



# Orange wheat blossom midge

- Primarily wheat
  - found in barley and rye – not considered pest
- Distribution:
  - Montana – northeast (Sheridan, Daniels, Roosevelt, Valley), **Flathead**
  - North Dakota
  - Minnesota
  - Prairie Provinces – Alberta & Manitoba
- Monitoring Issues:
  - Infestation is difficult to detect

# Economics

- Larvae feed within florets
  - Underdeveloped
  - Shirveled, or aborted kernels
- Each larvae reduced grain size by 30 – 50%.
- Outbreak in Canada in 1995 caused \$150 million
- 1996 ND 500,000A treated with Lorsban

# Life Cycle

- Eggs laid in florets
- Overwintering pupae may last up to 5- 8 years in soil
- 7 days following a precipitation event - mass adult hatch may occur

# Adults

- Emergence – generally end June – early July
- Adult flight usually lasts 14-18 days
- Individual adults survive 3 – 7 days (environment dependent)

# Favorable Temperature & Moisture

## ■ **May:**

- Soil temperatures above 50°
- Rainfall to wet the top 10mm of soil

## ■ **June:**

- Rainfall that keeps soils moist
- Daytime temps at least 55°
- Wind speed less than 6mph at dusk
- Wheat head emerged but not yet flowering

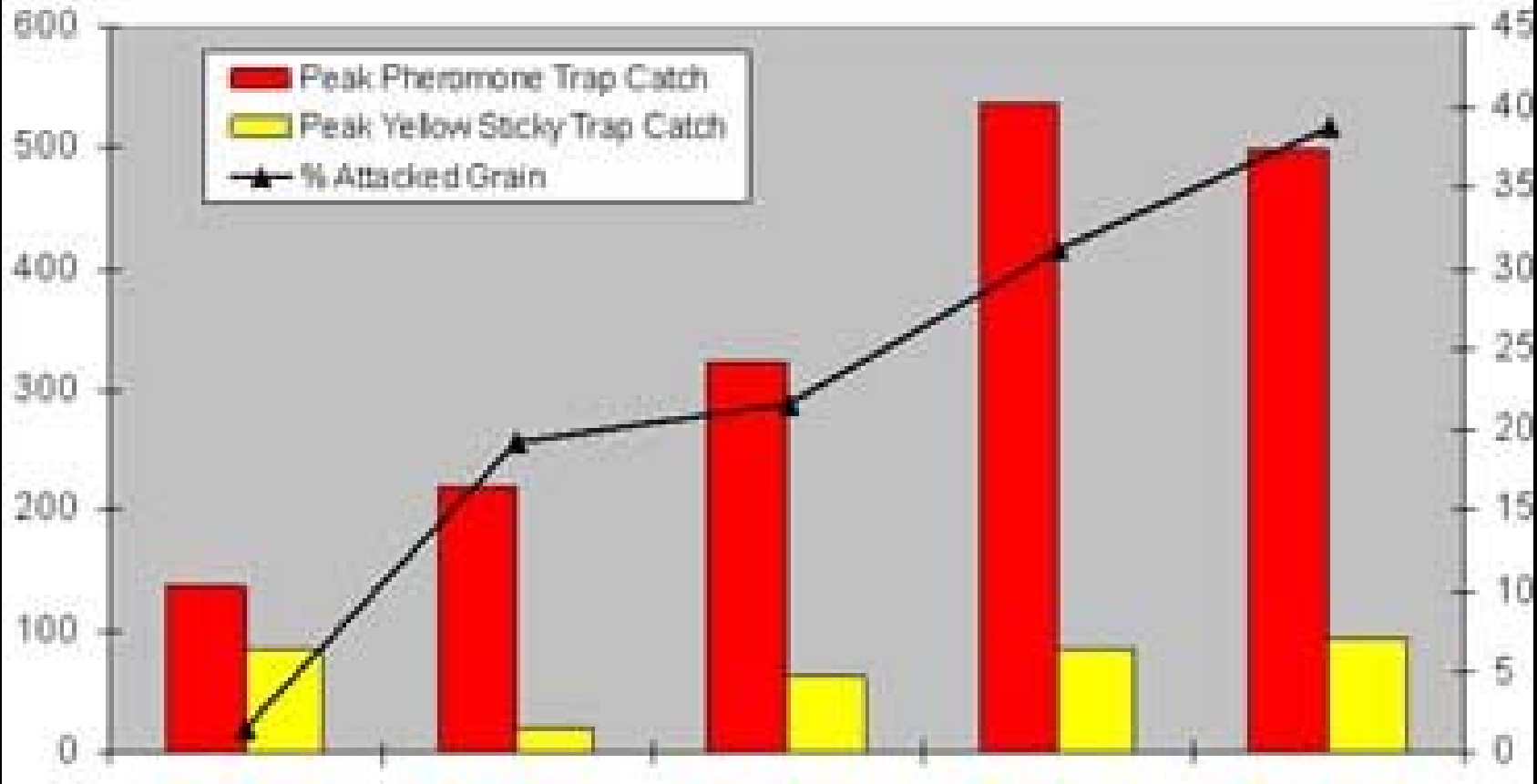
# Monitoring

- Conditions:
  - Evening 9 – 11pm
  - Heading to flowering (anthers are visible)
  - Wind speed less than 6 mph
- Inspection for adults
- Sticky Traps

# Monitoring – using pheromone trap

- 3 pheromone traps/160 A field
- Sited especially where higher soil moisture favors midge development.
- Place 5 days before heading
- Check every 1-2 days
- Threshold: average of  $\geq 9$  – 10/ trap

Midges/week



Farms

% grain infestation



# Orange wheat blossom midge maggot





# Thresholds

- Wheat only susceptible between heading and flowering
- HRSW
  - When 1 or more midge for every 4-5 heads
- Durum
  - When 1 or more midge every 7-8 heads

# Control

- Rotate to non-susceptible host: oilseeds, barley
- Early plant and early mature SW variety:
  - will head before significant numbers of wheat midge emerge.
- Mid-Planting season
  - will be heading at the time wheat midge are emerging and is at **greatest risk to infestation.**
- Planted late
  - at lower risk to midge infestation
  - but greater risk to cereal aphid, barley yellow dwarf

# Chemical Control

- Lorsban 4E-SG at a rate of 1 pint /A
- If 30% heading, wait up to 4 days then treat with Lorsban 4E.
- **Optimum: 70% heading to flowering**
- If 80% of the heads are flowering, treatments are *Not Recommended*.