What are all those yellow flowers?

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Clair Keene
Extension Specialist in Cropping Systems

• Penn State PhD in agronomy
• Williston REC since 2016
• Projects
  • Working with farmers to diversify crop rotations
  • Saline seep & pipeline reclamation with perennials
  • Intercropping chickpea + flax
  • Kernza (perennial grain)
Narrow leaf hawksbeard
(*Crepis tectorum*) aka False dandelion

Upper leaves curl under
Narrow leaf hawksbeard biology

• Winter annual
  • Germinates fall and spring
  • Flowers throughout growing season
• Wind dispersed seeds have feathery papus
• Likes disturbed areas
  • Pipelines, roadsides, oil well sites, etc.
NLHB timeline

• 2016
  • Clair in Williston, gets calls about yellow flowers along pipelines
  • Few plants brought to WREC for ID
  • Ag Alert on NLHB

• 2017
  • Reports of heavily infested crop fields, especially pea & lentil
  • Observed along pipelines and roads

• 2018
  • All over Williams Co: oil and gas wells, along the roads, crop fields
  • Is that a canola field?
  • NDSU Weed of the Year
Lentil field western Williams County
June 29, 2017
SW corner Hwy 2 & 1804 looking west
June 12, 2018
NLHB Control

• Fall burn down
  • Broadleaf herbicide + glyphosate (full-rate 32 oz RT3)
    • Gly + Express or Panoflex + (2,4-D)
    • Gly + Sharpen + (2,4-D)
    • Gly + Valor + 2,4-D
      • Excellent residual control with Valor into spring
  
• Spring BD → spray rosettes, bolting too late!
  • Gly + Sharpen
  • Full rate glyphosate

• In-crop wheat
  • Affinity Broad Spec + 2,4-D, GoldSky, Starane Flex + 2,4-D
    • WideMatch + 2,4-D not sufficient
And it’s not just NLHB

- **Green foxtail** (Pigeon grass)
  - Brian Jenks finding Group 1 & 2 resistance, some with both!
- **Wild oat**
  - Wide-spread Group 2 resistance
- **Kochia**
  - Glyphosate-resistant not common in western ND, but could get it from either MT or eastern ND
  - Group 2 resistance: Glean, Ally used heavily late 1980’s
- **Horseweed** (Marestail)
  - Glyphosate-resistant populations appearing
How do you choose what to plant?
How do you choose what to plant?

Most profitable
How is this possible?

We assume that we can:

- Control the weeds
- Provide adequate fertility
- Manage other potential pests
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What do we do?

Reduce selection pressure on important herbicides

Chemical weed control

- **Residuals**
  - Group 3 Sonalan, Prowl H2O, Treflan
  - Group 14 Spartan, Sharpen, Valor
  - Group 15 Dual, Outlook, Zidua

- **POST**
  - Roundup Ready or Liberty Link
  - Group 27 (HPPD) Huskie, Talinor

- **Rotate Mode of Action**

- **Labeled rate + Labeled weed size**
What do we do?

Reduce selection pressure on important herbicides

Non-chemical weed control

- **Crop rotation**
  - Cool-season | Warm-season
  - Annual or Perennial forages
  - Interseed small grain with sweet clover

- **Cultural**
  - Planting date
  - Variety selection

- **Mechanical**
  - Mowing a forage
  - Swath grain instead of straight cut
  - Targeted cultivation
Save the Date!

OATS: Organic Agronomy Training Series
March 26-27, 2019
Ramada Hotel & Conference Center in Bismarck, ND

https://oatswest.bpt.me
$95 before March 20th

Questions?
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