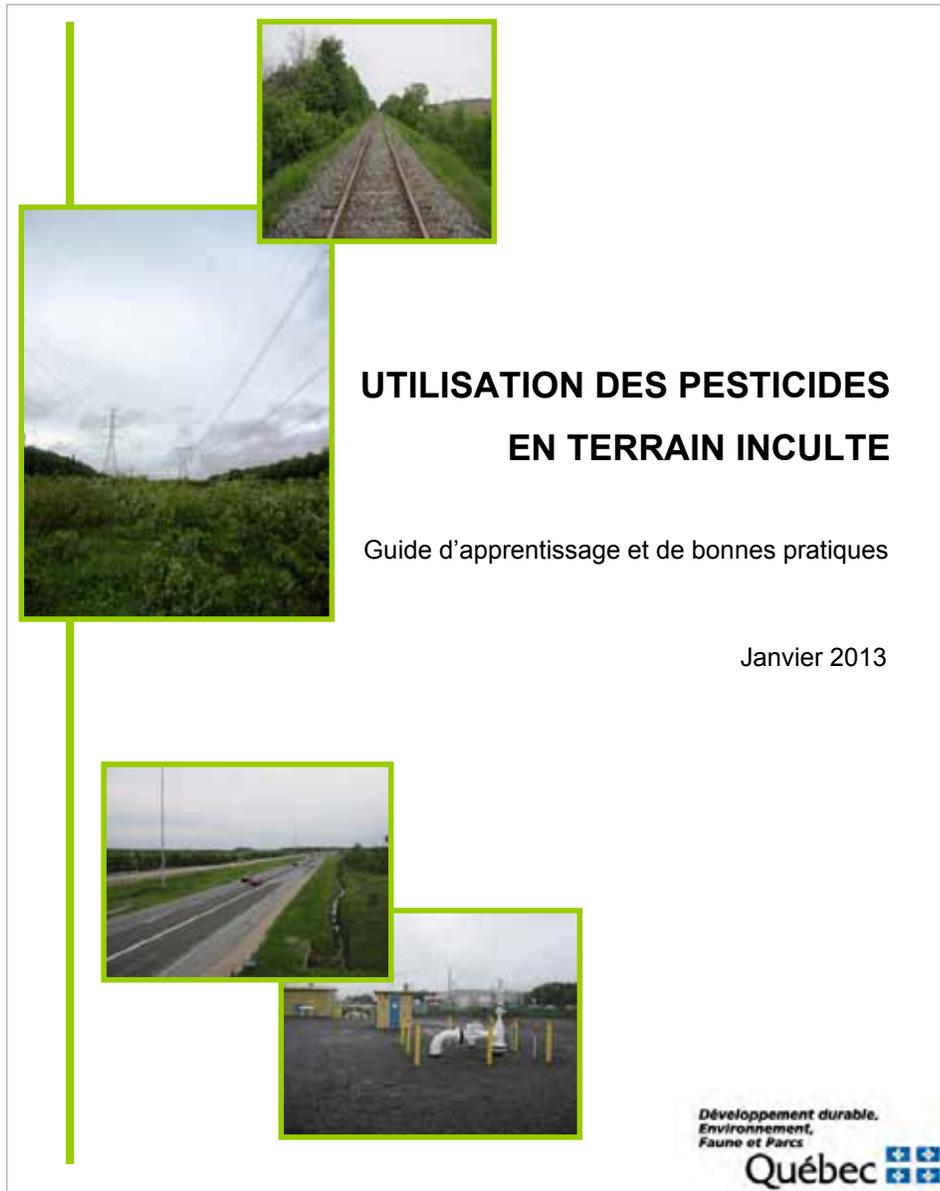


Use of pesticides on Raw land

Pre-Evaluation Activity ◀

in addition to learning materials:



**UTILISATION DES PESTICIDES
EN TERRAIN INCULTE**

Guide d'apprentissage et de bonnes pratiques

Janvier 2013

Développement durable,
Environnement,
Faune et Parcs
Québec



► Use of Pesticides on Raw land

You are nearing the end of the *Use of pesticides – Application in uncultivated land* course. We suggest that you do this pre-evaluation to help you gauge whether you have acquired the knowledge you need to pass the examination (the supervised certification examination). As this activity is structured as the examination, it will help you determine whether you are sufficiently prepared for it.

Like the examination, the pre-evaluation activity lasts two hours. Remember to do this activity as if it were an examination! You should refrain from referring to your course notes and the learning guide, but you may use a calculator and a dictionary (as in the certification examination). If you fail the pre-evaluation activity, review the concepts.

Good luck!

INFORMATION ON THE PRE-EVALUATION ACTIVITY

The evaluation will be based on questions and learning situations.

This activity will be corrected in keeping with the current standards for the summative examination. The following weighting will be used:

THEMES	POINTS
General	6
Regulations	8
Human Health	3
Safety	8
Environmental Protection	3
Integrated Pest Management	46
Application Technology	26
Total	100

To pass the exam, you must obtain at least 75 out of 100 points.

GENERAL

1. Name one reason why vegetation management is required along road rights-of-way. (3 points)

2. Which of the following reasons justify vegetation management at an airport site? (3 points)

- a) Provide good visibility for runway lighting
- b) Clear vegetation from fences so they are more visible
- c) Clear fences to facilitate inspection
- d) Clear runways to improve visibility.
- e) All of the above justify vegetation management at an airport site

REGULATIONS

3. Indicate whether the following statement is TRUE or FALSE. (2 points)

A certificate of authorization is required under the *Environment Quality Act* in order to apply pesticides in a watercourse.

True False

4. What documents can the Québec government use to obtain information on pesticides applied on industrial sites in Québec? (2 points)

- a) permits
- b) certificates
- c) logs/registers
- d) the *Pesticides Management Code*
- e) companies' financial statements

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5. Which of the following pieces of information does not need to be broadcast or published before pesticide spraying is carried out in a road corridor? **(2 points)**
- a) the name and telephone number of the owner or operator
 - b) the application distance on either side of the road
 - c) the nature of the work
 - d) the period during which the work will be carried out
 - e) the name and telephone number of the permit holder in charge of the work.
6. Hydro-Québec retains the services of a specialized firm to apply herbicides under powerlines. The employee who carries out this work must hold what type of document? **(2 points)**
- a) a Class C, subclass C3 permit
 - b) a Class D, subclass D3 permit
 - c) a Class CD3 permit
 - d) a Class C, subclass C3 certificate
 - e) a Class D, subclass D3 certificate
 - f) a Class CD3 certificate

HUMAN HEALTH

7. To answer the following questions, consult the material safety data sheet for GARLON® XRT.
- A. Name an organ that can be affected by the active ingredient in this product. **(1 point)**
- _____
- B. What should a person who has ingested some GARLON® XRT be given to drink? **(1 point)**
- _____
- C. Is the acute toxicity of this product greater through oral exposure or dermal exposure? **(1 point)**
- _____

SAFETY

8. To answer this question, consult the label for GARLON® XRT. (2 points)

What personal protective equipment is recommended on the label?

9. Which of the following statements is **FALSE**? (2 points)

- a) Exhaust from brush mowers and other mechanized equipment presents an additional risk of poisoning.
- b) Pesticide applicators working on industrial sites must be aware of the applicable safety rules which are designed to protect workers and the environment from the potential adverse effects of the product being applied.
- c) The person in charge of laundering contaminated clothing must be aware of the safety precautions for this task.
- d) Overhead powerlines and underground pipelines pose no threat to pesticide applicators.
- e) It is important to inform other people who need to work at the site about the re-entry interval after pesticide use.

10. **Before applying a pesticide** on an industrial site, certain tasks must be planned and carried out. Which of the following are not among those tasks? (2 points)

- a) Deciding who will supervise the work
- b) Marking off the area to be treated and the buffer zone, using tape, cones or paint
- c) Determining under what meteorological conditions the work should be stopped
- d) Check and adjust the application rate that will be delivered by the equipment to be used
- e) None of the above

11. What should a worker do if required to re-enter a treated area before the recommended re-entry interval is over? (2 points)

ENVIRONMENTAL PROTECTION

12. For each statement below, choose the best match from the following list:

(3 points)

- a) sensitive area
- b) application distance
- c) buffer zone
- d) drift
- e) runoff
- f) leaching
- g) area to be treated

STATEMENT	BEST MATCH
Major cause of contamination of non-target elements and reduced effectiveness.	
Carry out spraying when the wind is blowing away from...	
When preparing spray mixture near a watercourse or water body, the applicator must be at least 30 metres from the watercourse/body of water.	

INTEGRATED PEST MANAGEMENT

13. Complete the following sentences with the correct word (i.e., annuals - biennials - perennials)

(3 points)

- A. Herbaceous _____ have flexible stems that regrow each year.
- B. Most _____ produce a rosette of leaves and a fleshy root, which acts as a food reserve.
- C. Winter _____ germinate in the fall, live through the winter as a rosette, then die after flowering and setting seed.

14. For each of the following statements, indicate whether the plant is a monocotyledon or a dicotyledon.

(3 points)

A. Leaf shape can differ from species to species.

B. The diameter of my stem does not increase as I grow.

C. I am also called a broad-leaved plant.

15. Link each element in the left-hand column with the corresponding element in the right-hand column.

(4 points)

a) Installation of a geotextile membrane
b) Survey (action threshold)
c) Presence of breeding birds
d) Broadcast of a message on radio and television

1. preventive approach
2. selection of a control method
3. analysis of aerial photos
4. communication and notices

16. Indicate whether each of the following statements is TRUE or FALSE.

(4 points)

TRUE FALSE

- | | | |
|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | a) A good knowledge of plants and the environment is essential in order to choose the most suitable control method. |
| <input type="checkbox"/> | <input type="checkbox"/> | b) During powerline maintenance operations, workers often need to access private land to perform their work. |
| <input type="checkbox"/> | <input type="checkbox"/> | c) Landscaping or growing plants on powerline rights-of-way may be permitted under certain conditions. |
| <input type="checkbox"/> | <input type="checkbox"/> | d) Slashing (brush cutting) may be more advantageous than herbicide spraying when the vegetation is too tall. |

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17. For each control method described in the left-hand column, indicate whether it is a cultural, mechanical, physical or chemical method. **(4 points)**

CONTROL METHOD	METHOD				
	CULTURAL	MECHANICAL	PHYSICAL	BIOLOGICAL	CHEMICAL
Rather than leaving bare soil, plant desirable species that are compatible with the site.					
Clear vegetation around guy wires using a portable trimmer.					
Spread sodium chloride (salt) to suppress ragweed growing in roadside areas.					
Plant goldenrod (<i>Solidago canadensis</i>) under powerlines.					

18. Indicate whether each of the following statements is TRUE or FALSE. **(4 points)**

TRUE FALSE

- a) Integrated management consists of a set of methods for maintaining populations of undesirable plants at an acceptable level.
- b) Integrated management necessitates good knowledge of plants and the environment in which they live.
- c) To avoid disturbing birds, their eggs and nests as much as possible, any work to be carried out near powerlines should be done before mid-July.
- d) In a winter concentration area (yard) for white-tailed deer, vegetation management principles differ depending on whether a railway right-of-way or a powerline right-of-way is concerned.

19. A. What kind of herbicide kills all vegetation and remains active for several months? **(2 points)**

B. What is the mode of action of a herbicide that damages only the plant parts on which it is applied? **(2 points)**

20. Indicate whether each of the following statements is TRUE or FALSE. (4 points)

TRUE FALSE

- a) If a pesticide has a half-life of 9 days, there will be none of it left after 18 days.
- b) If a pesticide has a half-life of 150 days, it will take years for it to disappear.

21. To answer the following questions, consult the appended GARLON® XRT label.

A. Is GARLON® XRT a selective herbicide or a non-selective herbicide? (1 point)

B. What information on the label indicates this? (3 points)

22. Indicate whether each of the following statements is TRUE or FALSE. (4 points)

TRUE FALSE

- a) The carrier used to prepare the spray mixture can modify the volatility of a herbicide.
- b) A herbicide persists longer in poor, dry soil than in wet, fertile soil.
- c) The use of an adjuvant has no effect on the toxicity of a herbicide.
- d) The organic matter content of the soil can affect the mobility of a herbicide.

23. Which of the following properties is not linked with the chemical family of a herbicide? (4 points)

- a) poisoning symptoms
- b) decontamination guidelines
- c) safety guidelines
- d) the chemical structure of the active ingredient
- e) the federal classification of the product

24. Name two factors related to undesirable plants that can influence the efficacy of a herbicide. (4 points)

APPLICATION TECHNOLOGY

25. Name 2 advantages of spraying granular herbicides. (4 points)

26. What is the application rate (in litres/hectare) of a sprayer equipped with 10 nozzles covering a span of 6 metres and with an average output of 0.4 litres per minute, if it takes 1 minute to cover 100 metres in rugged terrain? (4 points)

(NOTE: 1 hectare = 10,000 m²)

27. Name two factors that influence the rate of nozzle wear? (4 points)

28. The sprayer must be calibrated on several occasions. Name two of them. (4 points)

29. Complete the sentence below with words from the following list: (4 points)

temperature	pH	salinity	acid	alkaline	particles
wear	clogging	analysis	quality	salts	

The presence of suspended soil a) _____ in the water can cause premature b) _____ of the pump and c) _____ of the filters. It is important to check the d) _____ of the water to ensure the effectiveness of the treatment.

30. Consult the appended GARLON® XRT label in order to answer this question.

You must destroy stumps of ash trees that are starting to produce sprouts.

A. What is the recommended application rate for treating stumps? **(1 point)**

B. What volume of oil do you need to use for the spray mixture if you are using a backpack sprayer with a 40-litre tank? **(2 points)**

C. What quantity of concentrate and of oil would you use to prepare a full tank when using the maximum application rate? **(2 points)**

D. What application rate is specified for this type of treatment? **(1 point)**

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Use the following grid to determine whether you are well prepared to write the summative examination.

SELF-EVALUATION GRID

THEMES	MARK	ON A TOTAL OF
General		6 points
Regulations		8 points
Human Health		3 points
Safety		8 points
Environmental Protection		3 points
Integrated Pest Management		46 points
Application Technology		26 points
Total		100 points
Past mark : 75 out of 100		

If your final mark is lower than 75%, we suggest that you review the chapters where you lost a lot of points.

When you are ready you may register for the certification examination by completing the *Examination session appointment request* form available on our website: www.sofad.qc.ca/en/customized-services/pesticides.

Good luck!