Disease Facts
• Stripe rust is caused by the fungus *Puccinia striiformis*
• Stripe rust does not overwinter in Ontario, it travels on air currents from the southern USA
• It affects the leaf and head of wheat
• The lesion colour (pustule) is yellow and stripe shaped
• Is favoured by cooler temperatures from 10 to 15°C

Disease Symptoms
• Yellow coloured pustules form in stripes on the leaves, often looking like stitches from a sewing machine

Disease Life Cycle
• Stripe rust takes 10 to 14 days to cycle, meaning under ideal conditions, a spore landing on a leaf and infecting the leaf can produce a lesion that spreads new spores in 10 to 14 days.
• Ideal temperatures are 10 to 15°C, temperatures below 5°C the fungus cannot produce new spores and temperatures above 29°C the pathogen will die.
• Remember, the most critical leaf to protect is the flag leaf. Unless disease pressure is so high that tillers are being killed, the plant can tolerate infection without much yield loss.
• In the case of highly susceptible varieties if flag leaf lesions are observed on most plants spraying is warranted as defoliation can occur rapidly.

Why are we seeing it this year?
• The warmer winter likely had the greatest impact for what we are seeing in fields.
• Adequate moisture in the southern US and a milder winter allowed stripe rust to overwinter further north. Thus allowing for a more rapid build-up of inoculum this spring.
• The mild winter also allowed for better leaf survival of seedling wheat leaves providing greater leaf surface area for inoculum to be produced on.

Scouting Practices
• Scout your fields and note the severity across the whole field. It is important to understand the scope of the infection, weather forecast and variety susceptibility before making a decision on whether or not to spray.

Variety Differences
• There is a significant difference in susceptibility to stripe rust in the wheat line up. See chart below. In the Pioneer lineup, only 25R46 is below average.

<table>
<thead>
<tr>
<th>Pioneer® brand Variety</th>
<th>Stripe Rust Score</th>
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<tbody>
<tr>
<td>25R34</td>
<td>8</td>
</tr>
<tr>
<td>25R39</td>
<td>8</td>
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<tr>
<td>25R46</td>
<td>2</td>
</tr>
<tr>
<td>25W31</td>
<td>5</td>
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</tbody>
</table>

NUCLEAR RATINGS: 9 = Excellent; 1 = Poor

Disease Management
• Ontario researchers recommend that only triazole fungicides (e.g. Caramba®, Folicur®, Tilt®, Prosaro®) be used at the boot stage or later because of increased risk of high DON levels with the use of a strobilurin (e.g. Acapela®, Quadris®).
• Most winter wheat in Ontario is at or near the boot stage as of May 26, 2016.
• Many fungicides provide excellent control of stripe rust, please read and follow label directions for rates, timing and coverage recommendations.

Conclusion
• Stripe rust thrives in cooler temperatures, warmer temperatures will decrease infection potential and spore production
• Many fungicides can be used to control stripe rust, be sure to follow label directions.