POST ASSESSMENT
QUESTIONS AND RESULTS

Q1

To prevent high C:N ratio residues and cover crops from negatively impacting cash crops (the "carbon penalty") farmers should...

- ○ Avoid applying carbonate-based limestone on soil surface
- ○ Spray crop residue with urea-based solution to accelerate decomposition at time of the planting
- ● Add in-furrow starter and/or band nitrogen below the soil surface at time of planting
- ○ Terminate cover crops at least two weeks before planting a cash crop
- ○ Experiment with "Planting Green" into mature cereal rye

52% of Participants answered the question correctly.

Question focus

Nutrient Management

Q2

What are the tools to reduce the loss of nitrogen from a no-till management crop system? Choose all that apply.

- ☑ In-furrow nitrogen application at time of planting
- ☑ Low Disturbance Manure Injection
- ☑ Split Nitrogen Application (At planting application and in- season (sidedress) application
- ☑ Cover Crops
- ☐ Surface manure application during winter freeze thaw cycles

75% of Participants answered the question correctly.

Question focus

Nutrient Management

Q3

Soil nutrients at great risk of stratification on the soil surface are ...

- ○ Nitrogen and Potassium
- ● Potassium and Phosphorus
- ○ Potassium and Sulfur
- ○ Phosphorus and Sulfur

68% of Participants answered the question correctly.

Question focus

Nutrient Management

Q4

Which of the following practices should occur during the autumn before transitioning a field into no-till management? Choose all that apply.

- [x] Incorporating limestone in soils with low pH
- [ ] Incorporating residues into soil with low organic matter
- [x] Deep ripping to break shatter soil hard-pan

90% of Participants answered the question correctly.

Question focus

No-till Preparation

Q5

During dry conditions, it can be difficult for opening disks to penetrate the soil to the proper depth. How can farmers improve soil penetration? Choose all that apply.

- [x] Ensure counters are sharp
- [x] Replace worn opening disks
- [x] Remove Coulters
- [x] Add weights to tool bar

76% of Participants answered the question correctly.

Question focus

No-till Preparation

No-till Equipment

Q6

Residues wrapping around row cleaners can be solved by ...

- ○ Mowing tall cover crops before planting
- ● Use row cleaner with swept back or toothed design
- ○ Adjusting the height of the row cleaner to 1/4" below the soil surface
- ○ Reducing speed of electric meter motor

86% of Participants answered the question correctly.

Question focus

No-till Equipment

Q7

What practices can improve seed trench closure?

- ○ Wait for wetter soil conditions
- ● Retrofit planter with spiked closing wheels
- ○ Replace worn seed firmer
- ○ Reduce down-pressure on opening disks

91% of Participants answered the question correctly.

Question focus

No-till Equipment

Q8

A "split-row planter" ...

- ○ Bands fertilizer on either side of the seed trench
- ○ Interseeds cover crops between rows of cash crops
- ● Can plant crops in narrow (15") rows using row units between existing row units
- ○ Is GPS enabled to always plant between last years rows, reducing potential problems with residue accumulation.

77% of Participants answered the question correctly.

Question focus

No-till Equipment

Q9

TRUE OR FALSE: To increase crimson clover over-winter survivability, aim to plant before August 15th to provide maximum opportunity to establish?

- ○ True
- ● False

36% of Participants answered the question correctly.

Question focus

Cover Crop Selection

Cover Crop Application

Q10

What cover crop should NOT be planted in the field with a small grain in the rotation?

- ○ Cereal Rye
- ● Vetch
- ○ Barley
- ○ Red Clover

75% of Participants answered the question correctly.

Question focus

Cover Crop Selection

Q11

What cover crop can be planted later in the growing season than any other cover crop?

- ○ Ryegrass
- ○ Wheat
- ○ Oats
- ● Cereal Rye

70% of Participants answered the question correctly.

Question focus

Cover Crop Selection

Q12

At what rate should a single-species cereal rye cover crop be planted after an early October soybean harvest?

- ○ 1/2 bushel per acre
- ● 2 bushels per acre
- ○ 15 to 20 bushels per acre
- ○ 56 to 72 bushels per acre

61% of Participants answered the question correctly.

Question focus

Cover Crop Application

Q13

What practices would you recommend to a farmer concerned about potential slug damage? Choose all that apply.

- ☑ Plant later in the growing season
- ☑ Remove residue from around the seed trench
- ☑ Improve seed trench closure
- ☐ Add a neonictinoid seed treatment

79% of Participants answered the question correctly.

Question focus

Cover Crop Application

Q14

What cover crop is notoriously difficult to terminate?

- ○ Cereal Rye
- ● Ryegrass
- ○ Tillage Radish
- ○ Oats

86% of Participants answered the question correctly.

Question focus

Cover Crop Termination

SUMMARY

On average, applicants correctly answered 72% of all questions.

The median number of correct responses was 10/14.

The majority or participants answered between 8 and 12 questions correctly. No participants completely failed.

Conclusion: The educational program successful improved participants knowledge of no-till and cover crop implementation.