



## Wisconsin Ag News – Chemical Use Barley: Fall 2023



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Cooperating with Wisconsin Department of Agriculture, Trade and Consumer Protection

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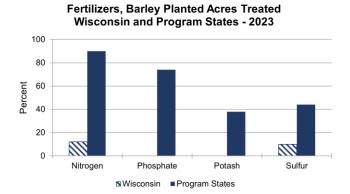
Media Contact: Greg Bussler

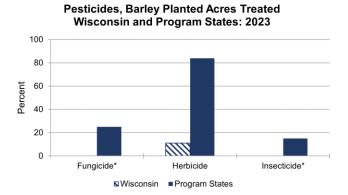
The National Agricultural Statistics Service (NASS) Agricultural Chemical Use Program is the U.S. Department of Agriculture's official source of statistics about on-farm and post-harvest fertilizer and pesticide use and pest management practices.

In the fall of 2023, NASS collected data for the 2023 crop year, the one-year period beginning after the 2022 harvest and ending with the 2023 harvest, about chemical use and pest management practices used on barley production. The data was collected as part of the Agricultural Resource Management Survey (ARMS) and the results are presented here.

Fertilizer Use: Of the three primary macronutrients, nitrogen was the most widely used on barley acres planted in Wisconsin. Farmers applied nitrogen to 12 percent of planted acres at an average rate of 46 pounds per acre per year. The secondary macronutrient, sulfur, was applied to 10 percent of acres planted to barley.

Pesticide Use: Herbicide active ingredients were applied to 11 percent of the barley acres planted.





## Pesticide Use on Barley - Wisconsin and Program States: 2023

Active ingredient	Wisconsin			Program states <sup>1</sup>			
	Planted acres treated <sup>2</sup>	Yearly rate	Total applied	Planted acres treated <sup>2</sup>	Yearly rate	Total applied	
	(percent)	(lbs per acre)	(1,000 lbs)	(percent)	(lbs per acre)	(1,000 lbs)	
Fungicide Total <sup>3</sup>	(D)		(D)	25		173	
Herbicide Total <sup>3</sup>	11		(Z)	84		1,880	
Insecticide Total <sup>3</sup>	(D)		(D)	15		15	

## Fertilizer Use on Barley - Wisconsin and Program States: 2023

	Wisconsin			Program states <sup>1</sup>			
Active ingredient	Planted acres treated	Yearly rate	Total applied	Planted acres treated	Yearly rate	Total applied	
	(percent)	(lbs per acre)	(1,000 lbs)	(percent)	(lbs per acre)	(1,000 lbs)	
Nitrogen Phosphate Potash Sulfur	12 (D) (D) 10	46 (D) (D) 25	100 (D) (D) (Z)	90 74 38 44	68 36 26 16	182,400 78,600 29,000 20,500	

<sup>(</sup>Z) Less than half of the unit shown.

The 14 program states surveyed about barley in the 2023 ARMS were California, Colorado, Idaho, Minnesota, Montana, North Carolina, North Dakota, Oregon, Pennsylvania, South Dakota,

Virginia, Washington, Wisconsin, and Wyoming.

Acres with multiple nutrients are counted in each category.

Total Fungicide, Herbicide, and Insecticide include pesticides not listed in the table.

<sup>(</sup>D) Withheld to avoid disclosing data for individual operations.
(Z) Less than half of the unit shown.

The 14 program states surveyed about barley in the 2023 ARMS were California, Colorado, Idaho, Minnesota, Montana, North Carolina, North Dakota, Oregon, Pennsylvania, South Dakota, Virginia, Washington, Wisconsin, and Wyoming.

## Pest Management Practices on Corn – Wisconsin and Program States: 2023

Crop or plant variety chosen for specific pest resistance   4   3   26   22     Planting to calcium planet do wold cross infestation of pests   11   15   28   22     Planting or harvesting dates adjusted   28   13   23   23   22     Rotated crope during past 3 years   99   95   84   84     Row spacing, plant density, or row directions adjusted   22   6   31   23     Biagnostic laboratory services used for pest detection via soil or plant tissue analysis   21   5   11   7     Field mapping data used to assist decisions   21   5   11   7     Field mapping data used to assist decisions   21   5   11   7     Scouted   23   7   13   11   7     Forests due to a pest advisory warning   3   2   8   6   6     for pests due to a pest advisory warning   3   2   8   6   6   7     for pests due to a pest development model   4   3   6   6   7     for pests or beneficial organisms hot socuted   29   24   6   12     for pests or beneficial organisms by conducing general observations while performing routine tasks   26   51   23   31     for pests or beneficial organisms by deliberately going to the crop acres or growing areas   45   24   71   57   57     Scouted for diseases   45   24   71   57   57     Scouted for diseases   45   24   71   57   57     Scouted for diseases   55   52   92   84     Weather data used to assist decisions   5   5   62   55     Weather data used to assist decisions   5   5   62   55     Weather data used to assist decisions   5   5   62   55     Prevention   8   79   67   67   67     Beneficial insect or vertebrate habitat maintained   9   7   17   17   17   17   17   17		Wis	consin	Program states <sup>1</sup>	
Crop or plant variety chosen for specific pest resistance   4   3   26   22     Planting to calcium planet do wold cross infestation of pests   11   15   28   22     Planting or harvesting dates adjusted   28   13   23   23   22     Rotated crope during past 3 years   99   95   84   84     Row spacing, plant density, or row directions adjusted   22   6   31   23     Biagnostic laboratory services used for pest detection via soil or plant tissue analysis   21   5   11   7     Field mapping data used to assist decisions   21   5   11   7     Field mapping data used to assist decisions   21   5   11   7     Scouted   23   7   13   11   7     Forests due to a pest advisory warning   3   2   8   6   6     for pests due to a pest advisory warning   3   2   8   6   6   7     for pests due to a pest development model   4   3   6   6   7     for pests or beneficial organisms hot socuted   29   24   6   12     for pests or beneficial organisms by conducing general observations while performing routine tasks   26   51   23   31     for pests or beneficial organisms by deliberately going to the crop acres or growing areas   45   24   71   57   57     Scouted for diseases   45   24   71   57   57     Scouted for diseases   45   24   71   57   57     Scouted for diseases   55   52   92   84     Weather data used to assist decisions   5   5   62   55     Weather data used to assist decisions   5   5   62   55     Weather data used to assist decisions   5   5   62   55     Prevention   8   79   67   67   67     Beneficial insect or vertebrate habitat maintained   9   7   17   17   17   17   17   17					
Planting locations planned to avoid cross infestation of pests	Avoidance				
Planting or harvesting dates adjusted   28   13   23   22   26   31   23   23   23   23   23   23   23		· ·	-		23
Rotated crops during past 3 years   99   95   84   84   84   86   86   87   95   82   86   31   23   23   23   23   23   23   23	0 1			_	26
Row spacing, plant density, or row directions adjusted   22   6   31   23   23   23   23   24   25   24   27   27   28   28   29   24   28   28   28   28   28   28   28			-	_	22
Monitoring   Diagnostic laboratory services used for pest detection via soil or plant tissue analysis   21   5   11   7   7   7   7   7   7   7   7	Rotated crops during past 3 years	99	95	84	84
Diagnostic laboratory services used for pest detection via soil or plant tissue analysis   21   5   11   7   7   7   7   7   7   7   7	Row spacing, plant density, or row directions adjusted	22	6	31	23
Diagnostic laboratory services used for pest detection via soil or plant tissue analysis   21   5   11   7   7   7   7   7   7   7   7	Monitoring				
or plant tissue analysis Field mapping data used to assist decisions  21 6 21 Scouted - established process used for pests due to a pest advisory warning for pests due to a pest development model for pests or beneficial organism-not scouted go year decision of the performing routine tasks for pests or beneficial organism by conducting general observations while performing routine tasks for pests or beneficial organism by deliberately going to the crop acres or growing areas for pests or beneficial organism by deliberately going to the crop acres or growing areas for pests or beneficial organism by deliberately going to the crop acres or growing areas for pests or beneficial organism by deliberately going to the crop acres or growing areas for pests or beneficial organism by deliberately going to the crop acres or growing areas for pests or beneficial organism by deliberately going to the crop acres or growing areas for pests or beneficial organism by deliberately going to the crop acres or growing areas for pests or beneficial organism by deliberately going to the crop acres or growing areas for pests or beneficial organism by deliberately going to the crop acres or growing areas for pests or beneficial organism by deliberately going to the crop acres or growing areas for pests or beneficial organism and the growing areas for growing areas for pests for growing areas for growing	Diagnostic laboratory services used for pest detection via soil				
Field mapping data used to assist decisions   21   5   21   17   17   17   17   17   17   17		21	5	11	7
Scouted -   established process used   23   7   13   10   10   13   10   10   10   10					17
established process used   23   7   13   11     for pests due to a pest advisory warning   3   2   8   6     for pests due to a pest development model   4   3   3   6   7     for pests or beneficial organisms-not scouted   29   24   6   12     for pests or beneficial organisms-not scouted   29   24   6   12     for pests or beneficial organisms-not scouted   29   24   6   12     for pests or beneficial organisms-not scouted   29   24   6   12     for pests or beneficial organisms have onducting general observations while performing routine tasks   26   51   23   31     for pests or beneficial organisms by deliberately going to the crop acres or growing areas   45   24   71   57     Scouted for diseases   8   18   17   79   67     Scouted for insects and mites   24   16   79   68     Scouted for insects and mites   24   16   79   68     Scouted for insects and mites   55   52   92   84     Weather data used to assist decisions   5   5   62   50     Written or electronic records kept to track pest activity   9   8   41   34      Prevention   8   9   7   17   17     Crop residues removed or burned down   26   19   11   13     Equipment and implements cleaned after field work to reduce   3   3   65   55     Field edges, ditches, or fence lines chopped, sprayed, mowed, plowed, or burned   28   30   41   43     Field left fallow previous year to manage insects   0   0   0   0   2   2     Flamer used to kill weeds   38   44   59   54     Floral lures attractants in the pest activity   3   3   3   3   3   3   3   3   3					
for pests due to a pest advisory warning		23	7	13	10
for pests due to a pest development model					
for pests or beneficial organisms-not scouted for pests or beneficial organism by conducting general observations while performing routine tasks for pests or beneficial organism by deliberately going to the crop acres or growing areas  Scouted for diseases  18 17 79 67 Scouted for insects and mites  Scouted for insects and mites  Scouted for insects and mites  Scouted for electronic records kept to track pest activity  Prevention  Beneficial insect or vertebrate habitat maintained  Prevention  Beneficial own previous year to manage insects  Description of the vertebrate habitat maintained  Beneficial own previous year to manage insects  Description of the vertebrate habitat maintained  Beneficial organisms applied or released  Description of the vertebrate habitat maintained to isolate  Organic from non-organic crops  Floral lures, attractants, repellants, pheromone traps,  Orbiological pest controls used  Ground covers, mulches, or other physical barriers maintained  Beneficial organisms applied or released  For besticides with different mechanisms of action to keep pest from becoming resistant to pesticides  For besticides with different mechanisms of action to keep pest from becoming resistan				_	_
for pests or beneficial organism by conducting general observations while performing routine tasks 5 for pests or beneficial organism by deliberately going to the crop acres or growing areas 5 couted for diseases 18 17 79 67 Scouted for diseases 18 17 79 67 Scouted for diseases 18 17 79 67 Scouted for insects and mites 5 55 52 92 84 Weather data used to assist decisions 5 5 52 92 84 Weather data used to assist decisions 5 5 52 52 52 55 62 5			-		
observations while performing routine tasks         26         51         23         31           for pests or beneficial organism by deliberately going to the crop acres or growing areas         45         24         71         57           Scouted for diseases         18         17         79         67           Scouted for insects and mites         24         16         79         68           Scouted for weeds         55         52         92         84           Weather data used to assist decisions         5         5         56         25         55           Written or electronic records kept to track pest activity         9         8         41         34           Prevention           Beneficial insect or vertebrate habitat maintained         9         7         17		29	24	0	12
for pests or beneficial organism by deliberately going to the crop acres or growing areas		00	F4	00	24
Crop acres or growing areas   45   24   71   57   57   57   58   50   50   50   50   50   50   50		26	51	23	31
Scouted for diseases				_,	
Scouted for insects and mites	, , , , , , , , , , , , , , , , , , , ,				_
Scouted for weeds   55   52   92   84					_
Weather data used to assist decisions         5         5         62         50           Written or electronic records kept to track pest activity         9         8         41         34           Prevention           Beneficial insect or vertebrate habitat maintained         9         7         17         17           Crop residues removed or burned down         26         19         11         13           Equipment and implements cleaned after field work to reduce spread of pests         44         33         65         55           Field edges, ditches, or fence lines chopped, sprayed, mowed, plowed, or burned         28         30         41         43         43         65         55			_		68
Written or electronic records kept to track pest activity         9         8         41         34           Prevention         Beneficial insect or vertebrate habitat maintained         9         7         18         18         18         19         10         10         10         10         <	Scouted for weeds	55	52	92	84
Prevention         Beneficial insect or vertebrate habitat maintained         9         7         17         17           Crop residues removed or burned down         26         19         11         13           Equipment and implements cleaned after field work to reduce spread of pests         44         33         65         55           Field edges, ditches, or fence lines chopped, sprayed, mowed, plowed, or burned         28         30         41         43           Field left fallow previous year to manage insects         0         0         0         10         0           Flamer used to kill weeds         0         0         0         2         2           No-till or minimum-till used         38         44         59         54           Plowed down crop residue using conventional tillage         50         47         26         32           Seed treated for insect or disease control after purchase         1         1         53         33           Water management practices used         3         4         16         18           Suppression           Beneficial organisms applied or released         0         0         0         5         3           Buffer strips or border rows maintained to isolate organic from non-organic crops	Weather data used to assist decisions	5	5	62	50
Beneficial insect or vertebrate habitat maintained	Written or electronic records kept to track pest activity	9	8	41	34
Crop residues removed or burned down         26         19         11         13           Equipment and implements cleaned after field work to reduce spread of pests         44         33         65         55           Field edges, ditches, or fence lines chopped, sprayed, mowed, plowed, or burned         28         30         41         43           Field left fallow previous year to manage insects         0         0         0         10         7           Flamer used to kill weeds         0         0         0         2         2           No-till or minimum-till used         38         44         59         54           Plowed down crop residue using conventional tillage         50         47         26         32           Seed treated for insect or disease control after purchase         1         1         1         53         38           Water management practices used         3         4         16         18           Suppression         8         0         0         0         3         2           Suppression         8         0         0         0         5         3           Beneficial organisms applied or released         0         0         0         5         3           <	Prevention				
Crop residues removed or burned down         26         19         11         13           Equipment and implements cleaned after field work to reduce spread of pests         44         33         65         55           Field edges, ditches, or fence lines chopped, sprayed, mowed, plowed, or burned         28         30         41         43           Field left fallow previous year to manage insects         0         0         0         10         7           Flamer used to kill weeds         0         0         0         2         2           No-till or minimum-till used         38         44         59         54           Plowed down crop residue using conventional tillage         50         47         26         32           Seed treated for insect or disease control after purchase         1         1         1         53         38           Water management practices used         3         4         16         18           Suppression         8         0         0         0         3         2           Suppression         8         0         0         0         5         3           Beneficial organisms applied or released         0         0         0         5         3           <	Beneficial insect or vertebrate habitat maintained	9	7	17	17
Equipment and implements cleaned after field work to reduce spread of pests		26	19	11	13
Spread of pests   44   33   65   55					
Field edges, ditches, or fence lines chopped, sprayed, mowed, plowed, or burned       28       30       41       43         Field left fallow previous year to manage insects       0       0       10       7         Flamer used to kill weeds       0       0       2       2         No-till or minimum-till used       38       44       59       54         Plowed down crop residue using conventional tillage       50       47       26       32         Seed treated for insect or disease control after purchase       1       1       1       53       38         Water management practices used       1       1       1       53       33         Water management practices used       0       0       3       2         Suppression       3       4       16       19         Suppression       8       9       0       0       3       2         Buffer strips or border rows maintained to isolate organic from non-organic crops       18       19       10       12         Floral lures, attractants, repellants, pheromone traps, or biological pest controls used       0       0       0       2       1         Ground covers, mulches, or other physical barriers maintained       36       46       54 <t< td=""><td></td><td>44</td><td>33</td><td>65</td><td>55</td></t<>		44	33	65	55
Plowed, or burned   28   30   41   43					
Field left fallow previous year to manage insects       0       0       10       7         Flamer used to kill weeds       0       0       2       2         No-till or minimum-till used       38       44       59       54         Plowed down crop residue using conventional tillage       50       47       26       32         Seed treated for insect or disease control after purchase       1       1       53       38         Water management practices used       1       1       53       38         Water management practices used       0       0       0       3       2         Suppression       8       0       0       0       3       2         Beneficial organisms applied or released       0       0       0       3       2         Biological pesticides applied       0       0       0       5       3         Buffer strips or border rows maintained to isolate       0       0       5       3         organic from non-organic crops       18       19       10       12         Floral lures, attractants, repellants, pheromone traps, or biological pest controls used       0       0       0       2       1         Ground covers, mulches, or other phys	nlowed or humed	28	30	41	43
Flamer used to kill weeds	Field left fallow previous year to manage insects				
No-till or minimum-till used   38		_	_	_	
Plowed down crop residue using conventional tillage		_	_		
Seed treated for insect or disease control after purchase       1       1       53       39         Water management practices used       3       4       16       19         Suppression       8       0       0       3       2         Biological pesticides applied       0       0       5       3         Buffer strips or border rows maintained to isolate       0       0       5       3         organic from non-organic crops       18       19       10       12         Floral lures, attractants, repellants, pheromone traps, or biological pest controls used       0       0       2       1         Ground covers, mulches, or other physical barriers maintained       36       46       54       54         Pesticides with different mechanisms of action to keep pest from becoming resistant to pesticides       3       3       3       35       26         Scouting data compared to published information to assist decisions       0					
Water management practices used       3       4       16       19         Suppression       0       0       3       2         Biological pesticides applied       0       0       5       3         Buffer strips or border rows maintained to isolate       0       0       5       3         organic from non-organic crops       18       19       10       12         Floral lures, attractants, repellants, pheromone traps, or biological pest controls used       0       0       2       1         Ground covers, mulches, or other physical barriers maintained       36       46       54       54         Pesticides with different mechanisms of action to keep pest from becoming resistant to pesticides       3       3       3       35       26         Scouting data compared to published information to assist decisions       0<					
Suppression       0       0       3       2         Biological pesticides applied       0       0       5       3         Buffer strips or border rows maintained to isolate organic from non-organic crops       18       19       10       12         Floral lures, attractants, repellants, pheromone traps, or biological pest controls used       0       0       2       1         Ground covers, mulches, or other physical barriers maintained       36       46       54       54         Pesticides with different mechanisms of action to keep pest from becoming resistant to pesticides       3       3       35       26         Scouting data compared to published information to assist decisions       0       0       0       0       0       0	· ·				
Beneficial organisms applied or released	water management practices used	3	4	10	19
Biological pesticides applied     0	Suppression		_		_
Buffer strips or border rows maintained to isolate organic from non-organic crops			_		2
organic from non-organic crops		0	0	5	3
Floral lures, attractants, repellants, pheromone traps, or biological pest controls used	Buffer strips or border rows maintained to isolate				
Floral lures, attractants, repellants, pheromone traps, or biological pest controls used	organic from non-organic crops	18	19	10	12
or biological pest controls used	Floral lures, attractants, repellants, pheromone traps,				
Ground covers, mulches, or other physical barriers maintained	or biological pest controls used	0	0	2	1
Pesticides with different mechanisms of action to keep pest from becoming resistant to pesticides			_		54
from becoming resistant to pesticides	Pesticides with different mechanisms of action to keep pest				3-
Scouting data compared to published information to assist decisions		3	3	35	26
				00	20
	Trap crop grown to manage insects	0			1

<sup>&</sup>lt;sup>1</sup> The 14 program states surveyed about barley in the 2023 ARMS were California, Colorado, Idaho, Minnesota, Montana, North Carolina, North Dakota, Oregon, Pennsylvania, South Dakota, Virginia, Washington, Wisconsin, and Wyoming.

More information and data for the USDA NASS Chemical Use Program can be found at: <a href="https://www.nass.usda.gov/Surveys/Guide">https://www.nass.usda.gov/Surveys/Guide</a> to NASS Surveys/Chemical Use/.