Integrated Management of FHB and DON: A 2009 Update

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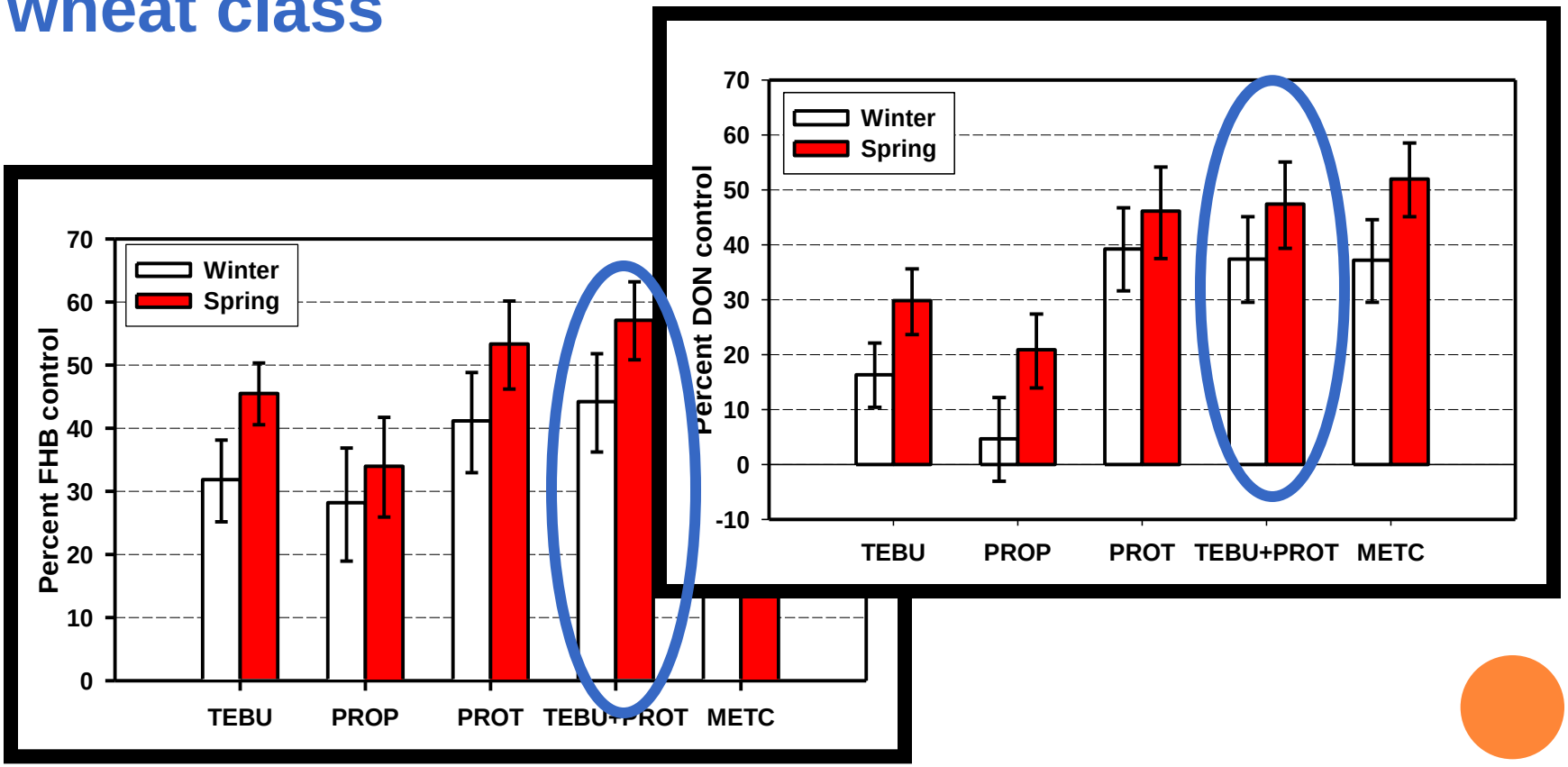
AVAILABLE MANAGEMENT TOOLS

- **Recently registered fungicides**
  - **Triazoles most effective**
    - ✓ **Application timing and technology**
- **We have more resistant cultivars today than we did ten years ago.**
- **Easy-to-use FHB risk models - decision tools**
- **75% control needed in some years**
- **We cannot expect to consistently achieve adequate control with a single management approach**

INDIVIDUAL MANAGEMENT TACTICS

Fungicide efficacy varies with product and wheat class



INDIVIDUAL MANAGEMENT TACTICS

No single management approach is fully effective against FHB and DON.

FUNGICIDES, GENETIC RESISTANCE, and RESIDUE MANAGEMENT **(crop rotation or tillage) are highly variable and strongly influenced by the environment.**

RESISTANCE: **Under favorable weather conditions, moderately resistant cultivars become infected and DON still exceed critical threshold levels.**

Uniform/coordinated Integrated Management Trials

INTEGRATING MULTIPLE TACTICS

- **What percent control can we expect or achieve by combining multiple tactics?**
- **Is there a fungicide x cultivar interaction?**
- **Are fungicides more effective when applied to resistant than susceptible cultivars?**
- **How about artificially inoculated integrated management trials?**

Integrating Management

- **RCB - Split-plot arrangement**
- **Prosaro or Proline 3+3**
  - **6.5 fl oz/acre**
  - **Applied at anthesis**
- **Multiple cultivars**
  - **Different levels of resistance**
  - **Different maturity for a given resistance classification**

GOAL: Develop "*best-management practices*" for FHB and DON

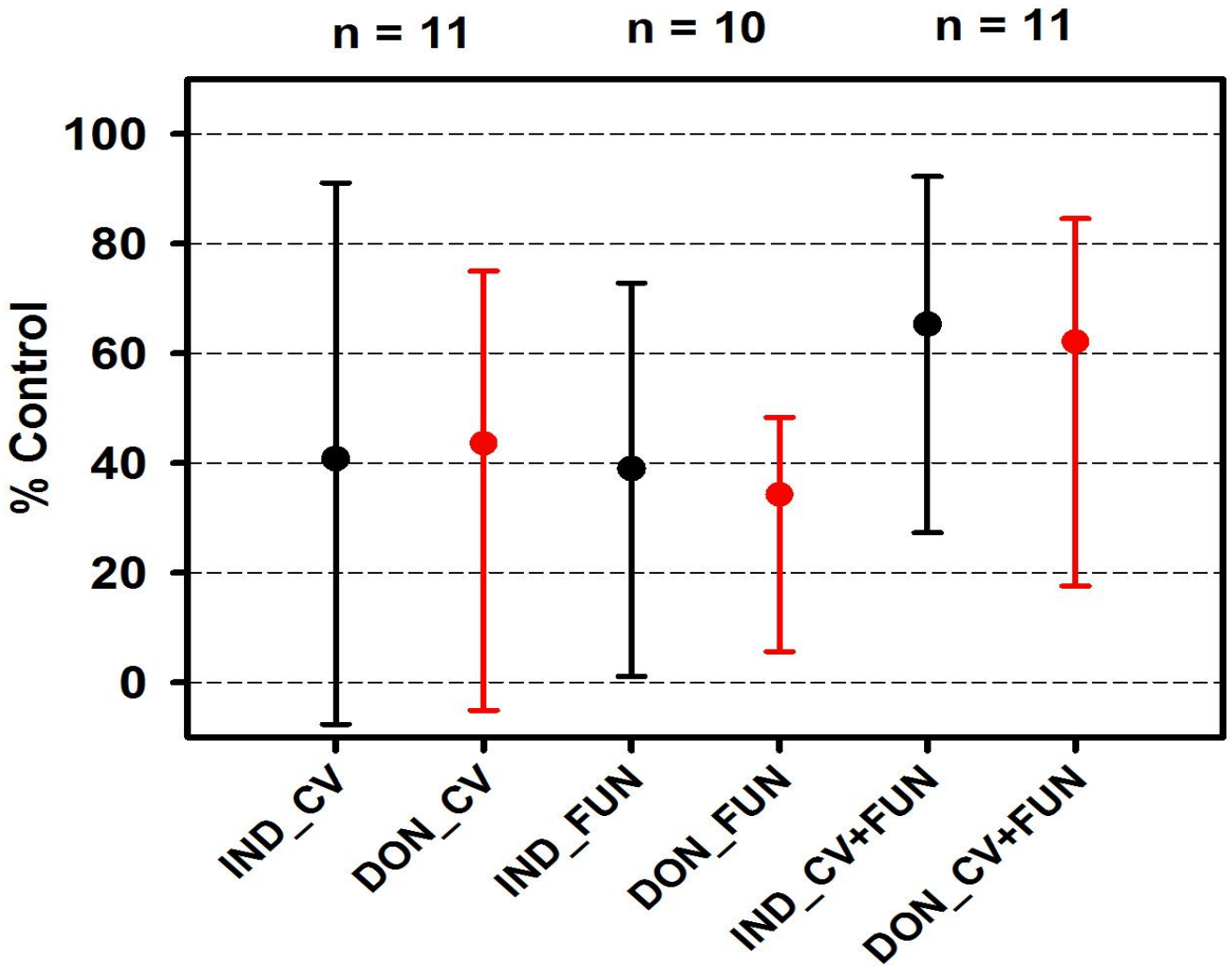
Percent Control

$$C = \frac{\overline{X}_{NO\_MNGT} - \overline{X}_{MNGT}}{\overline{X}_{NO\_MNGT}} \times 100$$

NO_MNGT **= No management = Untreated Susceptible Check**

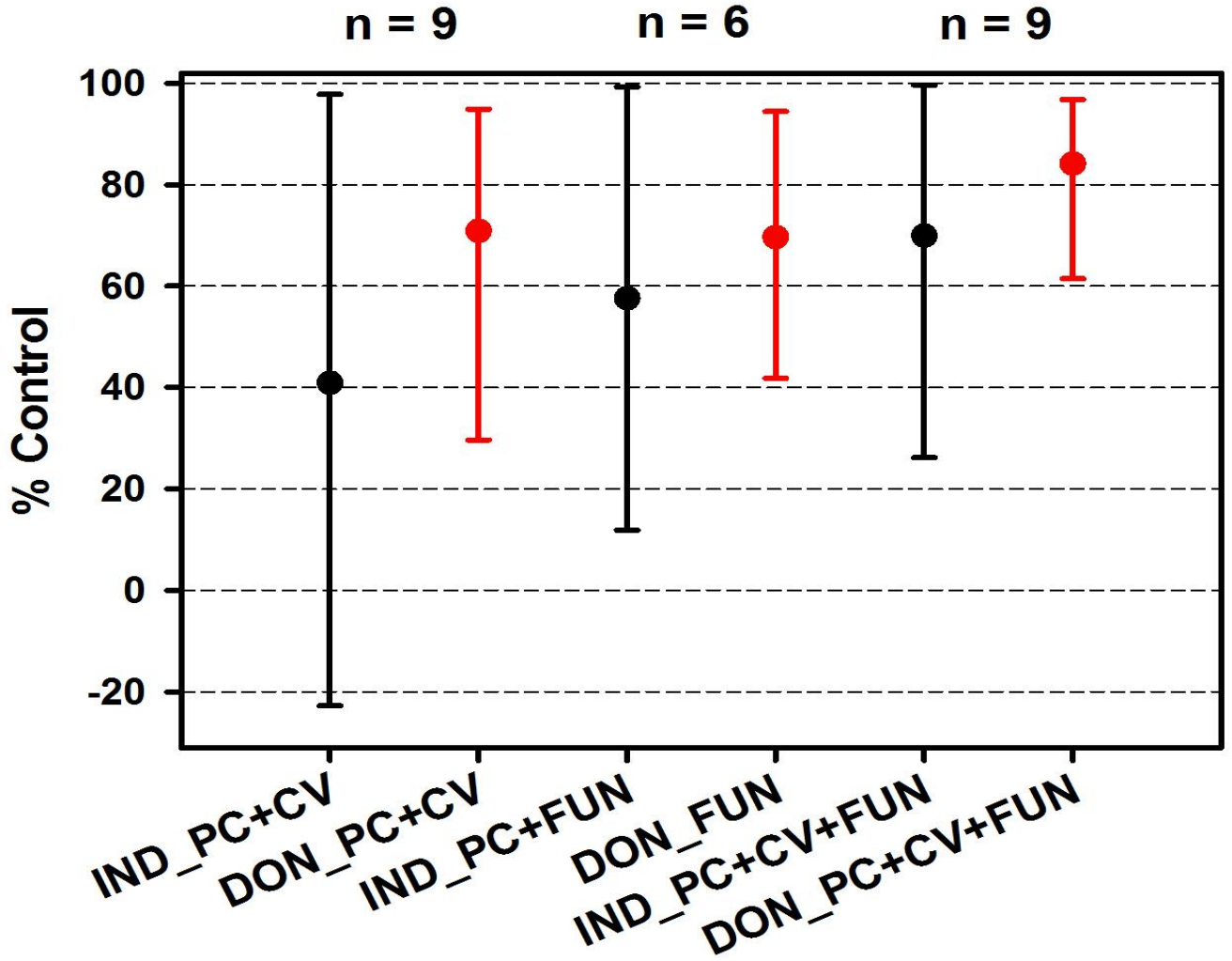
Percent Control (2007-2009)

Relative to the untreated, susceptible check

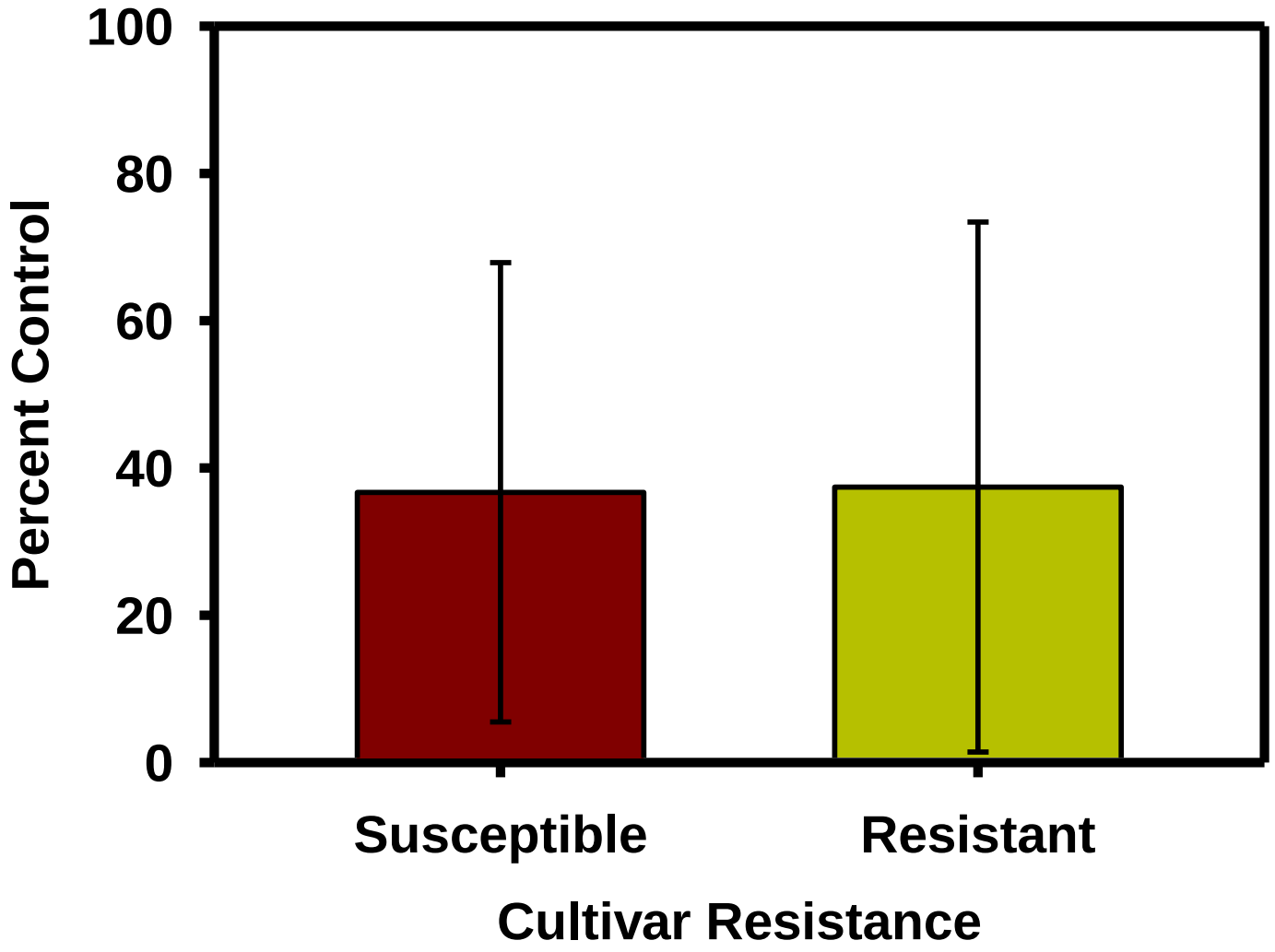


Percent Control (2007-2009)

Relative to the untreated, susceptible check



Percent Control (2007-2009)



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