Module 13: Manure and Biosolids Regulation and Management
SELF-STUDY EXAMINATION—Rocky Mountain CCA

4449-13 QUIZ

DIRECTIONS

1. Clearly mark an "X" next to the best answer to each question. Complete evaluation form and registration form.

2. Tear out this page and place in envelope along with a $15 check (processing fee) payable to the American Society of Agronomy (or fill out credit card information). Payment in U.S. funds only.

3. Mail self-study exam and fee to: ASA c/o CCA Self-Study Exam, 677 S. Segoe Road, Madison, WI 53711.

A passing exam score (70%) is worth 1.5 Rocky Mountain CEU in **nutrient management**.

QUESTIONS

1. Which of the following is a method for reducing runon to waste areas?
    [ ] a. Install a storage/treatment lagoon
    [ ] b. Build fences to prevent direct animal contact with water
    [ ] c. Construct a clean water interceptor with straw berms
    [ ] d. Use vegetated filter strips to capture runoff

2. Which of the following operations would require a MPDES permit?
    [ ] a. A large CAFO that has demonstrated to regulatory authorities no potential discharge to state waters
    [ ] b. An operation in which animals are confined for 30 days in a 12 month period
    [ ] c. A medium CAFO operation in which animals have direct contact with surface waters running through the confinement area
    [ ] d. A cattle operation in which forage is growing within the confinement area

3. If the P index is 19, manure application rates should be based on
    [ ] a. K   [ ] b. N   [ ] c. P   [ ] d. Metal ceiling concentrations

4. A three-year study in Washington State found that yields from manure and biosolids applications were
    [ ] a. Higher than urea the first year and lower the second and third years
    [ ] b. Lower than urea the first year and higher the second and third years
    [ ] c. Similar to urea yields for all 3 years
    [ ] d. Lower than urea yields for all 3 years

5. Approximately how many tons of manure are there in a truckload with an estimated volume of 200 ft^3?
    [ ] a. 3 tons   [ ] b. 6 tons   [ ] c. 9 tons   [ ] d. 12 tons

6. To maximize the nutrient content of manure for plant uptake, it is recommended to
    [ ] a. Use big gun irrigation to apply the manure   [ ] c. Surface apply the manure without incorporation
    [ ] b. Store the manure for a long period of time   [ ] d. Incorporate the manure into the soil as soon as possible

7. CCNMP certifications are administered by the
    [ ] a. State DEQ   [ ] b. NRCS   [ ] c. EPA   [ ] d. County

8. Requirements for Class A biosolids include
    [ ] a. Fecal coliform concentrations be reduced to less than 2 million/g-biosolids
    [ ] b. Fecal coliform concentrations be reduced to less than 1000/g-biosolids
    [ ] c. Public access is restricted for 30 days after biosolids application
    [ ] d. Food, feed, and fiber crops cannot be harvested for 30 days after biosolids application

9. For manure that contains 15 lb P_2O_5/wet ton, how much P is considered plant available by the NRCS?
    [ ] a. 3 lb P_2O_5/ wet ton   [ ] c. 12 lb P_2O_5/wet ton
    [ ] b. 7.5 lb P_2O_5/wet ton   [ ] d. 15 lb P_2O_5/wet ton

10. To increase the decomposition rate of manure or biosolids in a composting system, it is recommended to
   [ ] a. Maintain a low C:N ratio
   [ ] b. Increase the C:N ratio by adding a bulking agent
   [ ] c. Keep moisture content above 80%
   [ ] d. Promote anaerobic decomposition

11. Vermicomposting refers to
   [ ] a. The use of bulking agents
   [ ] b. The use of windrows
   [ ] c. The use of earthworms
   [ ] d. The use of static piles

12. Which of the following organic materials provides the most P in lb/wet ton?
   [ ] a. Composted swine manure
   [ ] b. Swine manure
   [ ] c. Cattle manure
   [ ] d. Biosolids

13. Compared to non-composted organic materials, composted organic materials generally have
   [ ] a. Less nutrients immediately available
   [ ] b. More nutrients immediately available
   [ ] c. Similar amount of nutrients immediately available
   [ ] d. A very high fertilizer grade (nutrient analysis)

14. The risk factor for a CAFO operation less than 100 feet from a concentrated surface flow is
   [ ] a. Low   [ ] b. Medium   [ ] c. High   [ ] d. Very high

15. Of the following, which is most likely to limit biosolids application rates in Montana and Wyoming?
   [ ] a. Metal concentrations   [ ] b. Pathogens   [ ] c. Nutrients   [ ] d. Low P index values

SELF STUDY EVALUATION FORM: Nutrient Management Module 13
Rating Scale: 1 = Strongly Disagree   5 = Strongly Agree

Information presented will be useful in my daily crop advising activities: 1   2   3   4   5

Information was organized and logical: 1   2   3   4   5

Graphics/tables were appropriate and enhanced my learning: 1   2   3   4   5

I was stimulated to think how to use and apply the information presented: 1   2   3   4   5

The article addressed the stated competency area and performance objective(s)   1   2   3   4   5

What suggestions (general and specific) do you have to improve future modules?

Topics you would like to see addressed in future self-study materials:

Self-Study Exam Registration Form-For Rocky Mountain CCA Credit

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A $2.00 Processing Fee will be added to all credit card charges.

I certify that I alone completed this self-study course and recognize that an ethics violation may revoke my CCA status.

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Signature of Registrant as it appears on Code of Ethics   Date