

United States
Department of
Agriculture

Statistical
Reporting
Service

Statistical
Research
Division

August 1984

AGES840828

1983 Corn and Soybean Production Input And Cropping Practices In Illinois, Iowa and Missouri

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1983 CORN AND SOYBEAN PRODUCTION INPUT AND CROPPING PRACTICES IN ILLINOIS, IOWA AND MISSOURI. By Merrit M. Padgitt; Statistical Research Division, Statistical Reporting Service, U. S. Department of Agriculture, Columbia, Missouri 65201, August 1984. SRS Staff Report No. AGES840828.

ABSTRACT

This report summarizes the production input and cropping practices data collected on 555 corn fields and 232 soybean fields in Illinois, Iowa and Missouri. A brief explanation of the survey purpose, sample design and survey procedures is followed by sixty tables summarizing survey results. The tables report the frequency and mean value of farm operator responses to questions about the applied production inputs and cropping practices on selected 1983 corn and soybean fields. Information about soils, drainage, irrigation, fertilization of preceding crops, tillage practices and applied herbicides is reported. No statistical inferences or analysis of the data for yield estimation are reported.

Key Words: Corn, soybeand, production inputs, cropping practices, tillage systems

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ACKNOWLEDGMENTS

The author wishes to thank Wendell W. Wilson, Bill Arends, Dave Aune, Douglas Bond, Jim Cotter and Roberta Pense in the Yield Research Branch for their support and comments in conducting the survey and preparing this report. Appreciation is also expressed to the many persons in the Survey Division and the Illinois, Iowa and Missouri State Statistical Offices who were involved in this data collection effort, as well as to the enumerators who conducted the interviews with farm operators and completed the questionnaires in a timely manner. A special thanks is given to the farm operators for their time and cooperation in providing information for this survey.

1983 CORN AND SOYBEANS PRODUCTION INPUT AND CROPPING PRACTICES
IN ILLINOIS, IOWA AND MISSOURI

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This research was conducted as a part of the AgRISTARS* Program and is part of the task identified as SRS-YES-IV in the 1984 AgRISTARS Program Plan.

NOTE: The mention of trade names in this report is for information only and does not imply endorsement by the U. S. Department of Agriculture.

*AgRISTARS is an acronym for Agriculture and Resources Inventory Surveys Through Aerospace Remote Sensing. It is a multi-agency research program to meet some current and new information needs of the U. S. Department of Agriculture.

AgRISTARS Staff Report
SRS-YES-IV (B)
(84-08.1)

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1983 CORN AND SOYBEAN PRODUCTION INPUT AND CROPPING PRACTICES

IN ILLINOIS, IOWA AND MISSOURI

This document summarizes the production input and cropping practices data collected on 555 corn fields and 232 soybean fields in Illinois, Iowa and Missouri. The tables contained in this document report the frequencies and means of farm operator questionnaire responses for each crop. The purpose of this document is to make available information from the production input and cropping practices survey. Data are reported from a pilot survey conducted to determine the level of detail needed on production input and cropping practices for use in yield forecasting and estimation. No evaluation of the adequacy of these data for statistical inference or potential use in yield forecasting and estimating is made in this report. This evaluation and further analysis will be reported in a separate document.

This survey was conducted as a supplement to the corn and soybean objective yield surveys. Additional objective yield survey data on commercial fertilizer application, row widths, plant population and planted soybean varieties are reported in other USDA publications^{1/} and are not included in this document.

SURVEY PURPOSE

Changing levels of production inputs and types of cropping practices affect yield potential. Different economic conditions, farm programs, policies and weather influence the applied level of inputs and the adoption of various practices. Currently there is a lack of adequate information on how these production technologies differ between regions, change over time and affect yield. The 1983 survey was conducted to pilot test the questionnaire and evaluate responses to alternative questions for collecting information about specific applied inputs or practices. The primary purpose is to research the potential usefulness of the collected data, along with soils, fertilizer, weather and yield data, in improving the yield forecasting and estimating methods.

SAMPLE DESIGN

The survey sample was a subsample of the objective yield surveys. The sample fields for both the corn and soybean objective yield surveys are selected with a probability proportional to planted acres (planted corn acres intended for grain harvest) reported from the June enumerative survey. The June enumerative survey

^{1/} Row width and plant population data are reported in the November release of Crop Production by the Crop Reporting Board, SRS/USDA. The fertilizer data are reported in the annual Fertilizer Outlook and Situation by Economic Research Service, USDA.

includes crop acreage data from a probability sample of land segments in each state. For corn, this survey included all corn fields in the objective yield survey in Illinois, Iowa and Missouri. For soybeans, this survey included one half of the soybean fields in the objective yield survey in Illinois, Iowa and Missouri.

SURVEY PROCEDURE

Professional enumerators, through farm operator interviews, completed a questionnaire (Appendix A) about the production inputs and cropping practices applied to the selected fields. These interviews were generally made between July 24 and August 1, 1983 as a part of the initial visit to the sample fields. In some cases later visits were necessary to locate or accommodate the farm operator. Enumerators were instructed to interview the farm operator or a person knowledgeable of the production inputs and cropping practices applied to the sample field.

Enumerators received training on the completion of the questionnaire at state training schools conducted in July. Each enumerator also received a manual containing detailed instructions for data collection. The completed questionnaires were received and processed through the State Statistical offices of the Statistical Reporting Service in each of the three states. The processing included both a manual review and a generalized edit to identify missing or inconsistent data entries.

REPORTED DATA

The following two sections summarize the questionnaire responses obtained from the corn and soybean production input and cropping practices surveys. The first section, beginning on page 4, contains thirty-two tables reporting the data for 555 sample corn fields. The second section, beginning on page 36, contains twenty-eight tables reporting the data for 232 sample soybean fields.

The first table in each section identifies the total number of sampled fields in the survey and the number of positive responses obtained. Data could not be obtained on all selected sample fields because planting intentions changed and the field was not planted as intended at the time of the June enumerative survey, or the farm operator was not available or refused to provide the information. The remaining tables report the frequency or mean value of the farm operator responses to the questionnaire. For those questions where the farm operator did not know the requested information, they are reported as "unknown" in the tables.

Tables 2 to 5 in each section deal with soil types on the sample fields and the use of drainage and irrigation. The following tables then identify the preceding crop, its yield and summarize some fertilization practices. The tillage system used and the number of times over the field with specific tillage implements are also reported. For corn sample fields, the planted hybrids are identified. For both corn and soybeans, the use of specific herbicides is reported.

Corn Production Input and Cropping Practices Data

Table 1.1. Total number of corn fields sampled, 1983

State	Sampled fields in survey	Fields reporting in survey	Fields not reporting ^{1/}
Illinois	260	220	40
Iowa	240	212	28
Missouri	150	123	27
Three States	650	555	95

^{1/} Includes some fields which were not planted to corn or the intentions to harvest for grain changed between the time of the June Enumerative Survey and this survey. It also includes fields where a person knowledgeable of farm operations was not available or refused to provide information.

TABLE 1.2. NUMBER OF IRRIGATED CORN FIELDS AND NONIRRIGATED CORN FIELDS WITH IRRIGATION FACILITIES, 1983.

STATE	* FIELDS * REPORTING * IN * SURVEY *	* IRRIGATED * FIELDS *	* NONIRRIGATED FIELDS * WITH * FACILITIES	* WITHOUT * FACILITIES	* UNKNOWN
ILLINOIS	220	4	1	215	0
IOWA	212	0	1	208	3
MISSOURI	123	10	0	112	1
3 STATES	555	14	2	535	4

TABLE 1.3. CORN FIELDS WITH TILING OR AN ARTIFICIAL DRAINAGE SYSTEM, 1983.

	* FIELDS * REPORTING * IN * SURVEY	* FIELDS * WITH * DRAINAGE	* FIELDS * WITHOUT * DRAINAGE	* * UNKNOWN
ILLINOIS	220	141	79	0
IOWA	212	131	81	0
MISSOURI	123	10	112	1
3 STATES	555	282	272	1

TABLE 1.4. DOMINANT SOIL SERIES IN FIELDS PLANTED TO CORN,
1983.

SOIL SERIES	* ILLINOIS *	IOWA	* MISSOURI *	* 3 STATES
	- - - - - NUMBER OF FIELDS - - - - -			
UNKNOWN	118	116	108	342
CLARION	0	23	0	23
CLINTON	0	3	0	3
CLYDE	0	1	0	1
COLO	0	1	0	1
CROSCO	0	1	0	1
DINSDALE	0	2	0	2
DOWNS	0	0	0	0
DRUMMER	24	0	0	24
EDINA	0	0	1	1
ELBURN	0	0	1	1
FAYETTE	2	0	0	2
FLOYD	0	0	0	0
GARA	0	1	0	1
GRUNDY	0	1	0	1
HAYG	0	1	0	1
HAYNIE	0	0	0	0
IDA	0	2	0	2
IPAVA	6	0	0	6
KENYON	0	1	0	1
KLINGER	0	1	0	1
LADOGA	0	1	0	1
MAHASKA	0	0	0	0
MARSHALL	0	1	0	1
MUSCATINE	24	4	0	28
PRIMGHAR	0	4	0	4
SABLE	6	0	0	6
SHARPSBURG	0	0	1	1
TAMA	14	0	0	14
TRAIKTOR	0	2	0	2
WEBSTER	0	0	0	0
WELLER	0	1	0	1
ZOOK	0	0	0	0
NICOLLET	0	4	0	4
MORLEY	1	0	0	1
GILFORD	2	0	0	2
OGLE	1	0	0	1
SAYBROOK	3	0	0	3
WHALEN	1	0	0	1
FLANAGAN	1	0	0	1
ELLIOT	1	0	0	1
VIRDEN	1	0	0	1
BIRKBECK	1	0	0	1
KIDDER	1	0	0	1
CISNE	1	0	0	1
MILFORD	1	0	0	1
BRYCE	1	0	0	1
AVA	1	0	0	1
COWDEN	1	0	0	1
PITWOOD SAND	1	0	0	1
SWAGERT	0	0	0	0
PUTNAM	0	0	1	1
DUNDEE	0	0	0	0
TOTAL	220	212	123	555

TABLE 1.5. SOIL TEXTURE CLASS OF FIELDS PLANTED TO CORN,
1983.

SOIL TEXTURE	* ILLINOIS*	IOWA	* MISSOURI*	3 STATES
	- - - - - NUMBER OF FIELDS - - - - -			
UNKNOWN	67	105	55	227
CLAY	6	2	10	18
CLAY LOAM	18	21	8	47
SILT	1	4	3	8
SILTY LOAM	71	32	8	111
SILTY CLAY	10	5	0	15
SILTY CLAY LOAM	14	15	2	31
LOAM	16	19	17	52
SANDY LOAM	11	8	16	35
OTHER	6	1	4	11
TOTAL	220	212	123	555

TABLE 1.6. CORN FIELDS WITH SOIL NUTRIENT TESTS AND AVAILABLE FERTILIZER RECOMMENDATIONS FROM THE TESTS, 1983.

STATE	* FIELDS * *REPORTING* * IN * * SURVEY *	TESTED FIELDS WITH *RECOMMENDED* RATES	* WITHOUT * *RECOMMENDED* RATES	* FIELDS * NOT TESTED
ILLINOIS	220	71	25	124
IOWA	212	76	16	120
MISSOURI	123	25	7	91
3 STATES	555	172	48	335

TABLE 1.7. NUMBER OF CORN FIELDS WITH RECOMMENDED FERTILIZER RATES AND THE MEAN RECOMMENDED RATE, 1983.

STATE	* FIELDS	FIELDS			MEAN RATE				
	* WITH	* RECOMMENDING	* NIT	* P2O5	* K2O	* NIT	* P2O5	* K2O	
	* RECOMMENDED	* NIT	* P2O5	* K2O	* NIT	* P2O5	* K2O		
	* RATES								
		- - - NUMBER OF FIELDS - - -			- - - LBS/ACRE - - -				
ILLINOIS	71	56	60	59	162	91	119		
IOWA	76	61	57	59	154	68	84		
MISSOURI	25	24	15	17	127	54	100		
3 STATES	172	143	132	135	153	77	101		

TABLE 1.8. MEAN FERTILIZER NUTRIENTS RECOMMENDED FROM SOIL TESTS AND ASSOCIATED WITH TARGET YIELD RANGES, CORN, 1983.

STATE	* TARGET * YIELD * RANGE	* NUMBER * OF * FIELDS	* MEAN RECOMMENDED * RATE	* NIT	* P2O5	* K2O
	BU/ACRE		LBS PER ACRE			
ILLINOIS	LESS THAN	50	0	.	.	.
"	50 - 74	1	179	92	120	
"	75 - 99	1	127	92	60	
"	100-124	4	158	121	200	
"	125-149	12	150	.	128	
"	150+	46	167	86	111	
IOWA	LESS THAN	50	0	.	.	.
"	50 - 74	0	.	.	.	
"	75 - 99	1	150	100	150	
"	100-124	12	114	52	52	
"	125-149	18	140	.	81	
"	150+	40	172	71	93	
MISSOURI	LESS THAN	50	0	.	.	.
"	50 - 74	0	.	.	.	
"	75 - 99	0	.	.	.	
"	100-124	5	131	43	42	
"	125-149	13	136	.	117	
"	150+	5	115	55	110	

TABLE 1.9. THE PRECEDING CROP GROWN ON 1983 CORN FIELDS

STATE	* FIELDS * * REPORTING * * IN * * SURVEY *		PRECEDING CROP			
	CORN	* SOYBEANS *	* LEGUME * * PEA *	OTHER		
- - - - NUMBER OF FIELDS - - - -						
ILLINOIS	220	89	121	2	8	
IOWA	212	81	116	9	6	
MISSOURI	123	36	73	2	12	
3 STATES	555	206	310	13	26	

TABLE 1.10. THE 1982 MEAN CORN YIELD OF FIELDS PLANTED TO CORN IN 1983 AND THE NUMBER OF FIELDS BY YIELD CLASSES.

STATE	CORN YIELD CLASSES					TOTAL # FIELDS
	# MEAN *YIELD*100 BU/AC	# LESS THAN *100-124*	# 125-149*	# 150+ *	#	
	BU/AC	- - NUMBER OF FIELDS - -				
ILLINOIS	133	8	18	33	30	88
IOWA	123	13	23	35	10	79
MISSOURI	108	14	13	7	2	34
3 STATES	125	35	54	75	42	201

NOTE: NO YIELD WAS REPORTED FOR 5 FIELDS.

TABLE 1.11. NUMBER OF CORN FIELDS INDICATING FERTILIZER WAS APPLIED TO THE PRECEDING CORN CROP.

STATE	* FIELDS * 1982 *		* FERTILIZER APPLIED TO *		
	* REPORTING *	* FIELDS *	* PRECEDING *	* PRECEDING *	* PRECEDING *
	* IN *	* IN *	* RATES *	* NO RATES *	* NOT *
	* SURVEY *	* CORN *	* REPORTED *	* REPORTED *	* FERTILIZED *
- - - - - NUMBER OF FIELDS - - - - -					
ILLINOIS	220	89	81	2	6
IOWA	212	81	72	6	7
MISSOURI	123	36	31	3	8
3 STATES	555	206	184	11	8

NOTE: ON 3 FIELDS THE PREVIOUS CORN FERTILIZATION DATA WAS UNKNOWN OR NOT REPORTED.

TABLE 1.12. FERTILIZER APPLIED TO THE 1982 CORN CROP ON FIELDS PLANTED TO CORN IN 1983.

STATE	* FIELDS *REPORTING *FERTILIZER * RATES	*FIELDS RECEIVING*			MEAN RATE APPLIED		
		* NIT	*P2O5	* K2O	*NIT	*P2O5	* K2O
	- - NUMBER OF FIELDS - -			- LBS PER ACRE -			
ILLINOIS	81	75	76	78	122	78	104
IOWA	72	71	64	65	135	57	64
MISSOURI	31	31	27	28	124	57	71
3 STATES	184	177	169	171	128	66	84

TABLE 1.13. TILLAGE SYSTEM USED ON 1983 CORN FIELDS

STATE	* FIELDS * *REPORTING* * IN * * SURVEY	* TILLAGE * * NO * * TILLAGE	TILLAGE SYSTEM APPLIED 1/ * MINIMUM * * TILLAGE *	* CONVENTIONAL * * TILLAGE *
- - - - NUMBER OF FIELDS - - - -				
ILLINOIS	220	5	125	90
ICWA	212	11	131	67
MISSOURI	123	0	70	52
3 STATES	555	16	326	209

NOTE: THE TILLAGE SYSTEM WAS NOT REPORTED ON 4 FIELDS.

1/ NO TILLAGE IS DEFINED AS PLANTING DIRECTLY INTO AN UNDISTURBED COVER CROP OR SCD. MINIMUM TILLAGE IS DEFINED AS ANY REDUCED TILLAGE FORM LEAVING PART (AT LEAST 30 PERCENT) OF THE RESIDUE ON THE SURFACE. CONVENTIONAL TILLAGE INCLUDES MOLDBOARD PLOWING OR OTHER MULTIPLE TILLAGES WHICH INCORPORATE NEARLY ALL SURFACE RESIDUES.

TABLE 1.14. TILLAGE IMPLEMENTS USED ON CORN FIELDS AND THE TIME THE TILLAGE OCCURRED, ILLINOIS, IOWA AND MISSOURI, 1983.

	* TIME OF TILLAGE *			* IMPLEMENT * * NOT USED
	* FALL * *PREPLANT*	* SPRING * *EMERGE*	* POST *	
	- - - - NUMBER OF FIELDS - - - -			
MOLDBOARD PLOW	52	54		449
CHISEL PLOW	113	65		379
OFF-SET DISC	6	12		538
TANDEM DISC	44	356		177
SINGLE DISC	0	10		545
SPRINGTOOTH HARROW	2	34		519
SPIKETooth HARROW		92		462
SUBSOILER	24	1		530
FIELD CULTIVATOR		302		253
CULTIMULCHER		22		533
LAND LEVELER		1		554
CONVENTIONAL PLANTER		486		69
RIDGE OR NO-TIL PLANTER		19		536
LISTER PLANTER		6		549
GRAIN DRILL		0		555
ANHYDROUS APPLICATOR	2	179	87	379
ROW CULTIVATOR			394	161
ROTARY HOE			103	452
ROLLING CULTIVATOR			16	539

NOTE: THERE WERE 555 FIELDS REPORTING IN THE SURVEY.

TABLE 1.15. TILLAGE IMPLEMENTS USED ON CORN FIELDS AND THE TIME THE TILLAGE OCCURRED, ILLINOIS. 1983

IMPLEMENT	* TIME OF TILLAGE *			* IMPLEMENT NOT USED
	* FALL	* SPRING	* POST * *PREPLANT*EMERGE*	
	- - - - NUMBER OF FIELDS - - - -			
MOLDBOARD PLOW	28	20		172
CHISEL PLOW	63	24		135
OFF-SET DISC	3	5		212
TANDEM DISC	26	117		88
SINGLE DISC	0	5		215
SPRINGTOOTH HARROW	1	9		210
SPIKETooth HARROW		48		172
SUBSOILER	13	0		207
FIELD CULTIVATOR		145		75
CULTIMULCHER		11		209
LAND LEVELER		1		219
CONVENTIONAL PLANTER		181		39
RIDGE OR NO-TIL PLANTER		9		211
LISTER PLANTER		2		218
GRAIN DRILL		0		220
ANHYDROUS APPLICATOR	1	79	45	135
ROW CULTIVATOR			150	70
ROTARY PDE			63	157
ROLLING CULTIVATOR			9	211

NOTE: THERE WERE 220 FIELDS REPORTING IN THE SURVEY.

TABLE 1.16. TILLAGE IMPLEMENTS USED ON CORN FIELDS AND THE TIME THE TILLAGE OCCURRED, IOWA, 1983.

IMPLEMENT	* TIME OF TILLAGE *			* IMPLEMENT NOT USED
	* FALL * *PREPLANT*	* SPRING * *EMERGE*	* POST *	
	- - - - NUMBER OF FIELDS - - - -			
MOLDBOARD PLOW	14	15		183
CHISEL PLOW	29	14		169
OFF-SET DISC	1	7		205
TANDEM DISC	5	147		63
SINGLE DISC	0	2		210
SPRINGTOOTH HARROW	0	17		195
SPIKETooth HARROW		27		185
SUBSOILER	7	0		205
FIELD CULTIVATOR		102		110
CULTIMULCHER		4		208
LAND LEVELER		0		212
CONVENTIONAL PLANTER		189		23
RIDGE OR NO-TIL PLANTER		8		204
LISTER PLANTER		2		210
GRAIN DRILL		0		212
ANHYDROUS APPLICATOR	0	77	27	164
ROW CULTIVATOR			173	39
ROTARY HOE			29	183
ROLLING CULTIVATOR			5	207

NOTE: THERE WERE 212 FIELDS REPORTING IN THE SURVEY.

TABLE 1.17. TILLAGE IMPLEMENTS USED ON CORN FIELDS AND THE TIME THE TILLAGE OCCURRED, MISSOURI, 1983.

IMPLEMENT	* TIME OF TILLAGE *			* IMPLEMENT NOT USED
	* FALL	* SPRING * PREPLANT	* POST * EMERGE	
	- - - - NUMBER OF FIELDS - - - -			
MOLDBOARD PLOW	10	19		94
CHISEL PLOW	21	27		75
OFF-SET DISC	2	0		121
TANDEM DISC	13	92		26
SINGLE DISC	0	3		120
SPRINGTOOTH HARROW	1	8		114
SPIKETooth HARROW		17		105
SUBSOILER	4	1		118
FIELD CULTIVATOR		55		68
CULTIMULCHER		7		116
LAND LEVELER		0		123
CONVENTIONAL PLANTER		116		7
RIDGE OR NO-TIL PLANTER		2		121
LISTER PLANTER		2		121
GRAIN DRILL		0		123
ANHYDROUS APPLICATOR	1	23	15	75
ROW CULTIVATOR			71	52
ROTARY HOE			11	112
ROLLING CULTIVATOR			2	121

NOTE: THERE WERE 123 FIELDS REPORTING IN THE SURVEY.

TABLE 1.18. MEAN NUMBER OF TIMES PASSED OVER CORN FIELD WITH TILLAGE IMPLEMENTS AND THE TIME WHEN THE TILLAGE OCCURRED, ILLINOIS, IOWA AND MISSOURI. 1983.

IMPLEMENT	* FALL		* SPRING		* POST	
			* PREPLANT		* EMERGE	
	*MEAN *	*MEAN *	*MEAN *	*MEAN *	*MEAN *	*MEAN *
	TIMES NO.	*TIMES* NO.	*TIMES* NO.	*TIMES* NO.	*TIMES* NO.	*TIMES* NO.
	*OVER *OBS.	*OVER *OBS.	*OVER *OBS.	*OVER *OBS.	*OVER *OBS.	*OVER *OBS.
MOLDBOARD PLOW	1.0	52	1.0	54		
CHISEL PLOW	1.0	113	1.0	65		
OFF-SET DISC	1.0	6	1.3	12		
TANDEM DISC	1.1	44	1.5	356		
SINGLE DISC	.	0	1.5	10		
SPRINGTOOTH HARROW	1.0	2	1.2	34		
SPIKETooth HARROW	A/		1.3	92		
SUBSOILER	1.0	24	1.0	1		
FIELD CULTIVATOR			1.4	302		
CULTIMULCHER			1.0	22		
LAND LEVELER			1.0	1		
CONVENTIONAL PLANTER			1.0	486		
NO-TILL PLANTER			1.0	19		
LISTER PLANTER			1.0	6		
GRAIN DRILL			.	0		
ANHYDROUS APPLICATOR	1.0	2	1.0	179	1.0	87
ROW CULTIVATOR					1.2	394
ROTARY HOE					1.1	103
ROLLING CULTIVATOR					1.1	15
OTHER IMPLEMENTS	1.0	2	1.2	30	1.0	10

NOTE: OF THE 555 FIELDS REPORTING IN THE SURVEY, 45 OF THE SAMPLE FIELDS DID NOT REPORT USING ANY OF THE LISTED PLANTING IMPLEMENTS.

A/ INCLUDED WITH THE SPRINGTOOTH HARROW

TABLE 1.19. MEAN NUMBER OF TIMES PASSED OVER CORN FIELD WITH TILLAGE IMPLEMENTS AND THE TIME WHEN THE TILLAGE OCCURRED, ILLINOIS, 1983.

IMPLEMENT	* FALL		* SPRING		* POST	
	* MEAN *	* PREPLANT *	* MEAN *	* EMERGE *		
	* TIMES * * OVER	* NO. * * OBS.	* TIMES * * OVER	* NO. * * OBS.	* TIMES * * OVER	* NO. * * OBS.
MOLDBOARD PLOW	1.0	24	1.0	20		
CHISEL PLOW	1.0	63	1.0	24		
OFF-SET DISC	1.0	3	1.2	5		
TANDEM DISC	1.0	26	1.4	117		
SINGLE DISC		0	1.4	5		
SPRINGTOOTH HARROW	1.0	1	1.2	9		
SPIKETooth HARROW	A/		1.5	48		
SUBSOILER	1.0	13	.	0		
FIELD CULTIVATOR			1.4	145		
CULTIMULCHER			1.0	11		
LAND LEVELER			1.0	1		
CONVENTIONAL PLANTER			1.0	181		
NO-TILL PLANTER			1.0	9		
LISTER PLANTER			1.0	2		
GRAIN DRILL			.	0		
ANHYDROUS APPLICATOR	1.0	1	1.0	79	1.0	45
ROW CULTIVATOR					1.1	150
ROTARY HOE					1.1	63
ROLLING CULTIVATOR					1.1	9
OTHER IMPLEMENTS	1.0	2	1.2	17	1.0	2

NOTE: OF THE 220 FIELDS REPORTING IN THE SURVEY, 29 OF THE SAMPLE FIELDS DID NOT REPORT USING ANY OF THE LISTED PLANTING IMPLEMENTS.

A/ INCLUDED WITH THE SPRINGTOOTH HARROW

TABLE 1.20. MEAN NUMBER OF TIMES PASSED OVER CORN FIELD WITH TILLAGE IMPLEMENTS AND THE TIME WHEN THE TILLAGE OCCURRED. IOWA, 1983.

IMPLEMENT	* FALL		* SPRING		* POST	
	* MEAN *	* NO.	* MEAN *	* NO.	* MEAN *	* NO.
	* TIMES * * OVER	* OBS.	* TIMES * * OVER	* TIMES * * OBS.	* TIMES * * OVER	* TIMES * * OBS.
MOLDBOARD PLOW	1.0	14	1.0	15		
CHISEL PLOW	1.0	29	1.0	14		
OFF-SET DISC	1.0	1	1.4	7		
TANDEM DISC	1.2	5	1.5	147		
SINGLE DISC		0	2.0	2		
SPRINGTOOTH HARROW		0	1.3	17		
SPIKETooth HARROW	A/		1.3	27		
SUBSOILER	1.0	7	.	0		
FIELD CULTIVATOR			1.3	102		
CULTIMULCHER			1.0	4		
LAND LEVELER			.	0		
CONVENTIONAL PLANTER			1.0	189		
NO-TILL PLANTER			1.0	8		
LISTER PLANTER			1.0	2		
GRAIN DRILL			.	0		
ANHYDROUS APPLICATOR		0	1.0	77	1.0	27
ROW CULTIVATOR					1.2	173
ROTARY HOE					1.1	29
ROLLING CULTIVATOR					1.0	5
OTHER IMPLEMENTS		0	1.2	11	1.0	6

NOTE: OF THE 212 FIELDS REPORTING IN THE SURVEY, 13 OF THE SAMPLE FIELDS DID NOT REPORT USING ANY OF THE LISTED PLANTING IMPLEMENTS.

A/ INCLUDED WITH THE SPRINGTOOTH HARROW

TABLE 1.21. MEAN NUMBER OF TIMES PASSED OVER CORN FIELD WITH TILLAGE IMPLEMENTS AND THE TIME WHEN THE TILLAGE OCCURRED, MISSOURI, 1983.

IMPLEMENT	* FALL		* SPRING		* POST	
	* MEAN *	* NO. *	* MEAN *	* NO. *	* MEAN *	* NO. *
	* TIMES OVER	* OBS.	* TIMES OVER	* OBS.	* TIMES OVER	* OBS.
MOLDBOARD PLOW	1.0	10	1.0	19		
CHISEL PLOW	1.0	21	1.0	27		
OFF-SET DISC	1.0	2		0		
TANDEM DISC	1.2	13	1.5	92		
SINGLE DISC		0	1.3	3		
SPRINGTOOTH HARROW	1.0	1	1.0	8		
SPIKETooth HARROW	A/		1.2	17		
SUBSOILER	1.0	4	1.0	1		
FIELD CULTIVATOR			1.3	55		
CULTIMULCHER			1.0	7		
LAND LEVELER				0		
CONVENTIONAL PLANTER			1.0	116		
NO-TILL PLANTER			1.0	2		
LISTER PLANTER			1.0	2		
GRAIN DRILL			1.0	0		
ANHYDROUS APPLICATOR	1.0	1	1.0	23	1.0	15
ROW CULTIVATOR					1.2	71
ROTARY HOE					1.0	11
ROLLING CULTIVATOR					1.5	2
OTHER IMPLEMENTS		0	1.0	2	1.0	2

NOTE: OF THE 123 FIELDS REPORTING IN THE SURVEY,
3 OF THE SAMPLE FIELDS DID NOT REPORT USING ANY OF
THE LISTED PLANTING IMPLEMENTS.

A/ INCLUDED WITH THE SPRINGTOOTH HARROW

TABLE 1.22. TILLAGE IMPLEMENTS USED ON CORN FIELDS WHEN THE TILLAGE SYSTEM WAS IDENTIFIED AS NO-TILL, ILLINOIS, IOWA AND MISSOURI, 1983.

IMPLEMENT	* FALL		* SPRING		* POST	
	* MEAN *		* PREPLANT *		* EMERGE *	
	* TIMES *	* NO. *	* TIMES *	* NO. *	* TIMES *	* NO. *
	* OVER	* OBS.	* OVER	* OBS.	* OVER	* OBS.
MOLDBOARD PLOW		0		0		
CHISEL PLOW	1.0	1		0		
OFF-SET DISC		0		0		
TANDEM DISC		0		0		
SINGLE DISC		0		0		
SPRINGTOOTH HARROW		0		0		
SPIKETooth HARROW	A/			0		
SUBSOILER	1.0	1		0		
FIELD CULTIVATOR			1.5	2		
CULTIMULCHER				0		
LAND LEVELER				0		
CONVENTIONAL PLANTER			1.0	5		
NO-TILL PLANTER			1.0	10		
LISTER PLANTER				0		
GRAIN DRILL				0		
ANHYDROUS APPLICATOR		0	1.0	1	1.0	3
ROW CULTIVATOR					1.4	7
ROTARY HGE					1.0	1
ROLLING CULTIVATOR						0
OTHER IMPLEMENTS		0	2.0	1		0

NOTE: OF THE 16 FIELDS REPORTING IN THE SURVEY, 1 OF THE SAMPLE FIELDS DID NOT REPORT USING ANY OF THE LISTED PLANTING IMPLEMENTS.

A/ INCLUDED WITH THE SPRINGTOOTH HARROW

TABLE 1.23. TILLAGE IMPLEMENTS USED ON CORN FIELDS WHEN THE TILLAGE SYSTEM WAS IDENTIFIED AS MINIMUM, ILLINOIS, IOWA AND MISSOURI, 1983.

IMPLEMENT	# FALL		# SPRING		# POST	
	# PREPLANT		# EMERGE			
	*MEAN *	*MEAN *	*MEAN *	*MEAN *	*MEAN *	*MEAN *
	TIMES *OVER	*NO.* *OBS.	*TIMES* *OVER	*NO.* *OBS.	*TIMES* *OVER	*NO.* *OBS.
MOLDBOARD PLOW	1.0	2	1.0	1		
CHISEL PLOW	1.0	75	1.0	51		
OFF-SET DISC	1.0	5	1.3	10		
TANDEM DISC	1.1	15	1.5	221		
SINGLE DISC		0	1.5	4		
SPRINGTOOTH HARROW		0	1.2	18		
SPIKETooth HARROW	A/		1.3	44		
SUBSOILER	1.0	14		0		
FIELD CULTIVATOR			1.3	177		
CULTIMULCHER			1.0	10		
LAND LEVELER			.	0		
CONVENTIONAL PLANTER			1.0	297		
NO-TILL PLANTER			1.0	7		
LISTER PLANTER			1.0	1		
GRAIN DRILL				0		
ANHYDROUS APPLICATOR	1.0	1	1.0	99	1.0	57
ROW CULTIVATOR					1.1	241
ROTARY HOE					1.1	54
ROLLING CULTIVATOR					1.2	9
OTHER IMPLEMENTS		0	1.2	17	1.0	0

NOTE: OF THE 326 FIELDS REPORTING IN THE SURVEY, 22 OF THE SAMPLE FIELDS DID NOT REPORT USING ANY OF THE LISTED PLANTING IMPLEMENTS.

A/ INCLUDED WITH THE SPRINGTOOTH HARROW

TABLE 1.24. TILLAGE IMPLEMENTS USED ON CORN FIELDS WHEN THE TILLAGE SYSTEM WAS IDENTIFIED AS CONVENTIONAL, ILLINOIS, IOWA AND MISSOURI, 1983.

IMPLEMENT	* FALL		* SPRING		* POST	
	* MEAN *		* PREPLANT		* EMERGE	
	* TIMES	* NO.	* TIMES	* NO.	* TIMES	* NO.
	* OVER	* OBS.	* OVER	* OBS.	* OVER	* OBS.
MOLDBOARD PLOW	1.0	50	1.0	53		
CHISEL PLOW	1.0	37	1.0	12		
OFF-SET DISC	1.0	1	1.5	2		
TANDEM DISC	1.1	29	1.5	131		
SINGLE DISC		0	1.5	6		
SPRINGTOOTH HARROW	1.0	2	1.2	16		
SPIKETooth HARROW	A/		1.4	46		
SUBSOILER	1.0	9	1.0	1		
FIELD CULTIVATOR			1.4	121		
CULTIMULCHER			1.0	12		
LAND LEVELER			1.0	1		
CONVENTIONAL PLANTER			1.0	180		
NO-TILL PLANTER			1.0	2		
LISTER PLANTER			1.0	5		
GRAIN DRILL				0		
ANHYDROUS APPLICATOR	1.0	1	1.0	77	1.0	27
ROW CULTIVATOR					1.2	142
ROTARY HOE					1.1	47
ROLLING CULTIVATOR					1.0	7
OTHER IMPLEMENTS	1.0	2	1.0	12	1.0	4

NOTE: OF THE 209 FIELDS REPORTING IN THE SURVEY, 22 OF THE SAMPLE FIELDS DID NOT REPORT USING ANY OF THE LISTED PLANTING IMPLEMENTS.

A/ INCLUDED WITH THE SPRINGTOOTH HARROW

TABLE 1.25. MATURITY LENGTH OF CORN HYBRIDS PLANTED ON 1983 CORN FIELDS.

STATE	* FIELDS * * REPORTING * - MATURITY LENGTH - * IN * * SURVEY * EARLY * MEDIUM * FULL			
	- - NUMBER OF FIELDS - -			
ILLINOIS	220	15	103	102
IOWA	212	20	122	67
MISSOURI	123	1	8	110
3 STATES	555	36	233	279

NOTE: SURVEYED FIELDS WITH MATURITY LENGTH OF HYBRID UNKNOWN WAS 7 .

TABLE 1.26. FREQUENCY OF CORN HYBRIDS BY INDIVIDUAL PRODUCERS PLANTED ON 1983 CORN FIELDS.

HYBRID PRODUCER	* ILLINOIS *	* IOWA *	* MISSOURI *	* 3 STATES *
	A/			
	- - - - NUMBER OF FIELDS - - - -			
PIONEER	103	121	40	264
UNKNOWN	3	39	31	73
DEKALB	25	22	11	58
FUNKS	15	9	9	33
GOLDEN HARVEST	15	7	3	25
CROWS	13	7	0	20
CARGILL	6	6	7	19
FS	16	0	0	16
PAG	11	2	1	14
ASGROW	3	6	3	12
PFISTER	10	1	1	12
SUPER CROST	5	4	3	12
WYFFELS	10	1	0	11
TROJAN	4	4	0	10
OS GOLD	0	4	5	9
JACQUES	1	1	6	8
LYNKS	0	7	1	8
MCALLISTER	4	3	1	8
STAUFFER	4	2	2	8
BO JAC	5	0	1	6
EK PREMIUM	5	0	3	8
BURRUS	5	0	0	5
AMERICANA	2	0	2	4
HUGHES	4	0	0	4
MFA	0	0	4	4
NORTHROP KING	0	4	0	4
NC+	0	0	4	4
FERRY MORSE	4	0	0	4
MIDDLEKOOP	0	1	2	3
MIGRO	0	3	0	3
PRIDE	3	0	0	3
RENZE	0	3	0	3
SEIBEN	0	1	0	1
TRESLER	3	0	0	3
BEAR	3	0	0	3
FONTENELLE	0	1	1	2
GROWMARK	0	2	0	2
GUTWEIN	1	0	1	2
KRUGER	0	2	0	2
LEWIS	0	0	2	2
LOWE	1	1	0	2
RING AROUND	2	0	0	2
MOEWS	2	0	0	2
DAYMASTER	1	1	0	2
STONE	2	0	0	2
LANDERS	2	0	0	2
EPLEY	0	2	0	2
OTHER HYBRIDS B/	9	10	2	21
TOTAL	299	277	148	724

A/ TWO HYBRIDS ARE REPORTED ON 169 FIELDS.
 B/ INCLUDES PRODUCERS OF CORN HYBRIDS PLANTED ON ONLY ONE SAMPLE FIELD.

TABLE 1.27. FREQUENCY OF SPECIFIC CORN HYBRIDS PLANTED ON 1983 CORN FIELDS.

HYBRID NAME	* ILLINOIS *	* IOWA *	* MISSOURI *	* 3 STATES *
UNKNOWN	3	39	31	73
PIONEER 3780	17	22	1	43
PIONEER 3541	19	23	0	42
PIONEER 3732	19	26	0	45
PIONEER 3377	13	13	8	34
PIONEER 3382	15	1	2	19
DEKALB 1100	14	4	0	18
PIONEER 3183	3	9	1	17
PIONEER 3747	8	3	0	11
PIONEER 3358	5	2	2	10
DEKALB XL25A	0	9	2	9
ASGROW RX777	3	2	2	8
CARGILL 967	3	1	4	8
DEKALB XL72AA	1	3	4	8
CROWS 444	6	1	4	7
FS 675	7	0	0	7
FUNKS G4522	1	1	4	6
PIONEER 3184	1	0	5	6
PIONEER 3901	0	6	0	6
CARGILL 921	2	3	0	5
DEKALB XL55A	3	2	0	5
GOLDEN HARVEST 2440	2	2	0	5
GOLDEN HARVEST 2500	2	1	2	5
MCALLISTER 7300B	3	1	1	5
PFISTER 75	4	1	0	5
WYFFELS 28	5	0	0	5
EK PREMIUM EK7770	1	0	3	4
FS 658	4	0	0	4
GOLDEN HARVEST 2535	4	0	0	4
OS GOLD 5500A	0	1	0	4
PFISTER 30	4	0	0	4
BO JAC 432	3	0	0	3
CARGILL 924	1	1	1	3
CROWS 199	1	1	0	3
DEKALB XL61	3	0	0	3
FUNKS G4435	1	2	0	3
FUNKS G4438	0	2	1	3
GOLDEN HARVEST 2480	2	1	0	3
NC 7120	0	0	3	3
PAG SX351	3	0	0	3
PAG SX397	3	0	0	3
PIONEER 3713	0	0	0	0
PIONEER 3906	0	3	0	3
PIONEER 3707	1	2	0	3
SUPER CROST 2410	1	2	0	3
TROJAN 1100	1	2	0	3
BEAR 810AA	3	0	0	3
ALL OTHER HYBRIDS B/	116	87	54	257

A/ TWO HYBRIDS ARE REPORTED FOR 169 FIELDS.

B/ INCLUDES CORN HYBRIDS PLANTED ON LESS THAN THREE SAMPLE FIELDS.

TABLE 1.28. CORN FIELDS REPORTING ANY HERBICIDE APPLICATIONS, ILLINOIS, IOWA AND MISSOURI, 1983.

STATE	* FIELDS * * REPORTING * * IN * * SURVEY *	NO HERBICIDE APPLIED	* * * *	HERBICIDE APPLIED	* * * *	UNKNOWN
	- - - NUMBER OF FIELDS - - -					
ILLINOIS	220	9		211		0
IOWA	212	18		190		4
MISSOURI	123	9		113		1
3 STATES	555	36		514		5

TABLE 1.29. HERBICIDES USED ON CORN FIELDS AND THE TIME OF APPLICATION, ILLINOIS, IOWA AND MISSOURI, 1983.

HERBICIDE	* FIELDS	* TIME OF APPLICATION		
	* RECEIVING	* PRE-	* PRE-	* POST
	* HERBICIDE	* PLANT	* EMERGENCE	* EMERGENCE
	* APPLICATIONS			
- - - - NUMBER OF FIELDS - - - -				
ALACHLOR	202	156	45	1
ATRAZINE	301	164	133	6
BENTAZON	1	1	0	0
BUTYLATE	85	68	16	1
CYANAZINE	125	44	70	11
DICAMBA	69	48	19	2
EPTC	7	5	1	1
GLYPHOSATE	2	2	0	0
LINURON	1	0	1	0
METOLACHLOR	101	63	37	1
METRIBUZIN	4	1	3	0
ORYZALIN	1	1	0	0
PARAQUAT	1	1	0	0
PROPACHLOR	2	2	0	0
SIMAZINE	4	0	4	0
2,4-D	58	36	16	6
COUNTER	2	1	1	0
LORSBAN	3	2	0	1
LO RAY	1	0	1	0
SUDAZINE	2	2	0	0

TABLE 1.30. HERBICIDES USED ON CORN FIELDS AND THE TIME OF APPLICATION WHEN THE FIELD WAS IDENTIFIED AS NO-TILL, ILLINOIS, IOWA, AND MISSOURI, 1983.

HERBICIDE	* FIELDS	* TIME OF APPLICATION		
	*RECEIVING	* PRE-	* PRE-	* POST
	*HERBICIDE	* PLANT	*EMERGENCE	*EMERGENCE
	*APPLICATION			
- - - - NUMBER OF FIELDS - - - -				
ALACHLOR	4	2	2	0
ATRAZINE	9	3	5	1
BUTYLATE	1	1	0	0
CYANAZINE	7	4	3	0
DICAMBA	2	1	1	0
GLYPHOSATE	1	1	0	0
METOLACHLOR	5	5	0	0
METRIBUZIN	1	0	1	0
PARAQUAT	1	1	0	0
2,4-D	3	1	0	2

TABLE 1.31. APPLICATION WHEN THE FIELD WAS IDENTIFIED AS OF
 MINIMUM TILLAGE, ILLINOIS, IOWA AND MISSOURI, 1983.

HERBICIDE	* FIELDS	* TIME OF APPLICATION		
	*RECEIVING *HERBICIDE *APPLICATION	* PRE- * PLANT	* PRE- * EMERGENCE	* POST * EMERGENCE
	- - - - NUMBER OF FIELDS - - - -			
ALACHLOR	122	98	23	1
ATRAZINE	173	89	82	4
BENTAZON	1	1	0	0
BUTYLATE	55	44	10	1
CYANAZINE	72	25	43	4
DICAMBA	49	33	14	2
EPTC	6	4	1	1
GLYPHOSATE	1	1	0	0
LINURON	1	0	1	0
METOLACHLOR	60	38	21	1
METRIBUZIN	1	0	1	0
PROPACHLOR	2	2	0	0
SIMAZINE	3	0	3	0
2,4-D	40	25	12	3
COUNTER	1	1	0	0
LORSBAN	2	2	0	0
LO RAY	1	0	0	0
SUDAZINE	2	2	0	0

TABLE 1.32. HERBICIDES USED ON CORN FIELDS AND THE TIME OF APPLICATION WHEN THE FIELD WAS IDENTIFIED AS CONVENTIONAL TILLAGE, ILLINOIS, IOWA, AND MISSOURI, 1983.

HERBICIDE	* FIELDS	* TIME OF APPLICATION *		
	*RECEIVING *HERBICIDE *APPLICATION*	* PRE- * PLANT	* PRE- * EMERGENCE	* POST * EMERGENCE
	- - - - NUMBER OF FIELDS - - - -			
ALACHLOR	75	55	20	0
ATRAZINE	117	71	45	1
BUTYLATE	28	23	5	0
CYANAZINE	44	13	24	7
DICAMBA	18	14	4	0
EPTC	1	1	0	0
METOLACHLOR	35	20	15	0
METRIBUZIN	2	1	1	0
ORYZALIN	1	1	0	0
SIMAZINE	1	0	1	0
2,4-D	15	10	4	1
COUNTER	1	0	1	0
LORSBAN	1	0	0	1

Soybean Production Input and Cropping Practices Data

Table 2.1. Total number of soybean fields sampled, 1983

State	Sampled fields in survey	Fields reporting in survey	Fields not reporting ^{1/}
Illinois	95	81	14
Iowa	82	77	5
Missouri	85	74	11
Three States	262	232	30

^{1/} Includes some fields which were not planted to soybeans or the intentions to harvest for beans changed from the time of the June Enumerative Survey and this survey. It also includes fields where a person knowledgeable of farm operations was not available or refused to provide information.

TABLE 2.2. NUMBER OF IRRIGATED SOYBEAN FIELDS AND NONIRRIGATED
SOYBEAN FIELDS WITH IRRIGATION FACILITIES, 1983.

STATE	* FIELDS *REPORTING* * IN * * SURVEY*	IRRIGATED FIELDS	* NONIRRIGATED FIELDS * WITH * *FACILITIES	* WITHOUT *FACILITIES	* *UNKNOWN
ILLINOIS	81	1	1	79	0
IOWA	77	0	0	77	0
MISSOURI	74	2	0	72	0
3 STATES	232	3	1	228	0

TABLE 2.3. SOYBEAN FIELDS WITH TILING OR AN ARTIFICIAL DRAINAGE SYSTEM, 1983.

STATE	* FIELDS *REPORTING* * IN * * SURVEY *	FIELDS WITH DRAINAGE	* FIELDS * WITHOUT * DRAINAGE *	* * UNKNOWN *
ILLINOIS	81	41	40	0
IOWA	77	51	26	0
MISSOURI	74	1	73	0
3 STATES	232	93	139	0

TABLE 2.4. DOMINANT SOIL SERIES IN FIELDS PLANTED TO SOYBEANS,
1983.

SOIL SERIES	* ILLINOIS*	IOWA	* MISSOURI*	* 3 STATES
	- - - - - NUMBER OF FIELDS - - - - -			
UNKNOWN	55	34	69	158
BECKWITH	0	1	0	1
CLARION	0	8	0	8
CLINTON	0	1	0	1
COMMERCE	0	0	1	1
CROSCO	0	1	0	1
DINSDALE	0	1	0	1
DRUMMER	5	0	0	5
FAYETTE	1	1	0	2
FLOYD	0	1	0	1
GRUNDY	0	1	1	2
KENYON	0	2	0	2
MARSHALL	0	3	1	4
MUSCATINE	0	1	0	1
NODAWAY	0	1	0	1
OTLEY	0	1	0	1
PRIMGHAR	0	3	0	3
RADDLE	1	0	0	1
SABLE	2	0	0	2
SHARPSBURG	1	1	0	2
TAMA	3	3	0	6
TICE	1	0	0	1
TRAIKTOR	0	1	0	1
WEBSTER	0	8	0	8
ZOOK	0	1	0	1
NICOLLET	0	3	0	3
GILFORD	1	0	0	1
SAYBROOK	1	0	0	1
FLANAGAN	1	0	0	1
ELLIOT	3	0	0	3
BRYCE	1	0	0	1
VARNA	1	0	0	1
HERRICK	1	0	0	1
CARMI	1	0	0	1
WABASH	0	0	2	2
TOTAL	81	77	74	232

TABLE 2.5. SOIL TEXTURE CLASS OF FIELDS PLANTED TO SOYBEANS,
1983.

SOIL TEXTURE	* * ILLINOIS*	* IOWA	* * MISSOURI*	* 3 STATES
	- - - - - NUMBER OF FIELDS - - - - -			
UNKNOWN	33	31	24	88
CLAY	4	4	6	14
CLAY LOAM	12	5	10	27
SILT	0	2	0	2
SILTY LOAM	12	12	6	30
SILTY CLAY LOAM	2	2	2	7
SILTY CLAY	5	5	1	11
LOAM	7	10	6	23
SANDY LOAM	5	5	8	18
OTHER	1	0	11	12
TOTAL	81	77	74	232

TABLE 2.6. SOYBEAN FIELDS WITH SOIL NUTRIENT TESTS AND AVAILABLE FERTILIZER RECOMMENDATIONS FROM THE TESTS, 1983.

STATE	* FIELDS * *REPORTING* * IN * * SURVEY *	TESTED FIELDS * WITH * *RECOMMENDED* * RATES *	* WITHOUT * *RECOMMENDED* * RATES *	* FIELDS * * NOT * * TESTED *
ILLINOIS	81	4	8	69
IOWA	77	9	20	48
MISSOURI	74	5	7	62
3 STATES	232	18	35	179

TABLE 2.7. NUMBER OF SOYBEAN FIELDS SINGLE AND DOUBLE CROPPED, 1983.

STATE	* FIELDS * * REPORTING * * IN * * SURVEY *	DOUBLE * CROPPED * FIELDS *	SINGLE * CROPPED * FIELDS
ILLINOIS	81	3	78
IOWA	77	0	77
MISSOURI	74	8	66
3 STATES	232	11	221

TABLE 2.8. THE PRECEDING CROP GROWN ON SINGLE OR DOUBLE CROPPED SOYBEAN FIELDS, 1983.

STATE	* CROP REPORTING TYPE *	* FIELDS * * REPORTING IN SURVEY *		PRECEDING CROP			
		* CORN *	* WHEAT *	* SOYBEAN *	* LEGUME HAY *	* OTHER *	
- - - - NUMBER OF FIELDS - - - -							
ILLINOIS	SINGLE	78	61	6	9	0	2
	DOUBLE	3		2			1
IOWA	SINGLE	77	64	0	11	1	1
	DOUBLE	0		0			0
MISSOURI	SINGLE	66	15	6	36	1	8
	DOUBLE	8		7			1
3 STATES	SINGLE	221	140	12	56	2	11
	DOUBLE	11		9			2

TABLE 2.9. THE MEAN YIELD OF THE PRECEDING CROP GROWN
ON SINGLE AND DOUBLE CROPPED SOYBEAN FIELDS, 1983.

STATE	* PRECEDING * * CROP *	* FIELDS * * REPORTING * * IN * * SURVEY *	* SINGLE CROPPED * * YIELD *	* FIELDS * * YIELD *	* DOUBLE CROPPED * * YIELD *	* FIELDS *
ILLINOIS	CORN	61	138	61	55	0
	WHEAT	8	40	6		2
	OTHER	12		11		1
IOWA	CORN	64	126	64	0	0
	WHEAT	0	0	0		0
	OTHER	13		13		0
MISSOURI	CORN	15	104	15	17	0
	WHEAT	13	29	6		7
	OTHER	46		45		1
3 STATES	CORN	140	129	140	26	0
	WHEAT	21	34	12		9
	OTHER	71		69		2

TABLE 2.10. THE PRECEDING CROP ON 1983 SOYBEAN FIELDS AND THE FIELDS REPORTING FERTILIZER APPLIED TO THE PRECEDING CROP.

STATE	* PRECEDING CROP *	* FIELDS REPORTING IN SURVEY *	* FERTILIZER APPLIED RATES REPORTED *	* FERTILIZER APPLIED RATES NOT REPORTED *	* NO FERTILIZER APPLIED *
- - - NUMBER OF FIELDS - - -					
ILLINOIS	WHEAT	8	6	0	2
	CORN	61	57	0	4
	OTHER	12			
IOWA	WHEAT	0	0	0	0
	CORN	64	58	4	2
	OTHER	13			
MISSOURI	WHEAT	13	11	0	2
	CORN	15	13	0	
	OTHER	46			
3 STATES	WHEAT	21	17	0	4
	CORN	140	128	4	8
	OTHER	71			

TABLE 2.11. FERTILIZER APPLIED TO THE PRECEDING CROP ON FIELDS PLANTED TO SOYBEANS IN 1983.

STATE	* PRECEDING * * CROP	* FIELDS		* FIELDS			* MEAN		
		* RECEIVING * * ANY * * FERTILIZER *	* RECEIVING *	* RECEIVING *	* NIT * * P205 * * K20 *	* NIT * * P205 * * K20 *	* NIT * * P205 * * K20 *	* NIT * * P205 * * K20 *	
		- NUMBER OF FIELDS -				- LBS PER ACRE -			
ILLINOIS	WHEAT	6	6	6	6	82	96	100	
	CORN	57	56	56	56	137	82	119	
IOWA	WHEAT	0	0	0	0	133	74	84	
	CORN	58	58	51	50				
MISSOURI	WHEAT	11	11	8	8	99	58	58	
	CORN	13	13	11	10	90	57	56	
3 STATES	WHEAT	17	17	14	14	93	74	76	
	CORN	128	127	118	116	131	76	99	

TABLE 2.12. TILLAGE SYSTEMS USED ON SINGLE AND DOUBLE CROPPED SOYBEAN FIELDS, 1983.

STATE	* CROP TYPE *	* FIELDS * * REPORTING * * IN * * SURVEY *	TILLAGE SYSTEM APPLIED 1/		
			* NO * * TILLAGE *	* MINIMUM * * TILLAGE *	* CONVENTIONAL * * TILLAGE *
- - - - - NUMBER OF FIELDS - - - - -					
ILLINOIS	SINGLE	78	2	30	46
	DOUBLE	3	2	1	0
IOWA	SINGLE	77	0	50	27
	DOUBLE	0	0	0	0
MISSOURI	SINGLE	66	0	43	23
	DOUBLE	8	2	6	0
3 STATES	SINGLE	221	2	123	96
	DOUBLE	11	4	7	0

1/ NO TILLAGE IS DEFINED AS PLANTING DIRECTLY INTO AN UNDISTURBED COVER CROP OR SOD. MINIMUM TILLAGE IS DEFINED AS ANY REDUCED TILLAGE FORM LEAVING PART (AT LEAST 30 PERCENT) OF THE RESIDUE ON THE SURFACE. CONVENTIONAL TILLAGE INCLUDES MOLDBOARD PLOWING OR OTHER MULTIPLE TILLAGES WHICH INCORPORATE NEARLY ALL SURFACE RESIDUES.

TABLE 2.13. TILLAGE IMPLEMENTS USED ON SOYBEAN FIELDS AND THE TIME THE TILLAGE OCCURRED, ILLINOIS, IOWA AND

IMPLEMENT	* TIME OF TILLAGE *			* IMPLEMENT * NOT * USED
	* FALL *	* SPRING * *PREPLANT*	* POST * *EMERGE*	
- - - NUMBER OF FIELDS - - -				
MOLDBOARD PLOW	43	21		168
CHISEL PLOW	36	27		169
OFF-SET DISC	3	4		226
TANDEM DISC	35	156		60
SINGLE DISC	1	5		227
SPRINGTOOTH HARROW	3	8		221
SPIKETooth HARROW		20		209
SUBSOILER	1	0		231
FIELD CULTIVATOR		122		110
CULTIMULCHER		19		213
LAND LEVELER		2		230
CONVENTIONAL PLANTER		170		62
RIDGE OR NO-TIL PLANTER		5		227
LISTER PLANTER		0		232
GRAIN DRILL		42		190
ANHYDROUS APPLICATOR	1	4	2	225
ROW CULTIVATOR			147	85
ROTARY HOE			47	185
ROLLING CULTIVATOR			3	229
OTHER IMPLEMENTS	4	12	4	20

NOTE: THERE WERE 232 FIELDS REPORTING IN THE SURVEY.

TABLE 2.14. TILLAGE IMPLEMENTS USED ON SOYBEAN FIELDS AND THE TIME THE TILLAGE OCCURRED, ILLINOIS. 1983

IMPLEMENT	* TIME OF TILLAGE *			* IMPLEMENT NOT USED
	* FALL	* SPRING * PREPLANT	* POST * EMERGE	
	- - - NUMBER OF FIELDS - - -			
MOLDBOARD PLOW	25	9		47
CHISEL PLOW	15	9		57
OFF-SET DISC	1	0		80
TANDEM DISC	20	39		32
SINGLE DISC	1	4		77
SPRINGTOOTH HARROW	1	0		80
SPIKETooth HARROW		13		67
SUBSOILER	0	0		81
FIELD CULTIVATOR		51		30
CULTIMULCHER		13		68
LAND LEVELER		0		81
CONVENTIONAL PLANTER		50		31
RIDGE OR NO-TIL PLANTER		4		77
LISTER PLANTER		0		81
GRAIN DRILL		18		63
ANHYDROUS APPLICATOR	0	2		77
ROW CULTIVATOR			48	33
ROTARY HOE			25	56
ROLLING CULTIVATOR			2	79
OTHER IMPLEMENTS	1	6	1	20

NOTE: THERE WERE 81 FIELDS REPORTING IN THE SURVEY.

TABLE 2.15. TILLAGE IMPLEMENTS USED ON SOYBEAN FIELDS AND THE TIME THE TILLAGE OCCURRED, IOWA, 1983.

IMPLEMENT	* TIME OF TILLAGE *			* IMPLEMENT NOT USED
	* FALL * *PREPLANT*	* SPRING * *EMERGE*	* POST *	
	- - - NUMBER OF FIELDS - - -			
MOLDBOARD PLOW	13	7		57
CHISEL PLOW	14	4		59
OFF-SET DISC	0	1		76
TANDEM DISC	9	65		11
SINGLE DISC	0	0		77
SPRINGTOOTH HARROW	0	8		69
SPIKETooth HARROW		2		75
SUBSOILER	1	0		76
FIELD CULTIVATOR		33		44
CULTIMULCHER		2		75
LAND LEVELER		1		76
CONVENTIONAL PLANTER		72		5
RIDGE OR NO-TIL PLANTER		0		77
LISTER PLANTER		0		77
GRAIN DRILL		3		74
ANHYDROUS APPLICATOR	1	2	0	74
ROW CULTIVATOR			65	12
ROTARY HOE			13	64
ROLLING CULTIVATOR			1	76
OTHER IMPLEMENTS	2	4	3	7

NOTE: THERE WERE 77 FIELDS REPORTING IN THE SURVEY.

TABLE 2.16. TILLAGE IMPLEMENTS USED ON SOYBEAN FIELDS AND THE TIME THE TILLAGE OCCURRED, MISSOURI, 1983.

IMPLEMENT	* TIME OF TILLAGE *			* IMPLEMENT NOT USED
	* FALL *	* SPRING * *PREPLANT*	* POST * *EMERGE*	
	- - - NUMBER OF FIELDS - - -			
MOLDBOARD PLOW	5	5		64
CHISEL PLOW	7	14		53
OFF-SET DISC	2	3		70
TANDEM DISC	6	5		17
SINGLE DISC	0	1		73
SPRINGTOOTH HARROW	2	0		72
SPIKETooth HARROW		5		67
SUBSOILER	0	0		74
FIELD CULTIVATOR		38		36
CULTIMULCHER		4		70
LAND LEVELER		1		73
CONVENTIONAL PLANTER		48		26
RIDGE OR NO-TIL PLANTER		1		73
LISTER PLANTER		0		74
GRAIN DRILL		21		53
ANHYDROUS APPLICATOR	0	0	0	74
ROW CULTIVATOR			34	40
ROTARY HOE			9	65
ROLLING CULTIVATOR			0	74
OTHER IMPLEMENTS	1	2	0	38

NOTE: THERE WERE 74 FIELDS REPORTING IN THE SURVEY.

TABLE 2.17. MEAN NUMBER OF TIMES PASSED OVER SOYBEAN FIELDS WITH TILLAGE IMPLEMENTS AND THE TIME WHEN THE TILLAGE OCCURRED, ILLINOIS, IOWA AND MISSOURI. 1983.

IMPLEMENT	* FALL *		* SPRING *		* POST *	
	* * * *		* PREPLANT *		* EMERGE *	
	* * * *		* * * *		* * * *	
	*MEAN *	*MEAN *	*MEAN *	*MEAN *	*MEAN *	*MEAN *
TIMES	*NO.*	*TIMES*	*NO.*	*TIMES*	*NO.*	
*OVER	*OBS.*	*OVER	*OBS.*	*OVER	*OBS.*	
MOLDBOARD PLOW	1.0	43	1.0	21		
CHISEL PLOW	1.0	36	1.1	27		
OFF-SET DISC	1.0	3	1.5	4		
TANDEM DISC	1.3	35	1.7	156		
SINGLE DISC	2.0	1	1.6	5		
SPRINGTOOTH HARROW	1.7	3	1.0	8		
SPIKETooth HARROW	A/		1.3	20		
SUBSOILER	1.0	1	0.0	0		
FIELD CULTIVATOR			1.5	122		
CULTIMULCHER			1.0	19		
LAND LEVELER			1.0	2		
CONVENTIONAL PLANTER			1.0	170		
NO-TILL PLANTER			1.0	5		
LISTER PLANTER			0.0	0		
GRAIN DRILL			1.0	42		
ANHYDROUS APPLICATOR	1.0	1	1.0	4	1.0	2
ROW CULTIVATOR					1.4	147
ROTARY MOE					1.0	47
ROLLING CULTIVATOR					1.3	3
OTHER IMPLEMENTS	1.0	4	1.2	12	1.3	4

A/ INCLUDED WITH THE SPRINGTOOTH HARROW

NOTE: OF THE 232 FIELDS REPORTING IN THE SURVEY, 17 OF THE SAMPLE FIELDS DID NOT REPORT USING ANY OF THE LISTED PLANTING IMPLEMENTS.

TABLE 2.18. MEAN NUMBER OF TIMES PASSED OVER SOYBEAN FIELDS WITH TILLAGE IMPLEMENTS AND THE TIME WHEN THE TILLAGE OCCURRED, ILLINOIS, 1983.

IMPLEMENT	* FALL		* SPRING		* POST	
	* * * * *		* PREPLANT		* EMERGE	
	* MEAN *	* * * * *	* MEAN *	* * * * *	* MEAN *	* * * * *
	TIMES NO.	*OBS.	*TIMES* NO.	*OBS.	*TIMES* NO.	*OBS.
MOLDBOARD PLOW	1.0	25	1.0	9		
CHISEL PLOW	1.0	15	1.1	9		
OFF-SET DISC	1.0	1	0.0	0		
TANDEM DISC	1.0	20	1.0	39		
SINGLE DISC	2.0	1	1.8	4		
SPRINGTOOTH HARROW	1.0	1	0.0	0		
SPIKETooth HARROW	A/		1.5	13		
SUBSOILER	0.0	0	0.0	0		
FIELD CULTIVATOR			1.5	51		
CULTIMULCHER			1.0	13		
LAND LEVELER			0.0	0		
CONVENTIONAL PLANTER			1.0	50		
NO-TILL PLANTER			1.0	4		
LISTER PLANTER			0.0	0		
GRAIN DRILL			1.0	13		
ANHYDROUS APPLICATOR	0.0	0	1.0	2	1.0	2
ROW CULTIVATOR					1.5	48
ROTARY HOE					1.0	25
ROLLING CULTIVATOR					1.5	2
OTHER IMPLEMENTS	1.0	1	1.2	6	1.0	1

A/ INCLUDED WITH THE SPRINGTOOTH HARROW

NOTE: OF THE 81 FIELDS REPORTING IN THE SURVEY, 10 OF THE SAMPLE FIELDS DID NOT REPORT USING ANY OF THE LISTED PLANTING IMPLEMENTS.

TABLE 2.19. MEAN NUMBER OF TIMES PASSED OVER SOYBEAN FIELDS WITH TILLAGE IMPLEMENTS AND THE TIME WHEN THE TILLAGE OCCURRED, IOWA, 1983.

IMPLEMENT	* FALL *		* SPRING *		* POST *	
	* MEAN *	* NO. *	* MEAN *	* NO. *	* MEAN *	* NO. *
	TIMES	*OBS.*	*TIMES*	*OBS.*	*TIMES*	*OBS.*
MOLDBOARD PLOW	1.0	13	1.0	7		
CHISEL PLOW	1.0	14	1.3	4		
OFF-SET DISC	0.0	0	1.0	1		
TANDEM DISC	1.2	9	1.7	65		
SINGLE DISC	0.0	0	0.0	0		
SPRINGTOOTH HARROW	0.0	0	1.0	8		
SPIKETooth HARROW	A/		1.0	2		
SUBSOILER	1.0	1	0.0	0		
FIELD CULTIVATOR			1.4	33		
CULTIMULCHER			1.0	2		
LAND LEVELER			1.0	1		
CONVENTIONAL PLANTER			1.0	72		
NO-TILL PLANTER			0.0	0		
LISTER PLANTER			0.0	0		
GRAIN DRILL			1.0	3		
ANHYDROUS APPLICATOR	1.0	1	1.0	2	0.0	0
ROW CULTIVATOR					1.4	65
ROTARY HOE					1.0	13
ROLLING CULTIVATOR					1.0	1
OTHER IMPLEMENTS	1.0	2	1.3	4	1.3	3

A/ INCLUDED WITH THE SPRINGTOOTH HARROW

NOTE: OF THE 77 FIELDS REPORTING IN THE SURVEY, 2 OF THE SAMPLE FIELDS DID NOT REPORT USING ANY OF THE LISTED PLANTING IMPLEMENTS.

TABLE 2.20. MEAN NUMBER OF TIMES PASSED OVER SOYBEAN FIELDS WITH TILLAGE IMPLEMENTS AND THE TIME WHEN THE TILLAGE OCCURRED, MISSOURI, 1983.

IMPLEMENT	* FALL		* SPRING		* POST	
	* PREPLANT		* EMERGE			
	* MEAN	* NO.	* MEAN	* NO.	* MEAN	* NO.
	* TIMES	* OBS.	* TIMES	* OBS.	* TIMES	* OBS.
MOLDBOARD PLOW	1.0	5	1.0	5		
CHISEL PLOW	1.0	7	1.0	14		
OFF-SET DISC	1.0	2	1.7	3		
TANDEM DISC	2.0	7	1.8	52		
SINGLE DISC	0.0	0	1.0	1		
SPRINGTOOTH HARROW	2.0	2	0.0	0		
SPIKETooth HARROW	A/		1.2	5		
SUBSOILER	0.0	0	0.0	0		
FIELD CULTIVATOR			1.4	38		
CULTIMULCHER			1.0	4		
LAND LEVELER			1.0	1		
CONVENTIONAL PLANTER			1.0	48		
NO-TILL PLANTER			1.0	1		
LISTER PLANTER			0.0	0		
GRAIN DRILL			1.0	21		
ANHYDROUS APPLICATOR	0.0	0	0.0	0	0.0	0
ROW CULTIVATOR					1.4	34
ROTARY HOE					1.1	9
ROLLING CULTIVATOR					0.0	0
OTHER IMPLEMENTS	1.0	1	1.0	2	0.0	0

A/ INCLUDED WITH THE SPRINGTOOTH HARROW

NOTE: OF THE 74 FIELDS REPORTING IN THE SURVEY, 5 OF THE SAMPLE FIELDS DID NOT REPORT USING ANY OF THE LISTED PLANTING IMPLEMENTS.

TABLE 2.21. TILLAGE IMPLEMENTS USED ON SOYBEAN FIELDS WHEN THE TILLAGE SYSTEM WAS IDENTIFIED AS NO-TILL, ILLINOIS, IOWA AND MISSOURI, 1983.

IMPLEMENT	* FALL *		* SPRING *		* POST *	
	* PREPLANT *		* PREPLANT *		* EMERGE *	
	* MEAN *	* MEAN *	* MEAN *	* MEAN *	* MEAN *	* MEAN *
	* TIMES * * OVER *	* NO. * * OBS. *	* TIMES * * OVER *	* NO. * * OBS. *	* TIMES * * OVER *	* NO. * * OBS. *
MOLDBOARD PLOW	0.0	0	0.0	0		
CHISEL PLOW	0.0	0	0.0	0		
OFF-SET DISC	0.0	0	0.0	0		
TANDEM DISC	0.0	0	0.0	0		
SINGLE DISC	2.0	1	2.0	1		
SPRINGTOOTH HARROW	0.0	0	0.0	0		
SPIKETooth HARROW	A/		0.0	0		
SUBSOILER	0.0	0	0.0	0		
FIELD CULTIVATOR			0.0	0		
CULTIMULCHER			0.0	0		
LAND LEVELER			0.0	0		
CONVENTIONAL PLANTER			0.0	0		
NO-TILL PLANTER			1.0	4		
LISTER PLANTER			0.0	0		
GRAIN DRILL			1.0	2		
ANHYDROUS APPLICATOR	0.0	0	0.0	0	1.0	2
ROW CULTIVATOR					0.0	0
ROTARY HOE					1.0	1
ROLLING CULTIVATOR					0.0	0
OTHER IMPLEMENTS	0.0	0	0.0	0	0.0	0

A/ INCLUDED WITH THE SPRINGTOOTH HARROW

NOTE: OF THE 6 FIELDS REPORTING IN THE SURVEY, 0 OF THE SAMPLE FIELDS DID NOT REPORT USING ANY OF THE LISTED PLANTING IMPLEMENTS.

TABLE 2.22. TILLAGE IMPLEMENTS USED ON SOYBEAN FIELDS WHEN THE TILLAGE SYSTEM WAS IDENTIFIED AS MINIMUM, ILLINOIS, IOWA AND MISSOURI, 1983.

IMPLEMENT	* FALL *		* SPRING *		* POST *	
			* PREPLANT *		* EMERGE *	
	* MEAN *		* MEAN *		* MEAN *	
	* TIMES *	* NO. *	* TIMES *	* NO. *	* TIMES *	* NO. *
	* OVER *	* OVS. *	* OVER *	* OVS. *	* OVER *	* OVS. *
MOLDBOARD PLOW	1.0	2	0.0	0		
CHISEL PLOW	1.0	20	1.1	20		
OFF-SET DISC	1.0	1	1.7	3		
TANDEM DISC	1.3	21	1.0	98		
SINGLE DISC	0.0	0	1.5	4		
SPRINGTOOTH HARROW	2.0	1	1.0	5		
SPIKETooth HARROW	AZ		1.0	0		
SURSOILER	0.0	0	0.0	0		
FIELD CULTIVATOR			1.3	67		
CULTIMULCHER			1.0	9		
LAND LEVELER			1.0	1		
CONVENTIONAL PLANTER			1.0	16		
NO-TILL PLANTER			1.0	1		
LISTER PLANTER			0.0	0		
GRAIN DRILL			1.0	23		
ANHYDROUS APPLICATOR	0.0	0	1.0	2	0.0	0
ROW CULTIVATOR					1.4	2
ROTARY HOE					1.1	1
ROLLING CULTIVATOR					1.0	1
OTHER IMPLEMENTS	1.0	3	1.1	8	1.0	2

AZ INCLUDED WITH THE SPRINGTOOTH HARROW

NOTE: OF THE 130 FIELDS REPORTING IN THE SURVEY, 9 OF THE SAMPLE FIELDS DID NOT REPORT USING ANY OF THE LISTED PLANTING IMPLEMENTS.

TABLE 2.23. TILLAGE IMPLEMENTS USED ON SOYBEAN FIELDS WHEN THE TILLAGE SYSTEM WAS IDENTIFIED AS CONVENTIONAL, ILLINOIS, IOWA AND MISSOURI, 1983.

IMPLEMENT	* FALL		* SPRING		* POST	
	*		* PREPLANT		* EMERGE	
	*		*		*	
	*MEAN	*NO.	*MEAN	*NO.	*MEAN	*NO.
	*OBS.	*OBS.	*OBS.	*OBS.	*OBS.	
MOLDBOARD PLOW	1.0	41	1.0	21		
CHISEL PLOW	1.0	7	1.0	7		
OFF-SET DISC	1.0	2	1.0	1		
TANDEM DISC	1.2	14	1.0	58		
SINGLE DISC	0.0	0	0.0	0		
SPRINGTOOTH HARROW	1.5	2	1.0	3		
SPIKETooth HARROW	A/		1.5	14		
SUBSOILER	1.0	1	0.0	0		
FIELD CULTIVATOR			1.7	55		
CULTIMULCHER			1.0	10		
LAND LEVELER			1.0	1		
CONVENTIONAL PLANTER			1.0	74		
NO-TILL PLANTER			0.0	0		
LISTER PLANTER			0.0	0		
GRAIN DRILL			1.0	15		
ANHYDROUS APPLICATOR	1.0	1	1.0	2	0.0	0
ROW CULTIVATOR					1.6	65
ROTARY HOE					1.0	21
ROLLING CULTIVATOR					1.5	22
OTHER IMPLEMENTS	1.0	1	1.5	4	1.5	2

A/ INCLUDED WITH THE SPRINGTOOTH HARROW

NOTE: OF THE 90 FIELDS REPORTING IN THE SURVEY, 8 OF THE SAMPLE FIELDS DID NOT REPORT USING ANY OF THE LISTED PLANTING IMPLEMENTS.

TABLE 2.24. THE USE OF HERBICIDE ON 1983 SOYBEAN FIELDS.

STATE	* FIELDS * * REPORTING * * IN * * SURVEY *	NO HERBICIDE APPLIED	* HERBICIDE * * APPLIED *	* UNKNOWN *
	- - NUMBER OF FIELDS - -			
ILLINOIS	81	8	71	2
IOWA	77	5	72	0
MISSOURI	74	20	54	0
3 STATES	232	33	197	2

TABLE 2.25. HERBICIDES USED ON SOYBEAN FIELDS AND THE TIME OF APPLICATION, ILLINOIS, IOWA AND MISSOURI, 1983.

HERBICIDE	* FIELDS * *RECEIVING * *HERBICIDE * *APPLICATION*	TIME OF APPLICATION		
		PRE- * PLANT *EMERGENCE	PRE- * EMERGENCE	* POST EMERGENCE
	- - - - NUMBER OF FIELDS - - - -			
ACIFLUORFEN	12	10	2	0
ALACHLOR	55	45	10	0
ATRAZINE	22	2	0	0
BENTAZON	54	4	13	0
BUTYLATE	22	2	2	0
CHLORAMBEN	12	6	4	2
CHLOROPROPHAN	22	1	1	0
DINOSEB	22	2	1	0
FLUCHLORALIN	7	6	1	0
GLYPHOSATE	4	3	1	0
LINURON	21	5	14	2
METOLACHLOR	19	16	3	0
METRIBUZIN	7	7	6	1
NAPTALAM	2	0	2	0
PARAQUAT	2	0	0	2
PENDIMETHALIN	7	0	0	0
TRIFLURALIN	95	9	4	0
VERNOLATE	1	1	0	0
2,4-D	1	1	0	0
2,4-DB	3	0	3	0
WEX	1	0	1	0
LATEX	1	0	1	0
LENNEX	1	0	1	0
POAST	1	0	1	0
FULISIDE	1	0	1	0
ADJUAN	1	0	1	0

TABLE 2.26. HERBICIDES USED ON SOYBEAN FIELDS AND THE TIME OF APPLICATION WHEN THE FIELD WAS IDENTIFIED AS NO-TILL, ILLINOIS IOWA, AND MISSOURI, 1983.

HERBICIDE	* FIELDS	* TIME OF APPLICATION		
	*RECEIVING *HERBICIDE *APPLICATION	* PRE- * PLANT	* PRE- * EMERGENCE	* POST * EMERGENCE
	- - - - NUMBER OF FIELDS - - - -			
ALACHLOR	2	1	1	0
ATRAZINE	1	1	0	0
BENTAZON	1	1	0	0
LINURON	1	0	1	0
PARAQUAT	2	0	0	2

TABLE 2.27. HERBICIDES USED ON SOYBEAN FIELDS AND THE TIME OF APPLICATION WHEN THE FIELD WAS IDENTIFIED AS MINIMUM TILLAGE, ILLINOIS, IOWA AND MISSOURI, 1983.

HERBICIDE	* FIELDS	* TIME OF APPLICATION		
	*RECEIVING	* PRE- * PRE- * POST	* APPLICATION	* PLANT * EMERGENCE * EMERGENCE
	- - - - NUMBER OF FIELDS - - - -			
ACIFLUORFEN	8	7	1	0
ALACHLOR	30	26	4	0
ATRAZINE	1	1	0	0
BENTAZON	33	24	9	0
BUTYLATE	2	2	2	0
CHLORAMBEN	4	2	1	1
CHLOROPROPHAN	2	1	1	0
DINOSB	1	1	0	0
FLUCHLORALIN	5	4	1	0
GLYPHOSATE	1	1	0	0
LINURON	9	2	6	1
METOLACHLOR	10	8	2	0
METRIBUZIN	43	5	38	0
NAPTALAM	1	0	1	0
PENDIMETHALIN	5	5	0	0
TRIFLURALIN	51	50	1	0
VERNOLATE	1	1	0	0
2,4-D	1	1	0	0
2,4-DB	1	0	1	0
WEX	1	0	0	1
LATEX	1	0	1	0
POAST	1	0	1	0
FULISIDE	2	1	0	1
ADJUAN	1	0	1	0

TABLE 2.28. HERBICIDES USED ON SOYBEAN FIELDS AND THE TIME OF APPLICATION WHEN THE FIELD WAS IDENTIFIED AS CONVENTIONAL TILLAGE, ILLINOIS, IOWA, AND MISSOURI, 1983.

HERBICIDE	* FIELDS *		TIME OF APPLICATION		
	*RECEIVING *HERBICIDE *APPLICATION*	* *	PRE- * PLANT	PRE- * EMERGENCE	POST * EMERGENCE
	- - - - NUMBER OF FIELDS - - - -				
ACIFLUORFEN	4		3	1	0
ALACHLOR	23		18	5	0
BENTAZON	20		16	4	0
CHLORAMBEN	8		4	3	1
DINoseb	1		1	0	0
FLUCLORALIN	2		2	0	0
GLYPHOSATE	3		2	1	0
LINURON	11		3	7	1
METOLACHLOR	9		8	1	0
METRIBUZIN	28		2	25	1
NAPTALAM	1		0	1	0
PENDIMETHALIN	2		2	0	0
TRIFLURALIN	44		4	3	0
2,4-D	1		0	0	1
2,4-DB	2		0	2	0
LENNEX	1		0	1	0

APPENDIX A

FORM I: CORN PRODUCTION INPUTS AND CROPPING PRACTICES

Form I: CORN PRODUCTION INPUTS AND CROPPING PRACTICES

YEAR, CROP, FORM, MONTH (1-4) 3 4 9 1	
--------------------------------------------------------	--

I would like to ask some additional questions about the production inputs and cropping practices applied to this field _____ (enter from Form A Item 3).

Date _____

Starting Time (Military Time)

1. Enter from Form H, Item 2 If this field has been or will be irrigated. YES = 1 (go to question 3) NO = 2

2. Do you have the facilities to irrigate this field?
 YES = 1 NO = 2 Enter Code

3. Does this field contain tilling or an artificial drainage system?
 YES = 1 NO = 2 Enter Code

4. What is the dominant soil type in this field?

 (soil series)

 (texture class)

Previously you were asked to report the analysis and amount of fertilizer nutrients applied on this field for this year's corn crop. Now, I would like to ask some additional questions pertaining to the fertility of the soil.

5. Has a soil test been run on this field within the last two years?
 YES = 1 NO = 2 (go to question 7) Enter Code

6. Were fertilizer recommendations provided for this year's corn crop in this field?
 YES = 1 (complete following table) NO = 2 (go to question 7) Enter Code

Use the following table to record the recommended fertilizer application rate and target yield for the 1983 crop in this field.

Actual Nutrients Recommended			Target Yield
"N" Nitrogen Pounds per acre	"P ₂ O ₅ " Phosphate Pounds per acre	"K ₂ O" Potash Pounds per acre	
908	909	910	911

7. What crop was grown on this field in 1982?

Enter Code

- 1 - Corn (continue) 2 - Soybeans
 3 - Alfalfa or other legume hay
 4 - Other -Specify _____

Go to
Question 10.

8. What was last year's corn yield from this field?

Bu./Acre

9. Did you apply any fertilizer on last year's corn crop in this field?

Enter Code

YES = 1 NO = 2 (go to question 10).

Table A: Use this table to record fertilizer applied to the preceding corn crop that included carrier materials. Record each application on a separate line.

L I N E	Kind	Analysis			Pounds Applied Per Acre
		"N" Nitrogen Percent	"P ₂ O ₅ " Phosphate Percent	"K ₂ O" Potash Percent	
A.		916	917	918	919
B.		920	921	922	923
C.		924	925	926	927

Table B: Use this table to record any fertilizer applied to the preceding corn crop reported in pounds of actual nutrients per acre. Exclude carrier materials. Record each application on a separate line.

L I N E	Actual Nutrients Applied		
	"N" Nitrogen Pounds per acre	"P ₂ O ₅ " Phosphate Pounds per acre	"K ₂ O" Potash Pounds per acre
A.	928	929	930
B.	931	932	933

Next I would like to ask some questions about the type of tillage used on this field.

10. What type of tillage practice was used to grow this year's corn crop in this field?

Enter Code

934

- 1 - No tillage
- 2 - Minimum tillage
- 3 - Conventional tillage

The following definitions apply to each tillage practice:

- No tillage** — Planting directly into an undisturbed crop residue, winter cover crop or sod with no soil disturbance except by the seeding implement. There is no mechanical incorporation of crop residue, fertilizer or herbicide.
- Minimum tillage** — Chiseling, discing, rotary strip tilling or any reduced tillage form leaving part (at least 30%) of the crop residue on the surface.
- Conventional tillage** — Moldboard plowing, multiple discing or other multiple tillage forms which incorporate nearly all surface residue.

11. What tillage implements were employed and how many times over the field?

(Use the following table to record the implement, number of times over the field, and whether the tillage was applied in the fall, spring prior to planting or after planting.)

Fall		Spring Preplant 1/		Postemergence	
Implement	Times 2/ Over	Implement	Times 2/ Over	Implement	Times 2/ Over
Moldboard plow	935	Moldboard plow	952	Row cultivator	970
Chisel plow	936	Chisel plow	953	Rolling cultivator	971
Off-set disc	937	Off-set disc	954	Rotary hoe	972
Tandem disc	938	Tandem disc	955	Anhydrous applicator	973
Single disc	939	Single disc	956	Other:	974
Harrow	940	Subsoiler	957		975
Subsoiler	941	Spiketooth harrow	958		976
Anhydrous applicator	942	Springtooth harrow	959		
Other:	943	Field cultivator	960		
	944	Land leveler	961		
	945	Cultimulcher	962		
	946	Anhydrous applicator	963		
	947	Conventional planter	964		
	948	Lister Planter	965		
	949	Ridge or no till planter	966		
	950	Grain drill	967		
	951	Other:	968		
			969		

1/ Spring preplant includes all operations in preparing the seedbed and in planting.

2/ When more than one implement is applied simultaneously, record one time over for each implement.

12. What is the maturity length of the planted hybrid?

- 1 - Early Season Maturity (80-90 days)
- 2 - Medium Maturity (91-100 days)
- 3 - Full Season Maturity (101-120 days)

Enter Code

13. What corn hybrid(s) was planted in this field?

(Hybrid & Number)

Enter Code

(Hybrid & Number)

Enter Code

14. Did you or do you plan to apply any herbicide to this corn field?

Enter Code

YES = 1 NO = 2 (Conclude Interview)

(Use the following table to record the chemical or combinations of chemicals applied either as a preplant, preemergence or postemergence.)

Line	Preplant		Preemergence		Postemergence	
A.	<input type="text" value="988"/>		<input type="text" value="991"/>		<input type="text" value="994"/>	
B.	<input type="text" value="989"/>		<input type="text" value="992"/>		<input type="text" value="995"/>	
C.	<input type="text" value="990"/>		<input type="text" value="993"/>		<input type="text" value="996"/>	

Ending Time (Military Time)

Enumerator _____

Enumerator Number

Form I: SOYBEAN PRODUCTION INPUTS AND CROPPING PRACTICES

YEAR, CROP, FORM, MONTH (1-4) 3 2 9 1	
--------------------------------------------------------	--

I would like to ask some additional questions about the production inputs and cropping practices applied to this field _____ (enter from Form A Item 3).

Date _____

Starting Time (Military Time)

1. Enter from Form H, Item 2 if this field has been or will be irrigated. YES = 1 (go to question 3) NO = 2

2. Do you have the facilities to irrigate this field?
 YES = 1 NO = 2 Enter Code

3. Does this field contain tilling or an artificial drainage system?
 YES = 1 NO = 2 Enter Code

4. What is the dominant soil type in this field?

 (soil series)

 (texture class)

Previously you were asked to report the analysis and amount of fertilizer nutrients applied on this field for this year's soybean crop. Now, I would like to ask some additional questions pertaining to the fertility of the soil.

5. Has a soil test been run on this field within the last two years?
 YES = 1 NO = 2 (go to question 7) Enter Code

6. Were fertilizer recommendations provided for this year's soybean crop in this field?
 YES = 1 (complete following table) NO = 2 (go to question 7) Enter Code

Use the following table to record the recommended fertilizer application rate and target yield for the 1983 crop in this field.

Actual Nutrients Recommended			Target Yield
"N" Nitrogen <i>Pounds per acre</i>	"P ₂ O ₅ " Phosphate <i>Pounds per acre</i>	"K ₂ O" Potash <i>Pounds per acre</i>	
908	909	910	911

7. Is this field being double cropped?

YES = 1 (complete question 8 for this year's previous crop)
 NO = 2 (complete question 8 for last year's crop)

Enter Code

8. What was the preceding crop in this field? (*this year or last year*)

Enter Code

- 1 - Corn
- 2 - Wheat
- 3 - Soybeans
- 4 - Alfalfa or other legume hay
- 5 - Other _____
Specify

} Continue

} Go to question 11.

What was the (*corn or wheat*) yield on this field?

Bu./Acre

10. Did you apply fertilizer to the preceding (corn or wheat) crop in this field?

YES = 1 (complete following tables)

NO = 2 (go to question 11)

Enter Code

915

Table A: Use this table to record fertilizer applied to the preceding (corn or wheat) crop that included carrier materials. Record each application on a separate line.

LINE	Kind	Analysis			Pounds Applied Per Acre
		"N" Nitrogen Percent	"P ₂ O ₅ " Phosphate Percent	"K ₂ O" Potash Percent	
A.		916	917	918	919
B.		920	921	922	923
C.		924	925	926	927

Table B: Use this table to record any fertilizer applied to the preceding (corn or wheat) crop reported in pounds of actual nutrients per acre. Exclude carrier materials. Record each application on a separate line.

LINE	Actual Nutrients Applied		
	"N" Nitrogen Pounds per acre	"P ₂ O ₅ " Phosphate Pounds per acre	"K ₂ O" Potash Pounds per acre
A.	928	929	930
B.	931	932	933

Next I would like to ask some questions about the type of tillage used on this field.

11. What type of tillage practice was used to grow this year's soybean crop in this field?

1 - No tillage

2 - Minimum tillage

3 - Conventional tillage

Enter Code

934

The following definitions apply to each tillage practice:

No tillage

— Planting directly into an undisturbed crop residue, winter cover crop or sod with no soil disturbance except by the seeding implement. There is no mechanical incorporation of crop residue, fertilizer or herbicide.

Minimum tillage

— Chiseling, discing, rotary strip tilling or any reduced tillage form leaving part (at least 30%) of the crop residue on the surface.

Conventional tillage

— Moldboard plowing, multiple discing or other multiple tillage forms which incorporate nearly all surface residue.

12. What tillage implements were employed and how many times over the field?

(Use the following table to record the implement, number of times over the field, and whether the tillage was applied in the fall, spring prior to planting or after planting.)

Fall		Spring Preplant 1/		Postemergence	
Implement	Times 2/ Over	Implement	Times 2/ Over	Implement	Times 2/ Over
Moldboard plow	935	Moldboard plow	951	Row cultivator	969
Chisel plow	936	Chisel plow	952	Rolling cultivator	970
Off-set disc	937	Off-set disc	953	Rotary hoe	971
Tandem disc	938	Tandem disc	954	Anhydrous applicator	972
Single disc	939	Single disc	955	Other:	973
Harrow	940	Subsoiler	956		974
Anhydrous applicator	941	Spiketooth harrow	957		
Subsoiler	942	Springtooth harrow	958		
Other:	943	Field cultivator	959		
	944	Land leveler	960		
	945	Cultimulcher	961		
	946	Anhydrous applicator	962		
	947	Conventional planter	963		
	948	Lister Planter	964		
	949	Ridge or no till planter	965		
	950	Grain drill	966		
		Other:	967		
			968		

1/ Spring preplant includes all operations in preparing the seedbed and in planting.

2/ When more than one implement is applied simultaneously, record one time over for each implement.

13. Did you or do you plan to apply any herbicide to this soybean field this year? Enter Code

987

YES = 1 NO = 2 (Conclude Interview)

Use the following table to record the chemical or combinations of chemicals applied either as a preplant, preemergence or postemergence.)

Line	Preplant	Preemergence	Postemergence
A.	988	991	994
B.	989	992	995
C.	990	993	996

Ending Time (Military Time)

997

numerator _____

Enumerator Number

998