



Agriculture

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Tall Waterhemp has been detected in at least 3 municipalities in Manitoba in 2019. Tall waterhemp is a significant weed of corn and soybean production in the Midwest US and has been confirmed in several counties in Ontario. While plants have been sited in Manitoba in previous years (see attached map for all detection sites), the severity of the infestations this year is a significant cause for concern. Previous discoveries in Manitoba involved small patches or individual plants but this year's detections involved a substantial number of acres, significant hours of roguing, mowing and spraying to destroy plant material, and will require years of monitoring and surveillance to ensure the Tier 1 Noxious Weed has been eliminated.

Tall Waterhemp ID:

- oval to lance or spearhead shaped leaves, 3-6 inches long
- alternate leaf arrangement
- petiole is shorter than the length of the leaf blade
- hairless stem
- typically grows 4-5 ft tall but can grow to more than 10 ft tall
- dioecious – meaning there are distinct male and female plants
- many small green flowers form an inflorescence in July-September
- the terminal inflorescence can be more than 1 ft long, with many wiry lateral branches



Tall Waterhemp in a soybean crop.
Photo: Tammy Jones, Manitoba Agriculture

Tall Waterhemp emerges throughout the growing season (April – August), typically after most other summer annual weeds have been sprayed. It will flourish when there is sunshine, as is often the case in row crops. Season-long competition by waterhemp (more than 20 plants per square foot) has been shown to reduce soybean yield by 44 percent. Waterhemp that emerged as late as the V5 stage in soybeans can reduce yields up to 10 percent

Tall Waterhemp is a prolific seed producer, generally producing about 250,000 seeds per plant, although individual plants can produce more than 1 million seeds under optimal conditions. Like most weeds, waterhemp seeds remain viable in the soil for several years.

Tall Waterhemp has documented herbicide resistance to many different classes of herbicides. In the US, Tall Waterhemp has evolved resistance to at least seven



Tall Waterhemp (top) is hairless, redroot pigweed (bottom) is pubescent or hairy.
Photo: Tammy Jones, Manitoba Agriculture

herbicide classes, including Group 2, 4, 5, 9, 14, 15 & 27. Many populations exhibit multiple herbicide resistances that include several herbicide families. For example, Group 2 and 9 (e.g., ALS inhibitors and glyphosate, respectively) resistance in Tall Waterhemp is fairly common. Tall Waterhemp populations detected in Manitoba are suspected to be resistant to glyphosate, along with one or two other herbicide classes.



Tall Waterhemp is a prolific seed producer with a rapid growth rate that outcompetes many crops.
Photo: Tammy Jones, Manitoba Agriculture