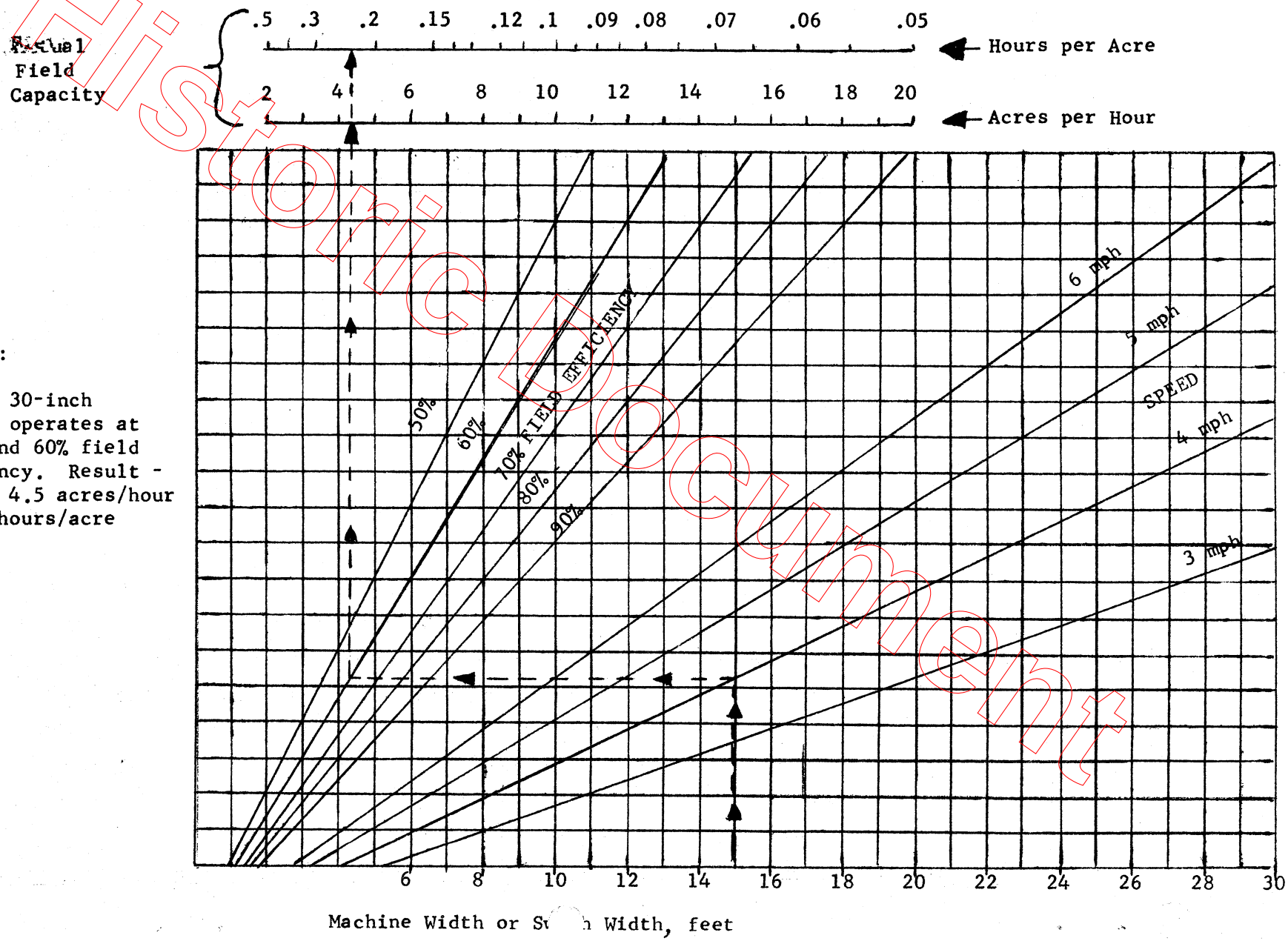
Table 4. Tractor Size and Machinery Working Rates for Various Soil Types for Plow, Chisel and Disc.

	Tractor Size (Max PTO HP)					Width of Machine (Feet)	Operating Speed M.P.H.	Field Efficiency %	Working Rate (Acres/Hours)
	Sand	Sand/Loam	Loam	Silt/Loam	Clay				
Plows									
2-16"	28	31	35	43	51	2.67	4.5	82	1.194
3-16"	42	47	52	64	76	4	4.5	81	1.767
4-16"	56	63	69	85	101	5.33	4.5	80	2.326
5-16"	70	78	87	107	127	6.67	4.5	79	2.874
6-16"	84	94	104	128	152	8.00	4.5	78	3.404
7-16"	98	110	121	149	177	9.33	4.5	77	3.919
8-16"	112	125	139	171	203	10.67	4.5	76	4.423
8-18"	126	141	156	192	228	12.00	4.5	76	4.975
10-18"	158	176	195	240	285	15.00	4.5	75	6.136
12-18"	189	212	234	288	342	18.00	4.5	75	7.364
14-18"	221	247	273	336	399	21.00	4.5	75	8.591
Chisel Plow									
7'	51	58	65	75	84	7	5	75	3.181
8'	58	66	74	86	96	8	5	74	3.588
12'	88	100	112	128	144	12	5	73	5.30
14'	102	116	130	150	168	14	5	72	6.109
17'	124	141	158	182	204	17	5	72	7.418
21'	153	174	195	225	252	21	5	70	8.909
28'	204	232	260	300	336	28	5	68	11.539
Disc.									
7'	39	41	45	50	56	7	5	83	3.521
10'	56	58	64	71	80	10	5	82	4.970
11'	62	64	70	78	88	11	5	82	5.467
13'	73	75	83	92	104	13	5	82	6.461
14'	78	81	90	99	112	14	5	82	6.958
18'	101	104	115	128	144	18	5	80	8.727
21'	118	122	134	149	168	21	5	80	10.182
23'	129	133	147	163	184	23	5	79	11.012
25'	140	145	160	178	200	25	5	79	11.970
30'	168	174	192	213	240	30	5	78	
35'	196	203	224	249	280	35	5	78	14.182
42'	235	244	269	298	336	42	5	77	19.600
48'	269	278	307	341	384	48	5	77	22.400

Table 5. Field Time and Direct Labor for Field Operations on Silty Clay Loam Soil (30 Inch Equipment, Unless Otherwise Stated)

Operation and Equipment Size	Tractor Size (Maximum PTOHP)	Width of Swath (Ft.)	Oper. Speed (M.P.H.)	Field Eff. (%)	Acres/ Field Hour (A/Hr.)	Men Per Field Hour (Men/Hr)
Spread P & K (6-ton)	70	40	5	50	12.121	1.33
Spread P & K (6-ton)	100	40	6	50	14.545	1.33
Knife in NH_3 (5 knife)	70	12.5	4.5	80	5.455	1.
	100	12.5	5.5	80	6.666	1.
(7 knife)	140	17.5	5.5	80	9.333	1.
Broadcast Spray	70	20	5	60	10.909	1.
Conv Planter 4-40	70	13.3	4	71	4.590	1.
6-30	70	15	5	69	6.27	
8-30	100	20	5	67	8.12	1.
12-30	100	30	5	65	11.82	1.
16-30	140	40	5	63	15.27	1.
Wheel Track Planter (w/ herb & Insec) 6-30	70	15	4	64	4.655	1.
8-30	100	20	4	62	6.012	1.
12-30	140	30	4	60	8.727	1.
Field Cult & Plant (w/ H) 6-30	100	15	4	62	4.509	1.
8-30	140	20	4	60	5.818	1.
Rotary Till & Plant 6-30	100	15	4	62	4.509	1.
8-30	140	20	4	60	5.818	1.
Till Plant (H & I) 6-30	70	15	4	65	4.747	1.
8-30	100	20	4	63	6.109	1.
No Tillage Planter 6-30	70	15	4	67	4.873	1.
8-30	70	20	4	65	6.303	1.
12-30	100	30	4	63	9.164	1.
Chisel Planter (H) 6-30	100	15	4	62	4.509	1.
Rotary Hoe 4-40	70	13.3	8	88	11.380	1.
6-30	70	15	8	86	12.510	1.
8-30	70	20	8	84	16.291	1.
12-30	100	30	8	82	23.855	1.
Conventional Cult 4-40	70	13.3	4	80	5.170	1.
6-30	70	15	4	78	5.673	1.
8-30	70	20	4	76	7.370	1.
12-30	100	30	4	74	10.764	1.
16-30	140	40	4	72	13.963	1.
Rolling Cult 4-40	70	13.4	6	80	7.738	1.
6-30	70	15	6	78	8.509	1.
8-30	70	20	6	76	11.054	1.

Table 5. FIELD CAPACITY CHART -- ANY MACHINE



Example:

A 6-row 30-inch planter operates at 4 mph and 60% field efficiency. Result - approx. 4.5 acres/hour or .22 hours/acre

ALTERNATIVE PLANS INPUT FORM

NAME_____ BASE PLAN NO._____

Consider the earlier inputs in this book your base plan. Perhaps you would like to see what a few changes in that plan would do to the profit picture. The spaces provided below are for that purpose. For instance, you might wish to try a new machinery mix. Or you might want to test a change to longer working hours. You might want to change crop price relationships. Or you might like to know if you can farm more acres with your present equipment and labor. An entirely new print-out will be made for each alternate plan.

NEW PLAN NAME Suggestion: Use your last name plus a few words describing changes.

ALTERNATE PLAN #1. Make these changes from my base plan:

Change cell_____ from_____ to_____

Change cell_____ from_____ to_____

Change cell_____ from_____ to_____

Change cell_____ from_____ to_____

Change cell_____ from_____ to_____

Change cell_____ from_____ to_____

Change cell_____ from_____ to_____

Change cell_____ from_____ to_____

Change cell_____ from_____ to_____

Change cell_____ from_____ to_____

NEW PLAN NAME Suggestion: Use your last name plus a few words describing changes.

ALTERNATE PLAN #2. Make these changes from Alternate Plan #1:
Alternate Plan #1 now becomes your new base plan. If you wish to return to the figures on your original base plan, you must reverse the inputs you listed in Alternate Plan #1. For instance, if your original base plan stated $2 for cell 10 and in Alternate Plan #1 you changed that to $4, and now want to return it to $2, you say "change cell 10 from $4 to $2"- then you're back to where you started.

Change cell_____ from_____ to_____

Change cell_____ from_____ to_____

Change cell_____ from_____ to_____

Change cell_____ from_____ to_____

Change cell_____ from_____ to_____

Change cell_____ from_____ to_____

New 8/81