

## 2017 National Sunflower Survey in Southwest North Dakota

In the fall of 2017 the National Sunflower Survey was conducted across North Dakota (ND), South Dakota, Minnesota, Colorado, Kansas, Nebraska, and Texas in the U.S. and in Manitoba. The survey observes yield limiting factors such as weeds, insect damage, and diseases along with yield potential factors such as plant population, head size, and kernel size. Southwest ND faced extreme drought conditions in 2017.

32 fields were surveyed in southwest ND. With each field surveyed, a number 1 and number 2 yield-limiting factor were identified (Table 1.). Drought was the number 1 factor in 59% of fields surveyed. Plant spacing within the row was highest occurring factor as the second most limiting factor. This was likely from poor emergence after planting due to the drought.

Table 1. Frequency of occurrence as number 1 and number 2 yield limiting factors in sunflower for 32 fields in southwest North Dakota in 2017.

Factor	Yield Limiting Factor #1	Yield Limiting Factor #2
	%	
No problem	0	22
Birds	6	0
Disease	0	0
Drought	<b>59</b>	13
Uneven plant growth	0	9
Hail	3	9
Herbicide damage	0	0
Insects	0	0
Lodging	0	0
Plant spacing within the row	19	<b>28</b>
Weeds	13	13
Other	0	6

The drought conditions in 2017 were a major factor in sunflower production. It had an effect on crop growth directly and indirectly including reduced herbicide activity, reduced disease incidence, and reduced lodging along with issues with emergence. The top 5 weeds found throughout the southwest in order of occurrence were kochia, green foxtail, Russian thistle, volunteer grains, and Canada thistle. The disease with the highest presence for the region was Phoma. Rainfall across the region was highly variable, and as so yields surveyed for the region ranged from 875 to 3,844 lbs/acre with an average of 1,663 lbs/acre.

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