

2022 MAC | CCA POSTER QUESTIONS

NUTRIENT MANAGENT – COMPLETE ALL 10 QUESTIONS (1-10) FOR ½ CEU

Fertilizer Use in Manitoba – Results of the 2021 Survey

1. Which was the most commonly used enhanced efficiency fertilizer used in corn?
 - a. SuperU
 - b. Urease inhibitors
 - c. Nitrification inhibitors
 - d. ESN

2. What portion of Manitoba farmers soil test regularly for nitrogen?
 - a. 11%
 - b. 46%
 - c. 72%
 - d. 78%.

3. Nitrogen rate decisions are most commonly based on:
 - a. Soil test, nutrient balance, N credits
 - b. Nutrient balance, past experience, soil test
 - c. Field assessment, provincial recommendations, past experience
 - d. Variable rate prescriptions, soil tests, N credits

4. The crop with the least amount of N applied in the spring before planting was:
 - a. flax
 - b. wheat
 - c. corn
 - d. sunflowers

5. The most common N application placement for wheat in spring is:
 - a. broadcast
 - b. seed placed
 - c. side banded
 - d. mid row banded

Ten Years of Reduced Versus Enhanced Rates of N and P Fertilizer

6. Crop yield under High rate fertilization was significantly higher than Low rate fertilization in _____ years:
 - a. 7
 - b. 5
 - c. 4
 - d. 3

7. Over the 10 years, the net revenue of Medium rate fertilization was _____ greater than Low rate fertilization.
 - a. \$383
 - b. \$192
 - c. \$657
 - d. \$324

8. The phosphorus balance of Medium rate fertilization was positive in _____ years of the study
 - a. 0
 - b. 2
 - c. 4
 - d. 6

9. After 10 year, the soil test discerned significant differences among fertilizer rates for _____.
 - a. pH
 - b. soil nitrate
 - c. organic matter
 - d. phosphorus

10. What conclusion might be drawn if the study ran for only 3 years?
 - a. Low fertilizer rates are most economical
 - b. High fertilizer rates are most profitable
 - c. Fertilizer has no effect on wheat protein
 - d. High fertilizer rates cause large changes in soil P levels

SOIL AND WATER MANAGENT – COMPLETE ALL 10 QUESTIONS (11-20) FOR 1/2 CEU

The Wild Hydrologic Cycle of 2021 and 2022

11. In a typical year in Manitoba with historical average precipitation and soil moisture reserve, wheat grown on a clay loam soil is likely to have about:
 - a. 108 mm excess moisture
 - b. 108 mm deficit moisture
 - c. 29 mm deficit moisture
 - d. 29 mm excess moisture

12. Which of these statements is true:
 - a. The timing of highest precipitation does not match the timing of highest crop water demand
 - b. The combination of soil moisture from previous fall and an average growing season precipitation usually meet crop water demand for short season crops
 - c. Groundwater levels around Winkler area have been generally low in the last two decades
 - d. The crop water balance for wheat grown around Winkler in 2022 had a high deficit at the end of July compared to the prior two years.

13. The area with the lowest % of normal precipitation in 2021 was:
 - a. Melita
 - b. Swan Valley
 - c. St Claude
 - d. Teulon

14. The 2022 fall soil moisture map showing the amount of available moisture map at 0 – 120 cm shows that most areas have _____ mm of available soil moisture prior to soil freeze-up
 - a. < 150 mm
 - b. 150 – 225 mm
 - c. 225 – 300 mm
 - d. > 300 mm

15. With soils having different abilities to hold water, which parameter is used to standardize soil moisture observations regardless of the soil type?
 - a. water holding capacity
 - b. percent of available water holding capacity
 - c. soil texture and organic matter
 - d. dielectric permittivity

Effect of Manure and Perennials on Soil Health Indicators in the Red River Valley

16. Sampling for soil health was done at the:
 - a. 0-6" and 6-24" depths with soil probe
 - b. 0-6" depth with soil probe
 - c. 0-6" depth with Dutch auger
 - d. 0-6" depth with the bread slice technique

17. The units for measuring potentially mineralizable nitrogen are:
 - a. mg/g/day
 - b. mg/kg
 - c. %
 - d. ug/g

18. Soil health indicators responding to cropping history were:
 - a. soil OM, soil respiration, soil protein
 - b. active carbon, total organic carbon, soil protein
 - c. potentially mineralizable nitrogen, water stable aggregates, soil protein
 - d. potentially mineralizable nitrogen, water stable aggregates, soil respiration

19. Which cropping history improved soil health factors:
 - a. Perennial cropping
 - b. Cover cropping
 - c. Zero till
 - d. Annual cropping

20. Which fertilization system was most effective in improving soil health factors:
 - a. Liquid dairy manure
 - b. Solid dairy manure
 - c. Organic fertilizer
 - d. Solid pig manure

CROP MANAGEMENT: COMPLETE ALL 10 QUESTIONS (21-30) FOR ½ CEU

Growth and Development of Yellow Pea and Dry Bean in Manitoba

21. Herbicide timing stage in peas occurs at about:
- R2 stage
 - 405 GDD
 - 32 days after seeding
 - 26 days after seeding
22. Full maturity in navy beans occurs about _____ pinto beans?
- 2 days before
 - 4 days before
 - 4 days after
 - 6 days after
23. Growth data was generated from the pinto bean varieties:
- Vibrant and Windbreaker
 - T9905 and Vibrant
 - Carver and Chrome
 - Amarillo and Carver
24. Through the vegetative stage, every 4 days dry beans develop:
- A unifoliate leaf
 - A trifoliate leaf
 - A node
 - A flower bud
25. Pea growth and development data was taken at _____ for _____ site-years.
- Carman and Arborg, 11
 - Carman and Melita, 6
 - Arborg and Melita, 11
 - Melita and Arborg, 6

Economic and Agronomic Performance of Emerging Cropping Systems for Western Canada

26. Preceding crop sequence did not affect crop yield in which year(s)?
- 2019-2020
 - 2019
 - 2020
 - 2021
27. In 2020, the sequence of _____ following _____ was beneficial.
- Wheat, soybeans
 - Canola, wheat
 - Soybean, corn
 - Corn, soybean
28. In 2021, the _____ crop yields in the _____ and _____ rotations were numerically less.
- Canola, MSWC and MSC
 - wheat, MWC and WC
 - corn, SM and MSC
 - soybean, MSWC and SM
29. The lowest corn yields in 2020 occurred at :
- Brandon
 - Indian Head
 - Saskatoon
 - Lethbridge
30. Three soil factors measured at sites included:
- Soil respiration, carbon footprint, stubble height
 - Soil structure, soil erosion, mycorrhizal colonization
 - Drainage, soil structure, nitrogen content
 - Soil health, mycorrhizal colonization, nutrient cycling

PEST MANAGEMENT: COMPLETE ALL 10 QUESTIONS (31-40) FOR ½ CEU

Residual Weed Population Shifts in Manitoba – 1978 to 2022

31. The largest number of fields surveyed for weeds was in :
- 1978
 - 1986
 - 1997
 - 2022
32. The 3 factors used to describe relative weed abundance are:
- Frequency, uniformity, identity
 - Density, propensity, severity
 - Density, frequency, uniformity
 - Severity, variability, identity
33. Which weeds had their lowest observed relative abundance in 2022?
- Wild oats, Canada thistle, pale smartweed
 - Russian thistle, yellow foxtail, dog mustard
 - Foxtail barley, golden dock, green pigweed
 - Wild buckwheat, redroot pigweed, lambs quarter
34. Which of the following weeds had the greatest relative abundance in 2022?
- Foxtail barley
 - Pale smartweed
 - Green pigweed
 - Yellow foxtail
35. In what survey year did quackgrass fallout of the top 15 in relative abundance rank?
- 1986
 - 1997
 - 2002
 - 2016

On-Farm Evaluation of Foliar Fungicide Applications in Field Peas

36. Which disease affected 30% of surveyed pea fields in 2022?
- Mycosphaerella blight
 - Fusarium root rot
 - Downy mildew
 - White mould
37. In the single vs no application tests, in which year was the single highest plot yield achieved?
- 2017
 - 2018
 - 2020
 - 2022
38. In the trials comparing single vs no fungicide application, how many instances of significant yield increase were measured in 2020 and 2021?
- 0
 - 4
 - 6
 - 7
39. The double fungicide significantly out-yielded the single application ____ of the time?
- 6%
 - 28%
 - 38%
 - 44%
40. Large yield responses to fungicide application were often associated with:
- Dry growing conditions
 - Reduction in white mould incidence
 - High incidence of rust
 - High pea prices