

UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service - Northeast Technical Service Center
1974 Sproul Road, Broomall, Pennsylvania 19008

February 6, 1978

NETSC TECHNICAL NOTE - WATERSHEDS-16 (Rev. 2)

RE: Economics - Basic Data for Evaluating Floodwater
Damages to Crops and Pastures in the Northeast

The purpose of this revision is to update the basic data and examples of a procedure that will be applicable in many watersheds for estimating crop and pasture floodwater damages. Sufficient basic data needs to be collected to support the applicability of some of the assumptions, dates of field operations, and practices used in the development of the damage estimates. See the Economics Guide regarding the kinds of additional data needed as a basis for modifying standard data. If the damage values and factors are not suitable for a watershed under analysis, proper adjustments can be made. The use of this data will eliminate many analytical steps in estimating damages. TSC TECHNICAL NOTE - WATERSHEDS-UD-16 (Rev. 1) is hereby canceled.

The damage values in Tables VII, VIII, IX, IX-A, X, and X-A are based on the basic data in Tables I through VI and VI-A.

The damage percentages in Tables VI and VI-A were developed from farmer experiences and indicate the average loss of yield under flood-free withoutproject conditions. When floods occur during months while there is still opportunity to replant, the damage factors are a percent of farm operations that will be repeated, such as plowing, disking, seeding, etc. The damage percentages given in these two tables are basic elements required in evaluating damages. The suitability of these percentages for use over broad areas should be assured prior to their use.

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Table VII is developed by estimating potential damages by half-month periods, assuming complete destruction of the unharvested crop. It begins with the earliest half-month period in which farmers will normally begin field work prior to seeding when not delayed due to floods without a project. It also seems that field operations can begin within two weeks after flooding. Damage estimates are based on recurring costs, yield losses due to delayed planting, and adjustments due to costs not incurred, and/or to net income from substitute crops.

Other flood prevention benefits attributed to the project which will result in higher potential flood-free net incomes must be computed and evaluated separately. This includes the effects of increasing fertilizer inputs, changing the timeliness and amounts of field operations, such as permitting earlier than the above "normal earliest time of field work," etc.

Table VIII is a monthly summary of the potential flood losses calculated in Table VII by half-month intervals.

The damage values in Tables IX and IX-A were computed by multiplying the damage factors in Tables VI and VI-A, respectively, by the potential damage values in Table VIII.

The net damage factors in Tables X and X-A are percentages which were computed by dividing the damage values in Tables IX and IX-A by the gross value of the flood-free production as shown in Table IX-B or compute by multiplying the damage values in Tables IX and IX-A by the applicable constant multiplier given in Table IX-B.

The annual damage value for a given crop acre is the sum of the crop's monthly damage values in Table IX or IX-A as weighted by the expected percentage distribution of damaging floods by months. (Flood data is provided by the hydrologist.)

Damages for yields not listed in the tables may be obtained by projections or interpolation, provided the assumptions upon which the tabular data was developed are applicable.

It is anticipated that the damage values and percentages will apply directly to many watersheds.

As the data represents averages, it may not be representative of any given farm or watershed. The damage analysis, including reduction in yields due to delayed replanting, is under the assumption that lime and fertilizer applied prior to a flood event will be reapplied when crops are replanted or when substitute crops are established. Spring

and post harvest grazing and loss of straw were not included in the estimates of damages to small grain because it is generally insignificant and sporadic. The planting dates are averages for the northern and southern portions of the Northeast Region, except for winter wheat which is represented by an average of the area south of New York. These dates may not be applicable to outlying portions of either area. Factors such as these should be examined, and if deemed necessary, the attached data should be adjusted to reflect conditions for a specific watershed. The following procedure is suggested as a guide in determining if adjustments are needed and how they may be made:

1. Develop new tables (V, VI, VI-A, VII, VIII, IX, IX-A, X, and X-A), as applicable, based on information from a limited number of farmer interviews and professional opinions.
2. If the resulting damage values per composite flood-plain acre vary less than 15 percent (depending on the significance of crop and pasture damages for project justification) the values given herein, the adjustments may not be worthwhile nor necessary.
3. If they vary more than 15 percent, do not use the values given herein. Develop new data, using the same format and procedure as employed in the attached tables.

When considering the suitability of the basic data, keep in mind that the data reflects the average effects of varying flood velocities associated with a given flood stage and also the average flood effects by months.

According to past studies, the high level of management and intensity of farming followed currently by the better farmers eventually are adopted and become representative of the future average farmer's operations. Therefore, the data employed for evaluating crop and pasture damages are based on the current high level of fertility and management, and an intensity of farming operations consistent with the most intensive practical cropping pattern currently applicable to the type of farming expected made on the basis of what might be representative of the future flood plain use without a project.

Similar standard damage factors may be developed by each state by modifying the basic data to reflect the prices, planting, growing, and harvesting data applicable and specific to each state or region in a state.

The net damage factors in Tables X and X-A may be used in the computer program if only "Prices Received" data are modified. However, if other components of the basic data, such as are given in Tables I, III, IV, V, and VI or VI-A are modified, then net damage factors may have to be recomputed.

O. Wesley Hofstad

O. Wesley Hofstad
Economist

Attachments

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for Northern and Southern Portions of the Northeast Area

TABLE I - Unit Prices for Estimating Crop Production and Marketing Costs
Employed in Computing Floodwater Damages in the Northeast States

Item	Unit	1976 Normalized Price	
		Custom Rates	\$
Plowing	acre		7.80
Disking	acre		4.40
Harrowing (Rotary hoeing)	acre		3.60
Cultivating	acre		3.50
Planting Soybeans	acre		4.90
Planting Corn	acre		5.60
Drilling Grain	acre		4.40
Drilling Grass & Legumes	acre		4.60
Picking Corn	acre		10.50
Combining Grain	acre		11.90
Mow, rake, bale, and storing hay	ton		4.60 20.52
Field chopping silage or hay	ton		10.50 2.98
Silo Filling	ton		11.90 3.70
Hauling and Cribbing Corn	bu.		20.52 .12
Hauling and Binning Oats	bu.		2.98 .12
Hauling and Binning Wheat	bu.		3.70 .12
Shelling Corn	bu.		.12
Hauling Soybeans to Market	bu.		.12
Hauling Corn to Market	bu.		.12
Hauling Oats to Market	bu.		.12
Hauling Wheat to Market	bu.		.12
Hauling Hay to Market	ton		7.32
Drying Corn (20% to 14%)	bu.		.18
Storage, Shrinkage, and Spoilage:			
Corn	bu.		.17
Oats	bu.		.10
Wheat	bu.		.10
Hay	ton		1.71
Corn Silage	ton		1.57
Seed:			
Soybeans	bu.		7.40
Corn	bu.		36.50
Oats	bu.		3.50
Wheat	bu.		6.50
Alfalfa	cwt.		116.00
Red Clover	cwt.		90.00
Brome grass	cwt.		53.00
Timothy	cwt.		37.00
Spraying (does not include chemicals)	acre		2.60
Spraying (Chemicals)	acre		2.24
Fertilizer	ton		155.00
Fertilizer Application	acre		2.60

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TABLE II - Unit Prices Received by Farmers in the Northeast States
(1976 Normalized Prices) ^{1/}

Location	Corn ^{2/}	Soybean	Oats	Wheat	All Hay (Baled)	Sugar
	<u>Bushel</u>	<u>Bushel</u>	<u>Bushel</u>	<u>Bushel</u>	<u>Ton</u>	<u>Ton</u>
Carribbean Area	<u>4/</u>	<u>4/</u>	<u>4/</u>	<u>4/</u>	<u>4/</u>	
Connecticut	<u>4/</u>	<u>4/</u>	<u>4/</u>	<u>4/</u>	62.86	
Delaware	2.69	5.42	<u>4/</u>	2.85	45.87	
Maine	<u>4/</u>	<u>4/</u>	1.47	<u>4/</u>	55.04	
Maryland	2.68	5.29	1.45	2.87	45.87	
Massachusetts	<u>4/</u>	<u>4/</u>	<u>4/</u>	<u>4/</u>	65.24	
New Hampshire	<u>4/</u>	<u>4/</u>	<u>4/</u>	<u>4/</u>	63.54	
New Jersey	2.65	5.14	1.57	2.85	56.91	
New York	2.65	5.06	1.57	3.12	43.49	
Pennsylvania	2.65	5.21	1.56	2.96	47.06	
Rhode Island					64.90	
Vermont	<u>4/</u>	<u>4/</u>	<u>4/</u>	<u>4/</u>	61.50	
Virginia	2.67	5.18	1.31	2.73	44.68	
West Virginia	2.74	<u>4/</u>	1.46	3.16	42.81	
United States	2.57	5.22	1.43	3.48	49.34	25.23
Northeast Area ^{3/}	2.68	5.22	1.48	2.93	53.83	

^{1/} Weighted season average prices received at the local market, converted to current normalized prices in accordance with Agricultural Price Standards, October 2976, Water Resources Council.

^{2/} Corn silage is valued at one-third of the on-farm value of "All Hay (Baled)", or \$15.50 per ton (1/3 of 53.83 less 7.32 "haul to market" cost of hay.)

^{3/} Prices used for computing potential floodwater damageable values for the Northeast Area.

^{4/} No sales reported.

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TABLE III - Grass Mixtures and Seeding Rates Used in Computing Potential Floodwater Damages in the Northeast States

Item	Yield Levels/Seeding Rate		
Corn Silage (Yield level in tons per acre)	15	25	35
Corn Grain (Yield level in bushels per acre)	<u>75</u>	<u>125</u>	<u>175</u>
Seed (pound per acre)	11.3	17.4	24.5
@.65/lb.	\$ 7.35	\$11.31	\$15.93
Soybeans (Yield levels in bushels per acre)	<u>25</u>	<u>40</u>	<u>60</u>
Seed (bushels per acre)	1.6	1.8	2.0
@7.40/bu.	\$11.84	\$13.32	\$14.80
Oats (Yield level in bushels per acre)	<u>50</u>	<u>70</u>	<u>90</u>
Seed (bushels per acre)	2.5	2.7	3.0
@3.50/bu.	\$8.75	\$9.45	\$10.50
Winter Wheat (Yield level in bushels/acre)	<u>30</u>	<u>50</u>	<u>85</u>
Seed (bushels per acre)	1.5	1.8	2.0
@6.50/bu.	\$ 9.75	\$11.70	\$13.00
Meadow seeding rates and mixtures ^{1/}	<u>TONS</u>		
1. Bromegrass @.53/lb. 6 pounds \$ 3.18	2.0	3.0	3.5
Timothy @.37/lb. 4 pounds \$ 1.48			
2. Alfalfa @1.16/lb. 8 pounds \$ 9.28	3.0	4.0	5.0
Red Clover @ .90/lb. 11 pounds \$ 9.90			
3. Alfalfa @1.16/lb. 20 pounds \$23.20	2.0	4.0	6.0

^{1/} For computing damages, it is assumed that 50 percent of new seedings are made with mixture No. 1 and 50 percent with mixture No. 2. (\$11.92/ac)

TABLE IV - Cost of Farm Operations Used in Computing Potential Floodwater Damages to Crops in the Northeast States by Yield Levels (Current Normalized Prices)

Item	Unit	Yield Levels and Costs		
		75	125	175
<u>Corn Grain:</u>	<u>bu.</u>			
Plowing	acre	\$ 7.80	\$ 7.80	\$ 7.80
Replanting:				
Disking (1 time)	acre	4.40	4.40	4.40
Harrowing (1 time)	acre	3.60	3.60	3.60
Planting	acre	5.60	5.60	5.60
Seed	acre	<u>7.35</u>	<u>11.31</u>	<u>15.93</u>
Subtotal	acre	\$ 20.95	\$ 24.91	\$ 29.53
Cultivating (1 time)	acre	3.50	3.50	3.50
Picking	acre	<u>10.50</u>	<u>10.50</u>	<u>10.50</u>
Subtotal	acre	\$ 14.00	\$ 14.00	\$ 14.00
Processing and Marketing:				
Hauling and Cribbing Corn	bu.	.12	.12	.12
Drying (20% to 14%)	bu.	.18	.18	.18
Shelling	bu.	.12	.12	.12
Hauling to Market	bu.	.12	.12	.12
Storage, Spoilage, and Shrinkage	bu.	<u>.17</u>	<u>.17</u>	<u>.17</u>
Subtotal	bu.	\$.71	\$.71	\$.71
Subtotal	acre	\$ 53.25	\$ 88.75	\$124.25
Spraying (includes chemicals)	acre	\$ 4.84	\$ 4.84	\$ 4.84
Fertilizer & Fertilizing (includes equipment and labor)	acre	<u>\$ 41.35</u>	<u>\$ 60.73</u>	<u>\$ 80.10</u>
Subtotal	acre	\$ 46.19	\$ 65.57	\$ 84.94
TOTAL COST	acre	\$142.19	\$201.03	\$260.52

TABLE IV - Cost of Farm Operations Used in Computing Potential Floodwater Damages to Crops in the Northeast States by Yield Levels
(Current Normalized Prices)

Item	Unit	Yield Levels and Costs		
		15	25	35
<u>Corn Silage:</u>	<u>tons</u>			
Plowing	acre	\$ 7.80	\$ 7.80	\$ 7.80
Replanting:				
Disking (1 time)	acre	4.40	4.40	4.40
Harrowing (1 time)	acre	3.60	3.60	3.60
Planting	acre	5.60	5.60	5.60
Seed	acre	<u>7.35</u>	<u>11.31</u>	<u>15.93</u>
Subtotal	acre	\$ 20.95	\$ 24.91	\$ 29.53
Cultivating	acre	\$ 3.50	\$ 3.50	\$ 3.50
Harvesting	ton	2.98	2.98	2.98
Storage, Shrinkage, and Spoilage	ton	<u>1.57</u>	<u>1.57</u>	<u>1.57</u>
Subtotal	ton	\$ 4.55	\$ 4.55	\$ 4.55
Subtotal	acre	\$ 68.25	\$113.75	\$159.25
Spraying (includes chemicals)	acre	\$ 4.84	\$ 4.84	\$ 4.84
Fertilizer and Fertilizing (includes equipment and labor)	acre	<u>\$ 41.35</u>	<u>\$ 60.73</u>	<u>\$ 80.10</u>
Subtotal	acre	\$ 46.19	\$ 65.57	\$ 84.94
TOTAL COST	acre	\$146.69	\$215.53	\$285.02

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TABLE IV - Cost of Farm Operations Used in Computing Potential Floodwater Damages to Crops in the Northeast States by Yield Levels (Current Normalized Prices)

Item	Unit	Yield Levels and Costs		
		25	40	60
<u>Soybeans (beans sold at harvest):</u>	<u>bu.</u>			
Replanting:				
Disking (1 time)	acre	\$ 4.40	\$ 4.40	\$ 4.40
Harrowing (1 time)	acre	3.60	3.60	3.60
Planting	acre	4.90	4.90	4.90
Seed	acre	<u>11.84</u>	<u>13.32</u>	<u>14.80</u>
Subtotal	acre	\$ 24.74	\$ 26.22	\$ 27.70
Cultivating (1 time)	acre	\$ 3.50	\$ 3.50	\$ 3.50
Combining	acre	11.90	11.90	11.90
Hauling to Market	bu.	.12	.12	.12
Hauling to Market	acre	3.00	4.80	7.20
Spraying (includes chemicals)	acre	4.84	4.84	4.84
Fertilizer (includes equipment and labor)	acre	<u>41.35</u>	<u>60.73</u>	<u>80.10</u>
Subtotal	acre	\$ 46.19	\$ 65.57	\$ 84.94
 TOTAL COST	acre	\$ 89.33	\$111.99	\$135.24

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TABLE IV - Cost of Farm Operations Used in Computing Potential Floodwater Damages to Crops in the Northeast States by Yield Levels (Current Normalized Prices)

Item	Unit	Yield Levels and Costs		
		50	70	90
<u>Oats:</u>	<u>bu.</u>			
Replanting:				
Disking (1 time)	acre	\$ 4.40	\$ 4.40	\$ 4.40
Harrowing (1 time)	acre	3.60	3.60	3.60
Seeding (drill)	acre	4.40	4.40	4.40
Seed	acre	<u>8.75</u>	<u>9.45</u>	<u>10.50</u>
Subtotal		\$ 21.15	\$ 21.85	\$ 22.90
New Seeding (grass and legume seed)	acre	\$ 11.92	\$ 11.92	\$ 11.92
Combining	acre	11.90	11.90	11.90
Processing and Marketing:				
Hauling to Bin and Binning	bu.	.12	.12	.12
Hauling to Market	bu.	.12	.12	.12
Storage, Spoilage, and Shrinkage	bu.	<u>.10</u>	<u>.10</u>	<u>.10</u>
Subtotal	bu.	\$.34	\$.34	\$.34
Subtotal	acre	\$ 17.00	\$ 23.80	\$ 30.60
Spraying (includes chemicals)	acre	\$ 4.84	\$ 4.84	\$ 4.84
Fertilizer and Fertilizing (includes equipment and labor)	acre	<u>41.35</u>	<u>60.73</u>	<u>80.10</u>
Subtotal	acre	\$ 46.19	\$ 65.57	\$ 84.94
TOTAL COST		\$108.16	\$135.04	\$162.26

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TABLE IV - Cost of Farm Operations Used in Computing Potential Floodwater Damages to Crops in the Northeast States by Yield Levels
(Current Normalized Prices)

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Item	Unit	Yield Levels and Costs		
		2	4	6
<u>Hay (Alfalfa, Red Clover, Bromegrass):</u>	tons			
Replanting hay:				
Disking (1 time)	acre	\$ 4.40	\$ 4.40	\$ 4.40
Harrowing (1 time)	acre	3.60	3.60	3.60
Planting (drill)	acre	4.40	4.40	4.40
Seed (8 lbs. A, 3 lbs. R.C., and 6 lbs. B)	acre	<u>15.16</u>	<u>15.16</u>	<u>15.16</u>
Subtotal	acre	\$ 27.56	\$ 27.56	\$ 27.56
Mow, Rake, Bale, and Store	ton	\$ 20.52	\$ 20.52	\$ 20.52
Processing and Marketing:				
Storage, Spoilage, and Shrinkage	ton	1.71	1.71	1.71
Hauling to Market	ton	7.32	7.32	7.32
Harvesting, Processing and Marketing	ton	<u>29.55</u>	<u>29.55</u>	<u>29.55</u>
Subtotal	acre	\$ 59.10	\$118.20	\$177.30
Spraying (includes chemicals)	acre	\$ 4.84	\$ 4.84	\$ 4.84
Fertilizer and Fertilizing (includes equipment and labor)	acre	<u>\$ 41.35</u>	<u>\$ 60.73</u>	<u>\$ 80.10</u>
Subtotal	acre	\$ 46.19	\$ 65.57	\$ 84.94
TOTAL COST	acre	\$132.85	\$211.33	\$289.80

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TABLE IV - Cost of Farm Operations Used in Computing Potential Floodwater Damages to Crops in the Northeast States by Yield Levels (Current Normalized Prices)

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Item	Unit	Yield Levels and Costs		
		30	50	85
<u>Winter Wheat:</u>	<u>bu.</u>	<u>30</u>	<u>50</u>	<u>85</u>
Replanting:				
Disking (1 time)	acre	\$ 4.40	\$ 4.40	\$ 4.40
Harrowing (1 time)	acre	3.60	3.60	3.60
Seeding (drill)	acre	4.40	4.40	4.40
Seed	acre	<u>9.75</u>	<u>11.70</u>	<u>13.00</u>
Subtotal	acre	\$ 22.15	\$ 24.10	\$ 25.40
Combining	acre	\$ 11.90	11.90	11.90
Processing and Marketing Grain:				
Hauling to Bin and Binning	bu.	.12	.12	.12
Hauling to Market	bu.	.12	.12	.12
Storage, Spoilage, and Shrinkage	bu.	<u>.10</u>	<u>.10</u>	<u>.10</u>
Subtotal	bu.	\$.34	\$.34	\$.34
Subtotal	acre	\$ 10.20	\$ 17.00	\$ 28.90
Spraying (includes chemicals)	acre	\$ 4.84	\$ 4.84	\$ 4.84
Fertilizer and Fertilizing (includes equipment and labor)	acre	<u>\$ 41.35</u>	<u>\$ 60.73</u>	<u>\$ 80.10</u>
Subtotal	acre	\$ 46.19	\$ 65.57	\$ 84.94
TOTAL COST	acre	\$ 90.44	\$118.57	\$151.14

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TABLE V - Percent of Flood Plain Crops Harvested, by Half-month Intervals,
for Northern and Southern Portions^{1/} of the Northeast Area

Month	Corn Grain		Corn Silage		Soybeans		Oats		Hay ^{2/}		Pasture		Winter Wheat
	N	S	N	S	N	S	N	S	N	S	N	S	
April 1-30													10
May 1-15													20
16-31										10	15		35
June 1-15									10	20	30		50
16-30								10	40	35	50		60
5													
July 1-15								50	45	40	55		62
16-31							5	90	60	50	60		65
90													
Aug. 1-15							50	100	70	65	65		67
16-31			10				90		75	75	70		70
100													
Sept. 1-15			70	10		5	100		95	90	75		75
16-30	5	10	95	90	10	30			100	100	90		80
Oct. 1-15	10	20	100	100	35	70					95		90
16-31	40	50			60	90					100		95
Nov. 1-15	70	80			80	100							100
16-30	90	95			95								
Dec. 1-15	100	100			100								

^{1/} Generally above and below the Pennsylvania-New York State Line.

^{2/} Based on two cuttings harvested in the northern part and three harvested in the southern part of the Northeast area.

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TABLE VI - Crop and Pasture Floodwater Damage Percentages^{1/} by Months and Depths of Flooding Less Than 24 Hours for Northern and Southern Portions of the Northeast Area.

Crop/Depth of Flooding		March	April	May	June	July	Aug.	Sept.	Oct.	Nov.
		Percent								
Corn										
0-2'	N		0	21	54	45	21	13	19	25
	S		29	37	50	30	12	4	4	4
Over 2'	N		0	26	75	88	55	40	45	55
	S		29	45	73	78	36	26	30	30
Soybeans										
0-2'	N		0	18	61	76	72	53	71	92
	S		29	39	68	74	63	37	52	60
Over 2'	N		0	21	82	97	97	77	82	97
	S		29	56	95	98	93	80	90	100
Oats										
0-2'	N		22	37	60	65	61	0	0	0
	S		36	63	67	64	0	0	0	0
Over 2'	N		33	57	97	97	96	0	0	0
	S		56	96	96	95	0	0	0	0
Hay										
0-2'	N		6	40	55	53	55	42	55	0
	S		11	45	60	58	60	47	60	0
Over 2'	N		12	50	77	77	77	62	77	0
	S		17	55	82	82	82	67	82	0
Pasture										
0-2'	N		0	11	21	13	8	22	27	0
	S		2	14	26	17	10	22	22	50
Over 2'	N		0	17	30	20	16	32	55	0
	S		15	21	35	25	20	32	50	75
Winter Wheat										
0-2'	S	12	35	45	57	50	50	15	16	12
Over 2'	S	18	52	70	85	87	87	27	28	18

^{1/} Damages expressed as a percent of flood-free yields of the remaining unharvested crop after latest planting or seeding dates. Prior to these dates, as a percent of farm operations that will be repeated, such as plowing, disking, seeding, etc.

TABLE VI-A - Crop and Pasture Floodwater Damage Percentages^{1/} by Months and Depths of Flooding More Than 24 Hours, for Northern and Southern Portions of the Northeast Area.

Crop/Depth of Flooding		March	April	May	June	July	Aug.	Sept.	Oct.	Nov.
		Percent								
Corn										
0-2'	N		0	50	75	64	42	22	28	34
	S		40	51	69	42	22	10	10	10
Over 2'	N		0	55	100	100	80	55	60	70
	S		48	60	88	93	50	40	45	45
Soybeans										
0-2'	N		0	45	85	100	95	75	100	100
	S		40	53	92	100	87	60	87	95
Over 2'	N		0	48	100	100	100	100	100	100
	S		48	70	100	100	100	100	100	100
Oats										
0-2'	N		40	53	74	80	76	0	0	0
	S		55	77	81	79	0	0	0	0
Over 2'	N		47	68	100	100	100	0	0	0
	S		70	100	100	100	0	0	0	0
Hay										
0-2'	N		12	50	65	63	65	52	65	0
	S		17	55	70	68	70	57	70	0
Over 2'	N		22	65	92	92	92	77	92	0
	S		27	70	97	97	97	82	97	0
Pasture										
0-2'	N		0	17	27	19	14	28	33	0
	S		6	20	32	23	16	28	28	60
Over 2'	N		0	27	40	30	26	42	65	0
	S		21	31	45	35	30	42	60	90
Winter Wheat										
0-2'	S	21	45	53	71	72	72	27	30	21
Over 2'	S	38	63	90	100	100	100	50	55	38

^{1/} Damages expressed as a percent of flood-free yields of the remaining unharvested crop after latest planting or seeding dates. Prior to these dates, as a percent of farm operations that will be repeated, such as plowing, disking, seeding, etc.

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TABLE VII - Potential Crop and Pasture Floodwater Damage Values Per Acre of Unharvested Crop, by Yields and Half-month Intervals, Based on Complete Destruction of the Unharvested Crop for Northern and Southern Portions of the Northeast Area (Current Normalized Prices)

<u>Potential Damage to Corn Grain: Yield Level in Bushels</u>	<u>75</u>	<u>125</u>	<u>175</u>
<u>April 1-30 (N&S)</u>			
Corn not planted			
Replowing is only loss	7.80	7.80	7.80
<u>May 1-15 (N&S)</u>			
Corn replanted to Corn			
No reduction in yield			
Replanting only loss	20.95	24.91	29.53
<u>May 16-31(N&S)</u>			
Corn replanted to corn - replanting expenses	20.95	24.91	29.53
Yield reduction in bushels	20	30	40
Value of bushels lost @ \$2.68	53.60	80.40	107.22
Less cost of processing and marketing	-14.20	-21.30	-28.40
The yield lost @ \$.71/bushel	39.40	59.10	78.80
Flood loss with replanting	60.35	84.01	108.33
<u>June 1-15 (N&S)</u>			
Corn replanted to soybeans			
Soybean yield in bushels	18	29	43
Gross value of original corn crop @ \$2.68/bushel	201.00	335.00	469.00
Less cultivating, picking, marketing and harvesting			
Expenses not incurred on corn crop	-67.25	-102.75	-138.25
Net value of corn loss	133.75	232.25	330.75
Minus gross value of substitute soybeans @ \$5.22/bu.	-93.96	-151.38	-224.46
Plus added production expense of soybeans	39.79	80.87	106.29
(Re-disk, harrow, plant, seed, cultivate, spray, combine, and haul to market)	47.14	49.94	53.10
Flood loss with replanting	86.93	130.81	159.39
<u>June 16-30 (N&S)</u>			
Too late to replant any crop			
Value of corn crop lost @ \$2.68/bushel	201.00	335.00	469.00
Less cost of cultivating	-3.50	-3.50	-3.50
Less picking, processing, and marketing cost	197.50	331.50	465.50
Flood loss with no replanting	-63.75	-99.25	-134.75
	<u>133.75</u>	<u>232.25</u>	<u>330.75</u>

Potential Damage to Corn Grain: Yield Level in Bushels

	<u>75</u>	<u>125</u>	<u>175</u>
<u>July 1 - September 15 (N&S)</u>			
Too late to replant - 100% loss			
Value of corn crop	201.00	335.00	469.00
Less picking, processing, and marketing costs	-63.75	-99.25	-134.75
Flood Loss	137.25	235.75	334.25
<u>September 16-30</u>			
Estimate 5% harvested; 95% loss (N)	130.39	223.96	317.54
Estimate 10% harvested; 90% loss (S)	123.53	212.18	300.83
<u>October 1-15</u>			
Estimate 10% harvested; 90% loss (N)	123.53	212.18	300.83
Estimate 20% harvested; 80% loss (S)	109.80	188.60	267.40
<u>October 16-31</u>			
Estimate 40% harvested; 60% loss (N)	82.35	141.45	200.55
Estimate 50% harvested; 50% loss (S)	68.63	117.88	167.13
<u>November 1-15</u>			
Estimate 70% harvested; 30% loss (N)	41.18	70.73	100.28
Estimate 80% harvested; 20% loss (S)	27.45	47.15	66.85
<u>November 16-30</u>			
Estimate 90% harvested; 10% loss (N)	13.73	23.58	33.43
Estimate 95% harvested; 5% loss (S)	6.86	11.79	16.71
<u>December 1-15</u>			
All harvested	0	0	0
No loss			

Potential Damage to Corn Silage: Yield Level in Tons

	<u>15</u>	<u>25</u>	<u>35</u>
<u>April 1 - May 15 (N)</u>	0	0	0
<u>April 1 - 30 (S)</u>			
Corn not planted			
Replanting is only loss	7.80	7.80	7.80
<u>May 1-31 (S) and May 16-31 (N)</u>			
Corn replanted to corn			
No yield reduction - replanting is only flood loss	20.95	24.91	29.53

Potential Damage to Corn Silage:

<u>Yield Levels in Tons</u>	<u>15</u>	<u>25</u>	<u>35</u>
<u>June 1-15 (N&S)</u>			
Corn replanted to corn			
Yield reduction in tons	4.0	6.0	7.0
Value of lost yield @ \$15.50/ton	62.00	93.00	108.50
Less harvesting and storing cost of lost yields	<u>-18.20</u>	<u>-27.30</u>	<u>-31.85</u>
	43.80	65.70	76.65
Added cost of replanting corn	20.95	24.91	29.53
Flood Loss with replanting	64.75	90.61	106.18
<u>June 16-30 (N&S)</u>			
Yield reduction in tons	8	13	17
Value of lost production @ \$15.50/ton	124.00	201.50	263.50
Less harvesting and storing cost of lost yield	<u>-36.40</u>	<u>-59.15</u>	<u>-77.35</u>
	87.60	142.35	186.15
Added cost of replanting	20.95	24.91	29.53
Flood Loss with replanting	108.55	167.26	215.68
<u>July 1 - August 15 (N)</u>			
<u>July 1 - August 31 (S)</u>			
Too late to replant; 100% loss	15	25	35
Value of original crop @ \$15.50/ton	232.50	387.50	542.50
Less harvesting and storing cost @ \$4.55/ton	<u>-68.25</u>	<u>-113.75</u>	<u>-159.25</u>
Flood Loss	164.25	273.75	383.25
<u>August 16-31 (N)</u>			
Estimate 10% harvested; 90% loss	147.83	246.38	344.93
Flood loss			
<u>September 1-15</u>			
Estimate 70% harvested; 30% loss (N)	49.28	82.13	114.98
Estimate 10% harvested; 90% loss (S)	147.83	246.38	344.93
<u>September 16-30</u>			
Estimate 95% harvested; 5% loss (N)	8.21	13.69	19.16
Estimate 90% harvested; 10% loss (S)	16.43	27.38	38.33
<u>October 1-15 (N&S)</u>			
Estimate 100% harvested; no loss	0	0	0

Potential Damage to Soybeans:

<u>Yield Level in Bushels</u>	<u>25</u>	<u>40</u>	<u>60</u>
<u>April 1-30 (N&S)</u>			
Soybeans not planted			
Re-disking is only loss			
Flood Loss	4.40	4.40	4.40
<u>May 1-31 (N&S)</u>			
Soybeans replanted to soybeans			
No yield reduction			
Replanting cost is amount of loss			
Flood Loss	24.74	26.22	27.70
<u>June 1-15 (N&S)</u>			
Soybeans replanted to soybeans			
Yield reduced in bushels	7	11	17
Value of lost bushels @ \$5.22/bushel	36.54	57.42	88.74
Less hauling cost saved on lost production @ \$.12/bushel	-.84	-1.32	-2.04
Flood Loss if no planting	35.70	56.10	86.70
Added cost of replanting	24.74	26.22	27.70
Flood Loss	60.44	82.32	114.40
<u>June 16-30 (N&S)</u>			
Too late to replant any crop			
100% loss of crop yield @ \$5.22/bushel	130.50	208.80	313.20
Less cultivating, combining, and hauling to market	-18.40	-20.20	-22.60
Flood Loss	112.10	188.60	290.60
<u>July 1 - September 15 (N)</u>			
<u>July 1 - August 31 (S)</u>			
Too late to plant any crop, 100% loss			
Value of original crop	130.50	208.80	313.20
Less combining and hauling to market	-14.90	-16.70	-19.10
Flood Loss	115.60	192.10	294.10
<u>September 1-15 (S)</u>			
Estimate 5% harvested; 95% loss	109.82	182.50	279.40
Flood Loss			
<u>September 16-30</u>			
Estimate 10% harvested; 90% loss (N)	104.04	172.89	264.69
Estimate 30% harvested; 70% loss (S)	80.92	134.47	205.87
<u>October 1-15</u>			
Estimate 35% harvested; 65% loss (N)	75.14	124.87	191.17
Estimate 70% harvested; 30% loss (S)	34.68	57.63	88.23

Potential Damage to Soybeans:

<u>Yield Level in Bushels</u>	<u>25</u>	<u>40</u>	<u>60</u>
<u>October 16-21</u>			
Estimate 60% harvested; 40% loss (N)	46.24	76.84	117.64
Estimate 90% harvested; 10% loss (S)	11.56	19.21	29.41
<u>November 1-15</u>			
Estimate 80% harvested; 20% loss (N)	23.12	38.42	58.82
Estimate 100% harvested; no loss (S)	0	0	0
<u>November 16-30</u>			
Estimate 95% harvested; 5% loss (N)	5.78	9.61	14.71
<u>December 1 - March 31 (N&S)</u>			
100% harvested; no loss	0	0	0

Potential Damage to Oats:

<u>Yield Level in Bushels</u>	<u>50</u>	<u>70</u>	<u>90</u>
<u>March 1-31 (S)</u>			
Oats re-seeded to oats and meadow			
No yield loss			
Damage is replanting cost	21.15	21.85	22.90
New seeding (grass and legume)	11.92	11.92	11.92
Flood Loss	33.07	33.77	34.82
<u>April 1-15 (N&S)</u>			
Oats re-seeded to oats and meadow			
Yield reduction in bushels	12	16	20
Yield loss @ \$1.48/bushel	17.76	23.68	29.60
Less processing and marketing cost saved @ \$.34/bushel	4.08	5.44	6.80
	13.68	18.24	22.80
Plus replanting expenses including re-seeding costs (grass and legume)	33.07	33.77	34.82
Flood Loss	46.75	52.01	57.62
<u>April 16-30 (N&S)</u>			
Oats re-seeded to oats and meadow			
Yield reduction in bushels	19	27	31
Value of yield loss @ \$1.48/bushel	28.12	39.96	45.88
Less processing and marketing cost saved @ \$.34/bushel	6.46	9.18	10.54
	21.66	30.78	35.34
Plus replanting expenses including re-seeding costs (grass and legume)	33.07	33.77	34.82
Flood Loss	54.73	64.55	70.16

Potential Damage to Oats:

Yield Level in Bushels507090May 1-15 (N&S)

Too late to reseed oats

Value of lost oat crop @ \$1.48 74.00 103.60 133.20

Less harvesting and marketing expenses saved 28.90 35.70 42.50

45.10 67.90 90.70

Plus value of meadow seeding lost 11.92 11.92 11.92

Flood loss if no substitute crop 57.02 79.82 102.62

Replant substitute crop of corn grain

Yield in bushels of corn 60 100 140

Minus value of substitute crop @ \$2.68/bushel 160.80 268.00 375.20

Plus production cost of corn 131.54 183.28 235.67

Replanting (28.75) (32.71) (37.33)

Fertilizing (Additional) (41.35) (60.73) (80.10)

Spraying (4.84) (4.84) (4.84)

Cultivating and Picking (14.00) (14.00) (14.00)

Princessing and Marketing (\$.71/bushel) (42.60) (71.00) (99.40)

Flood Loss with substitute crop 27.76 -4.90 -36.91

May 16-31 (N&S)

Too late to replant

Flood loss if no substitute crop 57.02 79.82 102.62

Replant substitute crop of corn grain

Corn yield in bushels 55 95 135

Minus value of substitute crop @ \$2.68/bushel 147.40 254.60 361.80

Plus added production cost of growing corn 127.99 179.73 232.12

Replanting with corn (28.75) (32.71) (37.33)

Fertilizing (Additional) (41.35) (60.73) (80.10)

Spraying (4.84) (4.84) (4.84)

Cultivating and picking (14.00) (14.00) (14.00)

Processing and marketing (\$.71/bushel) (39.05) (67.45) (95.85)

Flood Damage with substitute crop 37.61 4.95 -27.06

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Potential Damage to Oats: <u>Yield Level in Bushels</u>	<u>50</u>	<u>70</u>	<u>90</u>
<u>June 1-15</u>			
Too late to re-seed	57.02	79.82	102.62
Flood loss if no substitute crop planted (N)			
Replant substitute crop of soybeans (S)			
Soybean yield in bushels	18	29	43
Minus value of soybeans @ \$5.22/bushel	93.96	151.38	224.46
Plus production cost of soybeans	88.49	110.67	133.20
Replanting	(24.74)	(26.22)	(27.70)
Cultivate	(3.50)	(3.50)	(3.50)
Combine	(11.90)	(11.90)	(11.90)
Spraying	(4.84)	(4.84)	(4.84)
Fertilizer	(41.35)	(60.73)	(80.10)
Hauling to Market @ \$.12/bushel	(2.16)	(3.48)	(5.16)
Subtotal	51.55	39.11	11.36
Flood Loss			
<u>June 16-30</u>			
Too late for re-seeding or substitute crop			
Flood Loss (100%) (N)	57.02	79.82	102.62
10% harvested; 90% loss	51.32	71.84	92.36
Plus value of new seeding	11.92	11.92	11.92
Flood Loss (S)	63.24	83.76	104.28
<u>July 1-15</u>			
Flood Loss 100% (N)	57.02	79.82	102.62
50% harvested; 50% loss	28.51	39.91	51.31
Plus value of new seeding	11.92	11.92	11.92
Flood Loss (S)	40.43	51.83	63.23
<u>July 16-31</u>			
5% harvested; 95% loss	54.17	75.83	97.49
Plus new seeding loss	11.92	11.92	11.92
Flood Loss (N)	66.09	87.75	109.41
90% harvested; 10% loss	5.70	7.98	10.26
Plus new seeding loss	11.92	11.92	11.92
Flood Loss (S)	17.62	19.90	22.18
<u>August 1-15</u>			
50% harvested; 50% loss	28.51	39.91	51.31
Plus new seeding loss	11.92	11.92	11.92
Flood Loss (N)	40.43	51.83	63.23
100% crop harvested; no loss (S)	0	0	0

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Potential Damage to Oats:

<u>Yield Level in Bushels</u>	<u>50</u>	<u>70</u>	<u>90</u>
<u>August 16-31</u>			
90% harvested; 10% loss	5.70	7.98	10.26
Plus new seeding loss	11.92	11.92	11.92
Flood Loss (N)	17.62	19.90	22.18
100% harvested (S)	0	0	0
<u>September 1-15 (N&S)</u>			
100% crop harvested	0	0	0

Potential Damage to Winter Wheat:

<u>Yield Level in Bushels</u>	<u>30</u>	<u>50</u>	<u>85</u>
<u>September 1 - October 15 (N&S)</u>			
Replant to winter wheat			
No yield reduction			
Flood Loss	22.15	24.10	25.40
<u>October 16-31 (N&S)</u>			
Replant to winter wheat			
Yield reduction in bushels	6	10	17
Value of lost yield @ \$2.93/bushel	17.58	29.30	49.81
Less processing and marketing cost @ \$.34/bushel	2.04	3.40	5.78
	15.54	25.90	44.03
Plus added replanting cost - wheat	22.15	24.10	25.40
Flood Loss with replanting	37.69	50.00	69.43
<u>November 1-30 (N&S)</u>			
Too late to replant winter wheat			
Replant to spring grain (oats)			
Yield of substitute crop in bushels (oats)	50	70	90
Value of winter wheat lost @ \$2.93	87.90	146.50	249.05
Less combining cost saved - winter wheat	11.90	11.90	11.90
Less marketing and processing cost saved			
@ \$.34/bushel	10.20	17.00	28.90
Flood loss with no replanting	65.80	117.60	208.25
Plus added cost of replanting oats	21.15	21.35	22.90
Minus value of substitute oat crop @ \$1.48/bushel	74.00	103.60	133.20
Plus harvesting cost of oats (combining)	11.90	11.90	11.90
Plus processing and marketing cost of oats @			
@ \$.34/bushel	17.00	23.80	30.60
Flood loss with replanting	41.85	71.55	140.45

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Potential Damage to Winter Wheat:

<u>Yield Level in Bushels</u>	<u>30</u>	<u>50</u>	<u>85</u>
<u>March 1-31 (N&S)</u>			
Replant to spring oats			
Yield of substitute crops in bushels	50	70	90
Value of winter wheat yield lost @ \$2.93/bu.	87.90	146.50	249.05
Less harvesting, marketing and processing cost of winter wheat	22.10	28.90	40.80
	65.80	117.60	208.25
Less value of substitute crop @ \$1.48/bushel	74.00	103.60	133.20
Plus production cost of substitute crop	50.05	57.55	65.40
Flood Loss with replanting	41.85	71.55	140.45
<u>April 1-15 (N&S)</u>			
Replant to spring grain (oats)			
Yield of oats in bushels	38	54	70
Value of winter wheat lost @ \$2.93/bushel	87.90	146.50	249.05
Less harvesting, processing, and marketing cost of winter wheat	22.10	28.90	40.80
	65.80	117.60	208.25
Flood Loss with no substitute crop	65.80	117.60	208.25
Less value of substitute oat crop @ \$1.48/bu.	56.24	79.92	103.60
Plus added production cost of substitute crop	44.61	52.11	58.60
Flood Loss with substitute crop	54.17	89.79	163.25
<u>April 16-30 (N&S)</u>			
Replant to spring grain (oats)			
Yield of oats in bushels	31	43	59
Value of winter wheat and new seeding loss	65.80	117.60	208.25
Less value of substitute crop @ \$1.48/bu.	45.88	63.64	87.32
Added production cost of oats	43.59	48.37	54.86
Flood Loss	63.51	102.33	175.79
WITH NO OTHER SUBSTITUTE CROP			
<u>May 1-15 (N&S)</u>			
Too late to plant substitute small grain crop			
Value of winter wheat loss @ \$2.93/bushel	87.90	146.50	249.05
Less harvesting, marketing, and processing costs	22.10	28.90	40.80
Flood Loss	65.80	117.60	208.25

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Potential Damage to Winter Wheat: With Corn
or Soybeans as Substitute Crop

	<u>30</u>	<u>50</u>	<u>85</u>
<u>May 1-15 (N&S)</u>			
Too late to plant substitute small grain			
Replant to substitute crop of corn grain			
Corn yield in bushels	60	100	140
Value of lost wheat yield at \$2.93/bushel	87.90	146.50	249.05
Less harvesting, marketing, and processing cost saved	22.10	28.90	40.80
wheat			
Flood Loss with no replanting	65.80	117.60	208.25
Plus added production expenses of corn	131.54	183.28	235.67
Replanting	(28.75)	(32.71)	(37.33)
Cultivating and picking	(14.00)	(14.00)	(14.00)
Processing and marketing	(42.60)	(71.00)	(99.40)
Spraying	(4.84)	(4.84)	(4.84)
Additional Fertilizer	(41.35)	(60.73)	(80.10)
Less value of substitute corn crop	160.80	268.00	375.20
Flood Loss with substitute corn crop	36.54	32.88	68.72
<u>May 16-31 (N&S)</u>			
Replant to substitute crop of corn			
Corn yield in bushels	55	95	135
Less from winter wheat @ \$2.93/bushel	87.90	146.50	249.05
Minus winter wheat harvesting and marketing cost saved	22.10	28.90	40.80
Flood Loss with no replanting	65.80	117.60	208.25
Plus added production expense growing corn	86.64	119.00	152.02
Replanting	(28.75)	(32.71)	(37.33)
Cultivating and picking	(14.00)	(14.00)	(14.00)
Processing and marketing	(39.05)	(67.45)	(95.85)
Spraying	(4.84)	(4.84)	(4.84)
Less value of substitute corn crop @ \$2.68/bu.	147.40	254.60	361.80
Flood Loss with substitute crop	5.04	-18.00	-1.53
<u>June 1-15 (N&S)</u>			
Replant to substitute crop of soybeans			
Soybean yield in bushels	18	29	43
Total less to winter wheat @ \$2.93/bushel	87.90	146.50	249.05
Less harvesting, processing, and marketing expenses saved	22.10	28.90	40.80
Flood Loss with no substitute crop	65.80	117.60	208.25
Plus added production expense of soybeans	87.09	109.27	131.80
Replanting	(24.74)	(26.22)	(27.70)
Cultivating and combining	(14.00)	(14.00)	(14.00)
Hauling to market	(2.16)	(3.48)	(5.16)
Additional Fertilizer	(41.35)	(60.73)	(80.10)
Spraying	(4.84)	(4.84)	(4.84)
Less value of substitute soybean crop @\$5.22/bu.	93.96	151.38	224.46
Flood loss with substitute crop	58.93	75.49	115.59

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Potential Damage to Winter Wheat: Yield Level in Bushels	<u>30</u>	<u>50</u>	<u>85</u>
<u>June 16-30 (N&S)</u>			
Too late for substitute grain crop			
5% winter wheat harvested; 95% loss	62.51	111.72	197.84
<u>July 1-15 (N&S)</u>			
40% winter wheat harvested; 60% loss	39.48	70.56	124.95
<u>July 16-31 (N&S)</u>			
90% harvested; 10% loss	6.58	11.76	20.83
<u>August 1-15 (N&S)</u>			
95% harvested; 5% loss	3.29	5.88	10.41
<u>August 16-31</u>			
100% winter wheat harvested			
No damage			
Flood Loss	0	0	0
<hr/>			
Potential Damage to Hay: Yield Level in Tons	<u>2</u>	<u>4</u>	<u>6</u>
<u>April 1-May 31 (N)</u>			
<u>April 1-May 15 (S)</u>			
Hay 100% Loss			
Value of lost production @ \$53.83/ton	107.66	215.32	322.98
Less harvesting and marketing cost of \$29.55/ton	-59.10	-118.20	-177.30
Flood Loss (N&S)	48.56	97.12	145.68
<u>May 16 - 31 (S)</u>			
10% harvested; 90% loss (S)	43.70	87.41	131.11
<u>June 1-15</u>			
10% harvested; 90% loss (N)	43.70	87.41	131.11
20% harvested; 80% loss (S)	38.85	77.70	116.54

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Potential Damage to Hay:

<u>Yield to Level in Tons</u>	<u>2</u>	<u>4</u>	<u>6</u>
<u>June 16-30</u>			
40% harvested; 60% loss (N)	29.14	58.27	87.41
35% harvested; 65% loss (S)	31.56	63.13	94.69
<u>July 1-15</u>			
45% harvested; 55% loss (N)	26.71	53.42	80.12
40% harvested; 60% loss (S)	29.14	58.27	87.41
<u>July 16-31</u>			
60% harvested; 40% loss (N)	19.42	38.85	58.27
50% harvested; 50% loss (S)	24.28	48.56	72.84
<u>August 1-15</u>			
70% harvested; 30% loss (N)	14.57	29.14	43.70
65% harvested; 35% loss (S)	17.00	33.99	50.99
<u>August 16-31 (N&S)</u>			
75% harvested; 25% loss	12.14	24.28	36.42
<u>September 1-15</u>			
95% harvested; 5% loss (N)	2.43	4.86	7.28
90% harvested; 10% loss (S)	4.86	9.71	14.57
<u>September 16-30 (N&S)</u>			
100% harvested	0	0	0

Potential Damage to Pasture

<u>Yield</u>	<u>NORTH</u>			<u>SOUTH</u>		
	<u>2 tons</u>	<u>4 tons</u>	<u>6 tons</u>	<u>2 tons</u>	<u>4 tons</u>	<u>6 tons</u>
Hay equivalent (tons per acre)						
Cow acre days:						
"A" management						
Continuous grazing	100	200	300	100	200	300
"B" management						
Rotation grazing	114	228	342	114	228	342

<u>Potential Damage to Pasture</u>	<u>NORTH</u>			<u>SOUTH</u>		
	<u>YIELD</u>			<u>DOLLARS</u>		
(N&S) Prior to April 1	0	0	0	0	0	0
<u>April 1-30</u>						
(N) 0% harvested; 100%	48.56	97.12	145.68			
(S) 10% harvested; 90%				43.70	87.41	131.11
<u>May 1-15</u>						
(N) 0% harvested;	48.56	97.12	145.68			
(S) 20% harvested; 80% loss				38.85	77.70	116.54
<u>May 16-31</u>						
(N) 15% harvested; 85% loss	41.28	82.55	123.83			
(S) 35% harvested; 65% loss				31.56	63.13	94.69
<u>June 1-15</u>						
(N) 30% harvested; 70% loss	33.99	67.98	101.98			
(S) 50% harvested; 50% loss				24.28	48.56	72.84
<u>June 16-30</u>						
(N) 50% harvested; 50% loss	24.28	48.56	72.84			
(S) 60% harvested; 40% loss				19.42	38.85	58.27
<u>July 1-15</u>						
(N) 55% harvested; 45% loss	21.85	43.70	65.56			
(S) 62% harvested; 38% loss				18.45	36.91	55.36
<u>July 16-31</u>						
(N) 60% harvested; 40% loss	19.42	38.85	58.27			
(S) 65% harvested; 35% loss				17.00	33.99	50.99
<u>August 1-15</u>						
(N) 65% harvested; 35% loss	17.00	33.99	50.99			
(S) 67% harvested; 33% loss				16.02	32.05	48.07
<u>August 16-31 (N&S)</u>						
70% harvested; 30% loss	14.57	29.14	43.70	14.57	29.14	43.70
<u>September 1-15 (N&S)</u>						
75% harvested; 25% loss	12.14	24.28	36.42	12.14	24.28	36.42
<u>September 16-30</u>						
(N) 90% harvested; 10% loss	4.86	9.71	14.57			
(S) 80% harvested; 20% loss				9.71	19.42	29.14
<u>October 1-15</u>						
(N) 95% harvested; 5% loss	2.43	4.86	7.28			
(S) 90% harvested; 10% loss				4.86	9.71	14.57

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<u>Potential Damage to Pasture</u>	<u>NORTH</u>			<u>SOUTH</u>		
<u>YIELD</u>	<u>DOLLARS</u>					
<u>October 16-31</u>						
(N) 100% harvested; 0% loss	0	0	0			
(S) 95% harvested; 5% loss				2.43	4.86	7.28
<u>November 1-15 (N&S)</u>						
100% harvested	0	0	0	0	0	0

Documentation for Pasture Damages

The value of standing pasture was determined as follows:

1) value of hay in current normalized prices	\$53.83
2) less processing, harvesting, and marketing costs	<u>-29.55</u>
	\$24.28

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TABLE VIII - Potential Crop and Pasture Floodwater Damage Values Per Acre of Unharvested Crop, by Yields and Months, Based on Complete Destruction of the Unharvested Crop for Northern and Southern Portions of the Northeast Area (Current Normalized Prices)

		NORTHERN PORTION NORTHEAST REGION								
Crop	Yield	Potential Damage Per Acre in Dollars by Months								
		March	April	May	June	July	August	September	October	November
Corn Grain	75	0	7.80	40.65	110.34	137.25	137.25	133.82	102.94	27.46
	125	0	7.80	54.46	181.53	235.75	235.75	229.86	178.82	47.16
	175	0	7.80	68.93	245.07	334.25	334.25	325.90	250.69	66.86
Corn Silage	15	0	0	10.48	86.65	164.25	156.04	28.75	0	0
	25	0	0	12.46	128.94	273.75	260.07	47.91	0	0
	35	0	0	14.77	160.93	383.25	364.09	67.07	0	0
Soybeans	25	0	4.40	24.74	86.27	115.60	115.60	109.82	60.69	14.45
	40	0	4.40	26.22	135.46	192.10	192.10	182.50	100.86	24.02
	60	0	4.40	27.70	202.50	294.10	294.10	279.40	154.41	36.77
Oats	50	0	50.74	32.69	57.02	61.56	29.03	0	0	0
	70	0	58.28	0.03	79.82	83.79	35.87	0	0	0
	90	0	63.89	-31.99	102.62	106.02	42.71	0	0	0
Winter Wheat	30	41.85	58.84	20.79	60.72	23.03	1.65	21.15	29.92	41.85
	50	71.55	96.06	7.44	93.61	41.16	2.94	24.10	37.05	71.55
	85	140.45	169.52	33.60	156.72	72.89	5.21	25.40	47.42	140.45
Hay	2 tons	0	48.56	48.56	36.42	23.07	13.36	1.22	0	0
	4 tons	0	97.12	97.12	72.84	46.14	26.71	2.43	0	0
	6 tons	0	145.68	145.68	109.26	69.20	40.06	3.64	0	0
Pasture	100	0	48.56	44.92	29.14	20.64	15.79	8.50	1.22	0
	200	0	97.12	89.84	58.27	41.28	31.57	17.00	2.43	0
	300	0	145.68	134.76	87.41	61.92	47.35	25.50	3.64	0

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SOUTHERN PORTION OF THE NORTHEAST REGION

TABLE VIII - Potential Crop and Pasture Floodwater Damage Values Per Acre of Unharvested Crop, by Yields and Months, Based on Complete Destruction of the Unharvested Crop for Northern and Southern Portions of the Northeast Area (Current Normalized Prices)

Crop	Yield	Potential Damage Per Acre in Dollars by Months								
		March	April	May	June	July	August	September	October	November
Corn Grain	75	0	7.80	40.65	110.34	137.25	137.25	130.39	89.22	17.16
	125	0	7.80	54.46	181.53	235.75	235.75	223.97	153.24	29.47
	175	0	7.80	68.93	245.07	334.25	334.25	317.54	217.27	41.78
Corn Silage	15	0	3.90	20.95	86.65	164.25	164.25	82.13	0	0
	25	0	3.90	24.91	128.94	273.75	273.75	136.88	0	0
	35	0	3.90	29.53	160.93	383.25	383.25	191.63	0	0
Soybeans	25	0	4.40	24.74	86.27	115.60	115.60	95.37	23.12	0
	40	0	4.40	26.22	135.46	192.10	192.10	158.49	38.42	0
	60	0	4.40	27.70	202.50	294.10	294.10	242.64	58.82	0
Oats	50	33.07	50.74	32.69	57.40	29.03	0	0	0	0
	70	33.77	58.28	0.03	61.44	35.87	0	0	0	0
	90	34.82	63.89	-31.99	57.82	42.71	0	0	0	0
Winter Wheat	30	41.85	58.84	20.79	60.72	23.03	1.65	22.15	29.92	41.85
	50	71.55	96.06	7.44	93.61	41.16	2.94	24.10	37.05	71.55
	85	140.45	169.52	33.60	156.72	72.89	5.21	25.40	47.42	140.45
Hay	2 ton	0	48.56	46.13	35.21	26.71	14.57	2.43	0	0
	4 ton	0	97.12	92.27	70.42	53.42	29.14	4.86	0	0
	6 ton	0	145.68	138.40	105.62	80.13	43.71	7.29	0	0
Pasture	100 CAD	0	43.70	35.21	21.85	17.73	15.30	10.93	3.65	0
	200 CAD	0	87.41	70.42	43.71	35.45	30.60	21.85	7.29	0
	300 CAD	0	131.11	105.62	65.56	53.18	45.89	32.78	10.93	0

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NORTHERN PORTION OF NORTHEAST REGION

Actual Damage Per Acre in Dollars by Months

Crop and Depth of Flooding	Yield	March	April	May	June	July	August	September	October	November
<u>Corn Grain</u>	75 bu.	0	0	8.54	59.58	61.76	28.82	17.40	19.56	6.87
0-2'	125 bu.	0	0	11.44	98.03	106.09	49.51	29.88	33.98	11.79
	175 bu.	0	0	14.48	132.34	150.41	70.19	42.37	47.63	16.72
over 2'	75 bu.	0	0	10.57	82.76	120.78	75.49	53.53	46.32	15.10
	125 bu.	0	0	14.16	136.15	207.46	129.66	91.94	80.47	25.94
	175 bu.	0	0	17.92	183.80	294.14	183.84	130.36	112.81	36.77
<u>Corn Silage</u>	15 tons	0	0	2.20	46.79	73.91	32.77	3.74	0	0
0-2'	25 tons	0	0	2.62	69.63	123.19	54.61	6.23	0	0
	35 tons	0	0	3.10	86.90	172.46	76.46	8.72	0	0
over 2'	15 tons	0	0	2.72	64.99	144.54	85.82	11.50	0	0
	25 tons	0	0	3.24	96.71	240.90	143.04	19.16	0	0
	35 tons	0	0	3.84	120.70	337.26	200.25	26.83	0	0
<u>Soybeans</u>	25 bu.	0	0	4.45	52.62	87.86	83.23	58.20	43.09	13.29
0-2'	40 bu.	0	0	4.72	82.63	146.00	138.31	96.73	71.61	22.10
	60 bu.	0	0	4.99	123.53	223.52	211.75	148.08	109.63	33.83
over 2'	25 bu.	0	0	5.20	70.74	112.13	112.13	84.56	49.77	14.02
	40 bu.	0	0	5.51	111.08	186.34	186.34	140.53	82.71	23.30
	60 bu.	0	0	5.82	160.05	285.28	285.28	215.14	126.62	35.67
<u>Oats</u>	50 bu.	0	11.16	12.10	34.21	40.01	17.71	0	0	0
0-2'	70 bu.	0	12.82	0.01	47.89	54.46	21.88	0	0	0
	90 bu.	0	14.06	-11.84	61.57	68.91	26.05	0	0	0
over 2'	50 bu.	0	16.74	18.63	55.31	59.71	27.87	0	0	0
	70 bu.	0	19.23	0.02	77.43	81.28	34.44	0	0	0
	90 bu.	0	21.08	-18.23	99.54	102.84	41.00	0	0	0

NORTHERN PORTION OF NORTHEAST REGION

Actual Damage Per Acre in Dollars by Months

Crop and Depth of Flooding	Yield	March	April	May	June	July	August	September	October	November
<u>Hay</u> 0-2'	2 tons	0	2.91	19.42	20.03	12.23	7.35	.51	0	0
	4 tons	0	5.83	38.85	40.06	24.45	14.69	1.02	0	0
	6 tons	0	8.74	58.27	60.09	36.68	22.03	1.53	0	0
over 2'	2 tons	0	5.83	24.28	28.04	17.76	10.29	.76	0	0
	4 tons	0	11.53	48.56	56.09	35.53	20.57	1.51	0	0
	6 tons	0	20.34	72.84	84.13	53.28	30.85	2.26	0	0
<u>Pasture</u> 0-2'	100 CAD	0	0	4.94	6.12	2.68	1.26	1.87	0.33	0
	200 CAD	0	0	9.88	12.24	5.37	2.53	3.74	0.66	0
	300 CAD	0	0	14.82	18.36	8.05	3.79	5.61	0.98	0
over 2'	100 CAD	0	0	7.64	8.74	4.13	2.53	2.72	0.67	0
	200 CAD	0	0	15.27	17.48	8.26	5.05	5.44	1.34	0
	300 CAD	0	0	22.91	26.22	12.38	7.58	8.16	2.00	0
<u>Winter Wheat</u> 0-2'	30	5.02	20.59	9.36	34.61	11.52	0.83	3.32	4.79	5.02
	50	8.59	33.62	3.35	53.36	20.58	1.47	3.62	5.93	8.59
	85	16.85	59.33	15.12	89.33	36.45	2.61	3.81	5.79	16.85
over 2'	30	7.53	30.60	14.55	48.79	20.04	1.44	5.98	8.38	7.53
	50	12.88	49.95	5.21	79.57	35.81	2.56	6.51	10.38	12.88
	85	25.28	88.15	23.52	49.15	63.41	4.53	6.86	13.28	25.28

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SOUTHERN PORTION OF NORTHEAST REGION

Actual Damage Per Acre in Dollars by Months

Crop and Depth of Flooding	Yield	March	April	May	June	July	August	September	October	November
<u>Corn Grain</u>	75 bu.	0	2.26	15.04	55.17	41.18	16.47	5.22	3.57	0.69
0-2'	125 bu.	0	2.26	20.15	90.77	70.73	28.29	8.96	6.13	1.18
	175 bu.	0	2.26	25.50	122.54	100.28	40.11	12.70	8.69	1.67
over 2'	75 bu.	0	2.26	18.29	80.55	107.06	49.41	33.90	26.77	5.15
	125 bu.	0	2.26	24.51	132.52	183.89	84.87	58.23	45.97	8.84
	175 bu.	0	2.26	31.02	178.90	260.72	120.33	82.56	65.18	12.53
<u>Corn Silage</u>	15 tons	0	1.13	7.75	43.33	49.28	19.71	3.29	0	0
0-2'	25 tons	0	1.13	9.22	64.47	82.13	32.85	5.48	0	0
	35 tons	0	1.13	10.93	80.47	114.98	45.99	7.67	0	0
over 2'	15 tons	0	1.13	9.43	63.25	128.12	59.13	21.35	0	0
	25 tons	0	1.13	11.80	94.13	213.53	98.55	35.59	0	0
	35 tons	0	1.13	12.47	117.48	298.94	137.97	49.82	0	0
<u>Soybeans</u>	25 bu.	0	1.28	9.65	58.66	85.54	72.83	35.29	12.02	0
0-2'	40 bu.	0	1.28	10.23	92.11	142.15	121.02	58.64	19.98	0
	60 bu.	0	1.28	10.80	137.70	217.63	185.28	89.78	30.59	0
over 2'	25 bu.	0	1.28	13.85	81.96	113.29	107.51	76.30	20.81	0
	40 bu.	0	1.28	14.68	128.69	188.26	178.65	126.79	34.58	0
	60 bu.	0	1.28	15.51	192.38	288.22	273.51	194.11	52.94	0
<u>Oats</u>										
0-2'	50 bu.	0	18.27	20.59	38.46	18.58	0	0	0	0
	70 bu.	0	20.98	0.02	41.16	22.96	0	0	0	0
	90 bu.	0	23.00	-20.15	38.74	27.33	0	0	0	0
over 2'	50 bu.	0	28.41	31.38	55.10	27.58	0	0	0	0
	70 bu.	0	32.64	0.03	58.98	34.08	0	0	0	0
	90 bu.	0	35.78	-30.71	55.51	40.57	0	0	0	0

SOUTHERN PORTION OF NORTHEAST REGION

Actual Damage Per Acre in Dollars by Months

Crop and Depth of Flooding	Yield	March	April	May	June	July	August	September	October	November
<u>Winter Wheat</u>	30 bu.	5.02	20.59	9.36	34.61	11.52	0.83	3.32	4.79	5.02
0-2'	50 bu.	8.59	33.62	3.35	53.36	20.58	1.47	3.62	5.93	8.59
	85 bu.	16.85	59.33	15.12	89.33	36.45	2.61	3.81	7.59	16.85
over 2'	30 bu.	7.53	30.60	14.55	48.79	20.04	1.44	5.98	8.38	7.53
	50 bu.	12.88	49.95	5.21	79.57	35.81	2.56	6.51	10.37	12.88
	85 bu.	25.28	88.15	23.52	49.15	63.41	4.53	6.86	13.28	25.28
<u>Hay</u>	2 tons	0	5.34	20.76	21.13	15.49	8.74	1.14	0	0
0-2'	4 tons	0	10.68	41.52	42.25	30.98	17.48	2.28	0	0
	6 tons	0	16.02	62.28	63.37	46.48	26.23	3.43	0	0
over 2'	2 tons	0	8.26	25.37	28.87	21.90	11.95	1.63	0	0
	4 tons	0	16.51	50.75	57.74	43.80	23.89	3.26	0	0
	6 tons	0	24.77	76.12	86.61	65.71	35.84	4.88	0	0
<u>Pasture</u>	100 CAD	0	0.87	4.93	5.68	3.01	1.53	2.40	0.80	0
0-2'	200 CAD	0	1.75	9.86	11.36	6.03	3.06	4.81	1.60	0
	300 CAD	0	2.62	14.79	17.05	9.04	4.59	7.21	2.40	0
over 2'	100 CAD	0	6.56	7.39	7.65	4.43	3.06	3.50	1.83	0
	200 CAD	0	13.11	14.79	15.30	8.86	6.12	6.97	3.65	0
	300 CAD	0	19.67	22.18	22.95	13.30	9.18	10.49	5.47	0

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NORTHERN PORTION OF NORTHEAST REGION

Actual Damage Per Acre in Dollars by Months

Crop and Depth of Flooding	Yield	March	April	May	June	July	August	September	October	November
<u>Corn Grain</u>	75 bu.	0	0	20.33	82.76	87.84	57.65	29.44	28.82	9.34
0-2'	125 bu.	0	0	27.23	136.15	150.88	99.02	50.57	50.07	16.03
	175 bu.	0	0	34.47	183.80	213.92	140.39	71.70	70.19	22.73
over 2'	75 bu.	0	0	22.36	110.34	137.25	109.80	73.60	61.76	19.22
	125 bu.	0	0	29.95	181.53	235.75	188.60	126.42	107.29	33.01
	175 bu.	0	0	37.91	245.07	334.25	267.40	179.25	150.41	46.80
<u>Corn Silage</u>	15 tons	0	0	5.24	64.99	105.12	65.54	6.33	0	0
0-2'	25 tons	0	0	6.23	96.71	175.20	109.23	10.54	0	0
	35 tons	0	0	7.39	120.70	245.28	152.92	14.76	0	0
over 2'	15 tons	0	0	5.76	86.65	164.25	124.83	15.81	0	0
	25 tons	0	0	6.85	128.94	273.75	208.06	26.35	0	0
	35 tons	0	0	8.12	160.93	383.25	291.27	36.89	0	0
<u>Soybeans</u>	25 bu.	0	0	11.13	73.33	115.60	109.82	82.37	60.69	14.45
0-2'	40 bu.	0	0	11.80	115.14	192.10	182.50	136.88	100.86	24.02
	60 bu.	0	0	12.47	172.13	294.10	279.40	209.55	154.41	36.77
over 2'	25 bu.	0	0	11.88	86.27	115.60	115.60	109.82	60.69	14.45
	40 bu.	0	0	12.59	135.46	192.10	192.10	182.50	100.86	24.02
	60 bu.	0	0	13.30	202.50	294.10	294.10	279.40	154.41	36.77
<u>Oats</u>	50 bu.	0	20.30	17.33	42.19	49.25	22.06	0	0	0
0-2'	70 bu.	0	23.31	0.02	59.07	67.03	27.26	0	0	0
	90 bu.	0	25.56	-16.95	75.94	84.82	32.46	0	0	0
over 2'	50 bu.	0	23.85	22.23	57.02	61.56	29.03	0	0	0
	70 bu.	0	27.39	0.02	79.82	83.79	35.87	0	0	0
	90 bu.	0	30.03	-21.75	102.62	106.02	42.71	0	0	0

NORTHERN PORTION OF NORTHEAST REGION

Crop and Depth of Flooding	Yield	Actual Damage Per Acre in Dollars by Months								
		March	April	May	June	July	August	September	October	November
<u>Hay</u> 0-2'	2 tons	0	5.83	24.28	23.67	14.53	8.68	0.63	0	0
	4 tons	0	11.65	48.56	47.35	29.07	17.36	1.26	0	0
	6 tons	0	17.48	72.84	71.02	43.60	26.04	1.89	0	0
over 2'	2 tons	0	10.68	38.25	33.51	21.22	12.29	0.94	0	0
	4 tons	0	21.37	62.44	67.01	42.45	24.57	1.87	0	0
	6 tons	0	32.05	110.19	100.52	63.66	36.86	2.80	0	0
<u>Pasture</u> 0-2'	100 CAD	0	0	7.64	7.87	3.92	2.21	2.38	0.40	0
	200 CAD	0	0	15.27	15.73	7.84	4.42	4.76	0.80	0
	300 CAD	0	0	22.91	23.60	11.76	6.63	7.14	1.20	0
over 2'	100 CAD	0	0	12.13	11.66	6.19	4.11	3.57	0.79	0
	200 CAD	0	0	24.26	23.31	12.38	8.21	7.14	1.58	0
	300 CAD	0	0	36.39	34.96	18.58	12.31	10.71	2.37	0
<u>Winter Wheat</u> 0-2'	30	8.79	26.48	11.02	43.11	16.58	1.19	5.98	8.98	8.79
	50	15.03	46.23	3.94	66.46	29.64	2.12	6.51	11.12	15.03
	85	29.49	76.28	17.81	111.27	52.48	3.75	6.86	14.23	29.49
over 2'	30	15.90	37.07	18.71	60.72	23.03	1.65	11.08	16.46	15.90
	50	27.19	60.52	6.70	93.61	41.16	2.94	12.05	20.38	27.19
	85	53.37	106.80	30.24	156.72	72.89	5.21	12.70	26.08	53.37

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SOUTHERN PORTION OF NORTHEAST REGION

Actual Damage Per Acre in Dollars by Months

Crop and Depth of Flooding	Yield	March	April	May	June	July	August	September	October	November
<u>Corn Grain</u>	75 bu.	0	3.12	20.73	76.13	32.94	30.20	13.04	8.92	1.72
0-2'	125 bu.	0	3.12	27.77	125.26	56.58	51.87	22.40	15.32	2.95
	175 bu.	0	3.12	35.15	169.10	80.22	73.54	31.75	21.73	4.18
over 2'	75 bu.	0	3.74	24.39	97.10	127.64	68.63	52.16	40.15	7.72
	125 bu.	0	3.74	32.68	159.75	219.25	117.88	89.59	68.96	13.26
	175 bu.	0	3.74	41.36	215.66	310.85	167.13	127.02	97.77	18.80
<u>Corn Silage</u>	15 tons	0	1.56	10.68	59.79	68.99	36.14	8.21	0	0
0-2'	25 tons	0	1.56	12.70	88.97	114.98	60.23	13.69	0	0
	35 tons	0	1.56	15.06	111.04	160.97	84.32	19.16	0	0
over 2'	15 tons	0	1.87	12.57	76.25	152.75	82.13	32.85	0	0
	25 tons	0	1.87	14.95	113.47	254.59	136.88	54.75	0	0
	35 tons	0	1.87	17.72	141.62	356.42	191.63	76.65	0	0
<u>Soybeans</u>	25 bu.	0	1.76	13.11	79.37	115.60	100.57	57.22	20.11	0
0-2'	40 bu.	0	1.76	13.90	124.62	192.10	167.13	95.09	33.43	0
	60 bu.	0	1.76	14.68	186.30	294.10	255.87	145.58	51.17	0
over 2'	25 bu.	0	2.11	17.32	86.27	115.60	115.60	95.37	23.12	0
	40 bu.	0	2.11	18.35	135.46	192.10	192.10	158.49	38.42	0
	60 bu.	0	2.11	19.39	202.50	294.10	294.10	242.64	58.82	0
<u>Oats</u>	50 bu.	0	27.91	25.17	46.49	22.03	0	0	0	0
0-2'	70 bu.	0	32.05	0.02	49.77	28.34	0	0	0	0
	90 bu.	0	35.14	-24.63	46.83	33.74	0	0	0	0
over 2'	50 bu.	0	35.52	32.69	57.40	29.03	0	0	0	0
	70 bu.	0	40.80	0.03	61.44	35.87	0	0	0	0
	90 bu.	0	44.72	-31.99	57.82	42.71	0	0	0	0

SOUTHERN PORTION OF NORTHEAST REGION

Actual Damage Per Acre in Dollars by Months

Crop and Depth of Flooding	Yield	March	April	May	June	July	August	September	October	November
<u>Winter Wheat</u>	30 bu.	8.77	26.48	11.02	43.11	16.58	1.19	5.98	8.98	8.79
0-2'	50 bu.	15.03	46.23	3.94	66.46	29.64	2.12	6.51	11.12	15.03
	85 bu.	29.49	76.28	17.81	111.27	52.48	3.75	6.86	14.23	29.49
over 2'	30 bu.	15.90	37.07	18.71	60.72	23.03	1.65	11.08	16.46	15.90
	50 bu.	27.19	60.52	6.70	93.61	41.16	2.94	12.05	20.38	27.19
	85 bu.	53.37	106.80	30.24	156.72	72.89	5.21	12.70	26.08	53.37
<u>Hay</u>	2 tons	0	8.26	25.37	24.65	18.16	10.20	1.39	0	0
0-2'	4 tons	0	16.51	50.75	49.29	36.33	20.40	2.77	0	0
	6 tons	0	24.77	76.12	73.93	54.49	30.60	4.16	0	0
over 2'	2 tons	0	13.11	32.29	34.15	25.91	14.13	1.99	0	0
	4 tons	0	26.22	64.59	68.31	51.82	28.27	3.99	0	0
	6 tons	0	39.33	96.88	102.45	77.73	42.40	5.98	0	0
<u>Pasture</u>	100 CAD	0	2.62	7.04	6.99	4.08	2.45	3.06	1.02	0
0-2'	200 CAD	0	5.24	14.08	13.99	8.15	4.90	6.12	2.04	0
	300 CAD	0	7.87	21.12	20.98	12.23	7.34	9.18	3.06	0
over 2'	100 CAD	0	9.18	10.92	9.83	6.21	4.59	4.59	2.19	0
	200 CAD	0	18.36	21.83	19.67	12.41	9.18	9.18	4.37	0
	300 CAD	0	27.53	32.74	29.50	18.61	13.77	13.77	6.56	0

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NORTHERN PORTION OF NORTHEAST REGION

Crop and Depth of Flooding	Yield	Damage Per Acre as a Percent of Flood-Free Gross Returns by Months									
		March	April	May	June	July	August	September	October	November	
<u>Corn Grain</u> 0-2'	75 bu.	0	0	4	30	31	14	9	10	3	
	125 bu.	0	0	3	29	32	15	9	10	4	
	175 bu.	0	0	3	28	32	15	9	10	4	
over 2'	75 bu.	0	0	5	41	60	38	27	23	8	
	125 bu.	0	0	4	41	62	39	27	24	8	
	175 bu.	0	0	4	39	63	39	28	24	8	
<u>Corn Silage</u> 0-2'	15 tons	0	0	1	20	32	14	2	0	0	
	25 tons	0	0	1	18	32	14	2	0	0	
	35 tons	0	0	1	16	32	14	2	0	0	
over 2'	15 tons	0	0	1	28	62	37	5	0	0	
	25 tons	0	0	1	25	62	37	5	0	0	
	35 tons	0	0	1	22	62	37	5	0	0	
<u>Soybeans</u> 0-2'	25 bu.	0	0	3	40	67	64	45	33	10	
	40 bu.	0	0	2	40	70	66	46	34	11	
	60 bu.	0	0	2	40	71	68	47	35	11	
over 2'	25 bu.	0	0	4	54	86	86	65	38	11	
	40 bu.	0	0	3	53	89	89	67	40	11	
	60 bu.	0	0	2	51	91	91	69	40	11	
<u>Oats</u> 0-2'	50 bu.	0	15	16	46	54	24	0	0	0	
	70 bu.	0	12	0	46	53	21	0	0	0	
	90 bu.	0	11	- 9	46	52	20	0	0	0	
over 2'	50 bu.	0	23	25	75	81	38	0	0	0	
	70 bu.	0	19	0	75	78	33	0	0	0	
	90 bu.	0	16	-14	75	77	31	0	0	0	

NORTHERN PORTION OF NORTHEAST REGION

Damage Per Acre as a Percent of Flood-Free Gross Returns by Months

Crop and Depth of Flooding	Yield	March	April	May	June	July	August	September	October	November
<u>Hay</u> 0-2'	2 tons	0	3	18	19	11	7	1	0	0
	4 tons	0	3	18	19	11	7	1	0	0
	6 tons	0	3	18	19	11	7	1	0	0
over 2'	2 tons	0	5	23	26	16	10	1	0	0
	4 tons	0	5	23	26	17	10	1	0	0
	6 tons	0	6	23	26	16	10	1	0	0
<u>Pasture</u> 0-2'	100 CAD	0	0	10	13	6	3	4	1	0
	200 CAD	0	0	10	13	6	3	4	1	0
	300 CAD	0	0	10	13	6	3	4	1	0
over 2'	100 CAD	0	0	16	18	9	5	6	1	0
	200 CAD	0	0	16	18	9	5	6	1	0
	300 CAD	0	0	16	18	8	5	6	1	0
<u>Winter Wheat</u> 0-2'	30	6	23	11	39	13	1	4	5	6
	50	6	23	2	36	14	1	2	4	6
	85	7	24	6	36	15	1	2	3	7
over 2'	30	9	35	17	56	23	2	7	10	9
	50	9	34	4	54	24	2	4	7	9
	85	10	35	9	20	25	2	3	5	10

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SOUTHERN PORTION OF NORTHEAST REGION

Damage Per Acre as a Percent of Flood-Free Gross Returns by Months

Crop and Depth of Flooding	Yield	March	April	May	June	July	August	September	October	November	
<u>Corn Grain</u>	75 bu.	0	1	7	27	20	8	3	2	1	
	0-2'	125 bu.	0	1	6	27	21	8	3	1	
	175 bu.	0	1	5	26	21	9	3	2	1	
over 2'	75 bu.	0	1	9	40	53	25	17	13	3	
	125 bu.	0	1	7	40	55	25	17	14	3	
	175 bu.	0	1	7	38	56	26	18	14	3	
<u>Corn Silage</u>	15 tons	0	1	3	19	21	8	1	0	0	
	0-2'	25 tons	0	1	2	17	21	8	1	0	
	35 tons	0	1	2	15	21	8	1	0	0	
over 2'	15 tons	0	1	4	27	55	25	9	0	0	
	25 tons	0	1	3	24	55	25	9	0	0	
	35 tons	0	1	2	22	55	25	9	0	0	
<u>Soybeans</u>	25 bu.	0	1	7	45	66	56	27	9	0	
	0-2'	40 bu.	0	1	5	44	68	58	28	10	0
	60 bu.	0	1	3	44	69	59	29	10	0	
over 2'	25 bu.	0	1	11	63	87	82	58	16	0	
	40 bu.	0	1	7	62	90	86	61	17	0	
	60 bu.	0	1	5	61	92	87	62	17	0	
<u>Oats</u>	50 bu.	0	25	28	52	25	0	0	0	0	
	0-2'	70 bu.	0	20	0	40	22	0	0	0	
	90 bu.	0	17	-15	29	21	0	0	0	0	
over 2'	50 bu.	0	38	42	74	37	0	0	0	0	
	70 bu.	0	32	0	57	33	0	0	0	0	
	90 bu.	0	27	-23	42	30	0	0	0	0	

SOUTHERN PORTION OF NORTHEAST REGION
 Damage Per Acre as a Percent of Flood-Free Gross Returns by Months

Crop and Depth of Flooding	Yield	March	April	May	June	July	August	September	October	November
<u>Winter Wheat</u> 0-2'	30 bu.	6	23	11	39	13	1	4	5	6
	50 bu.	6	23	2	39	14	1	2	4	6
	85 bu.	7	24	6	36	15	1	2	3	7
over 2'	30 bu.	9	35	17	56	23	2	7	10	9
	50 bu.	9	34	4	54	24	2	4	7	9
	85 bu.	10	35	9	20	25	2	3	5	10
<u>Hay</u> 0-2'	2 tons	0	5	19	20	14	8	1	0	0
	4 tons	0	5	19	20	14	8	1	0	0
	6 tons	0	5	19	20	14	8	1	0	0
over 2'	2 tons	0	8	24	27	20	11	2	0	0
	4 tons	0	8	24	27	20	11	2	0	0
	6 tons	0	8	24	27	20	11	2	0	0
<u>Pasture</u> 0-2'	100 CAD	0	2	10	12	6	3	5	2	0
	200 CAD	0	2	10	12	6	3	5	2	0
	300 CAD	0	2	10	12	6	3	5	2	0
over 2'	100 CAD	0	14	15	16	9	6	7	4	0
	200 CAD	0	13	15	16	9	6	7	4	0
	300 CAD	0	14	15	16	9	6	7	4	0

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NORTHERN PORTION OF NORTHEAST REGION

Damage Per Acre as a Percent of Flood-Free Gross Returns by Months

Crop and Depth of Flooding	Yield	March	April	May	June	July	August	September	October	November
<u>Corn Grain</u>	75 bu.	0	0	10	41	44	29	15	14	5
	125 bu.	0	0	8	41	45	30	15	15	5
	175 bu.	0	0	7	39	46	30	15	15	5
over 2'	75 bu.	0	0	11	55	68	55	37	31	10
	125 bu.	0	0	9	54	70	56	38	32	10
	175 bu.	0	0	8	52	71	57	38	32	10
<u>Corn Silage</u>	15 tons	0	0	2	28	45	28	3	0	0
	25 tons	0	0	2	25	45	28	3	0	0
	35 tons	0	0	1	22	45	28	3	0	0
over 2'	15 tons	0	0	2	37	71	54	7	0	0
	25 tons	0	0	2	33	71	54	7	0	0
	35 tons	0	0	1	30	71	54	7	0	0
<u>Soybeans</u>	25 bu.	0	0	9	56	89	84	63	47	11
	40 bu.	0	0	6	55	92	87	66	48	12
	60 bu.	0	0	4	55	94	89	67	49	12
over 2'	25 bu.	0	0	9	66	89	89	84	47	11
	40 bu.	0	0	6	65	92	92	87	48	12
	60 bu.	0	0	4	65	94	94	89	49	12
<u>Oats</u>	50 bu.	0	27	23	57	67	30	0	0	0
	70 bu.	0	23	0	57	65	26	0	0	0
	90 bu.	0	19	-13	57	64	24	0	0	0
over 2'	50 bu.	0	32	30	77	83	39	0	0	0
	70 bu.	0	26	0	77	81	35	0	0	0
	90 bu.	0	23	-16	77	80	32	0	0	0

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NORTHERN PORTION OF NORTHEAST REGION

Damage Per Acre as a Percent of Flood-Free Returns by Months

Crop and Depth of Flooding	Yield	March	April	May	June	July	August	September	October	November
<u>Hay</u> 0-2'	2 tons	0	5	23	22	13	8	1	0	0
	4 tons	0	5	23	22	14	8	1	0	0
	6 tons	0	5	23	22	13	8	1	0	0
over 2'	2 tons	0	10	36	31	20	11	1	0	0
	4 tons	0	10	29	31	20	11	1	0	0
	6 tons	0	10	34	31	20	11	1	0	0
<u>Pasture</u> 0-2'	100 CAD	0	0	16	16	8	5	5	1	0
	200 CAD	0	0	16	16	8	5	5	1	0
	300 CAD	0	0	16	16	8	5	5	1	0
over 2'	100 CAD	0	0	25	24	13	8	7	2	0
	200 CAD	0	0	25	24	13	8	7	2	0
	300 CAD	0	0	25	24	13	8	7	2	0
<u>Winter Wheat</u> 0-2'	30 bu.	10	30	13	49	19	1	7	10	10
	50 bu.	10	32	3	45	20	1	4	8	10
	85 bu.	12	31	7	45	21	2	3	6	12
over 2'	30 bu.	18	42	21	69	26	2	13	19	18
	50 bu.	19	41	5	64	28	2	8	14	19
	85 bu.	21	43	12	63	29	2	5	11	21

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TABLE X-A-DURATION - Damage Factors for use with the Economics 2
Computer Program Based on Depth and Duration
of Flooding

MORE THAN 24 HOURS

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SOUTHERN PORTION OF NORTHEAST REGION
Damage Per Acre as a Percent of Flood-Free Gross Returns by Months

Crop and Depth of Flooding	Yield	March	April	May	June	July	August	September	October	November
<u>Corn Grain</u> 0-2'	75 bu.	0	2	10	38	16	15	6	4	1
	125 bu.	0	1	8	37	17	15	6	4	1
	175 bu.	0	1	7	36	17	16	7	5	1
over 2'	75 bu.	0	2	12	48	64	34	26	20	4
	125 bu.	0	1	10	48	65	35	27	21	4
	175 bu.	0	1	9	46	66	36	27	21	4
<u>Corn Silage</u> 0-2'	15 tons	0	1	5	26	30	16	4	0	0
	25 tons	0	1	3	23	30	16	4	0	0
	35 tons	0	1	3	20	30	16	4	0	0
over 2'	15 tons	0	1	5	33	66	35	14	0	0
	25 tons	0	1	4	29	63	35	14	0	0
	35 tons	0	1	3	26	66	35	14	0	0
<u>Soybeans</u> 0-2'	25 bu.	0	1	10	61	89	77	44	15	0
	40 bu.	0	1	7	60	92	80	46	16	0
	60 bu.	0	1	5	59	94	82	46	16	0
over 2'	25 bu.	0	1	13	66	89	89	73	18	0
	40 bu.	0	1	9	65	92	92	76	18	0
	60 bu.	0	1	6	65	94	94	77	19	0
<u>Oats</u> 0-2'	50 bu.	0	38	34	63	30	0	0	0	0
	70 bu.	0	31	0	48	27	0	0	0	0
	90 bu.	0	26	-18	35	25	0	0	0	0
over 2'	50 bu.	0	48	44	76	39	0	0	0	0
	70 bu.	0	39	0	59	35	0	0	0	0
	90 bu.	0	34	-24	43	32	0	0	0	0

SOUTHERN PORTION OF NORTHEAST REGION

Damage Per Acre as a Percent of Flood-Free Gross Returns by Months

Crop and Depth of Flooding	Yield	March	April	May	June	July	August	September	October	November
<u>Winter Wheat</u> 0-2'	30 bu.	10	30	13	49	19	1	7	10	10
	50 bu.	10	32	3	45	20	1	4	8	10
	85 bu.	12	31	7	45	21	2	3	6	12
over 2'	30 bu.	18	42	21	69	26	2	13	19	18
	50 bu.	19	41	5	64	28	2	8	14	19
	85 bu.	21	43	12	63	29	2	5	11	21
<u>Hay</u> 0-2'	2 tons	0	8	24	23	17	10	1	0	0
	4 tons	0	8	24	23	17	10	1	0	0
	6 tons	0	8	24	23	17	10	1	0	0
over 2'	2 tons	0	12	30	32	24	13	2	0	0
	4 tons	0	12	30	32	24	13	2	0	0
	6 tons	0	12	30	32	24	13	2	0	0
<u>Pasture</u> 0-2'	100 CAD	0	5	15	14	8	5	6	2	0
	200 CAD	0	5	15	14	8	5	6	2	0
	300 CAD	0	5	15	14	8	5	6	2	0
over 2'	100 CAD	0	19	23	20	13	10	10	5	0
	200 CAD	0	19	23	20	13	10	10	5	0
	300 CAD	0	19	23	20	13	10	10	5	0

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