Strychnine Stewardship Program

Monitoring of Application Sites

Monitoring is a critical requirement of Saskatchewan's Strychnine Stewardship Program under the Emergency Use Registration (EUR) for two per cent liquid strychnine.

Strict adherence to the monitoring requirements of the Strychnine Stewardship Program is mandatory. This includes scouting application sites and removing carcasses of Richardson's ground squirrel (RGS) and non-target species, as well as bait that has been ejected from RGS burrows.

Monitoring requirements of the Strychnine Stewardship Program are outlined below.

Before strychnine can be purchased, a **pre-sale species at risk (SAR) assessment** is conducted by rural municipality offices for every land location the producer plans to use strychnine on to control RGS. The outcome of the SAR assessment is provided to the producer, which may require the producer to complete enhanced monitoring. There are four possible outcomes of the pre-sale SAR assessment:

1. **Prohibited Use**
   - No application of strychnine is permitted at this land location due to unacceptable risk to SAR.

2. **Prohibited Spring Application (March 1 to June 15)**
   - At this land location, application during the spring window is prohibited due to increased risk to sensitive SAR. Late summer application should be delayed until mid-August. Once applied after spring, the producer must follow the standard monitoring frequency and duration: Daily monitoring for the first week after application followed by weekly monitoring for three additional weeks (total monitoring period of four weeks). The producer must also assess the site for the presence of SAR before applying strychnine and not apply strychnine if SAR are present.

3. **Enhanced Monitoring Required**
   - At this land location, the producer must monitor twice daily for the first week after strychnine application, followed by the standard weekly monitoring for three additional weeks (total monitoring period of four weeks).
   - The producer must also assess the site for the presence of SAR before applying strychnine and must not apply strychnine if SAR are present.

4. **Standard Monitoring Required**
    - At this land location, no additional risk mitigation is required resulting from the pre-sale SAR assessment. Standard daily monitoring for the first week after application followed by weekly monitoring for three additional weeks (total monitoring period of four weeks) is still required.
    - The producer must also assess the site for the presence of SAR before applying strychnine and must not apply strychnine if SAR are present.

At all treatment sites, producers are required to conduct an in-field pre-application SAR assessment. If SAR are present, strychnine is not to be used.

Post-Application Monitoring

- Following treatment, monitor all treated burrow clusters and record all required information outlined in Section 3 of the Product Evaluation Form titled "Monitoring of treated areas," including any carcasses of RGS and non-target species, for the prescribed monitoring frequency for the land location.
- Conduct monitoring early each morning for seven days following application. If the pre-sale SAR assessment indicates that enhanced monitoring is required, monitor twice daily for the first seven days.
- In all cases, continue to monitor weekly for an additional three weeks.
- Collect and dispose of all treated grain and poisoned carcasses found on the soil surface by incineration or burial in a pit at least 46 centimetres (approximately 18 inches) deep and cover the pit to prevent access by non-target organisms.

Recommended Monitoring Protocol

The following recommended steps should be taken for every monitoring event to meet the requirements of the Strychnine Stewardship Program.

Establish and monitor two search areas following application of two per cent liquid strychnine. For all monitoring activities:

- Record date, time and observations.
- Document the number and species (if identifiable) of any carcasses found.
- Record carcass disposal method.

Search Area 1: Targeted Search Area (RGS Burrow Cluster)

- **What it is:** The immediate area around treated burrows where RGS carcasses are most likely to be found.

- **Size/extent:** A 10-metre radius around a burrow cluster.

- **Purpose:** To quickly locate and remove carcasses of treated RGS before scavengers can feed on them.

- **How to search the area**:

    - Define the targeted search area (burrow cluster) using field markers (optional).
    - Search the area using a structured, back-and-forth pattern (transect pattern) to visually cover the entire buffered area, with each pass covering a five-metre swath.
    - RGS are typically found in clusters of burrows/holes (10-40 holes). Three to 10 clusters form a patch. Any above-ground RGS carcasses are most likely to be found within these patch areas. In severe infestations, these patches may merge and attract predators.

    - Below is an outline of the terminology used in the diagram:

        - Hole: This is equivalent to the term burrow.
        - Cluster: 10 to 40 holes near one another.
        - Patch: A group of three to 10 clusters near one another.
        - The cluster diagram on the left outside of the search area illustrates what a cluster is.

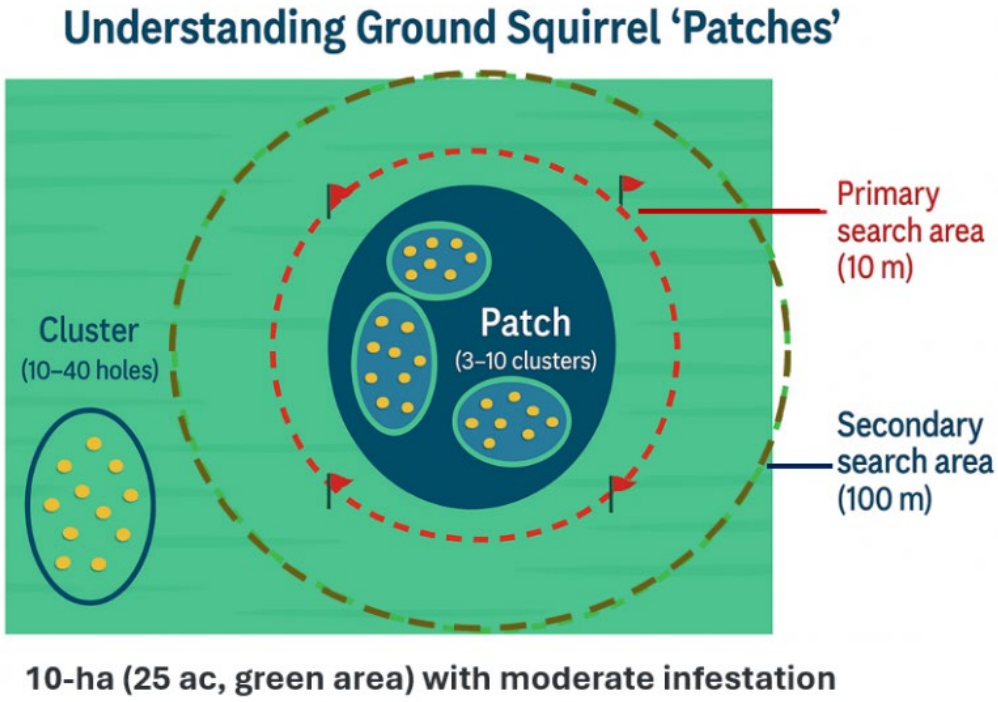

Image source: Pesticides Regulatory Directorate

Search Area 2: Broader Monitoring Area (Non-Target Secondary Poisoning)

- **What it is:** The larger surrounding area where scavengers and predators might travel if they found RGS-poisoned carcasses above ground.
- **Size/extent:** At least 100 metres around the burrow cluster, including likely travel routes and perching sites.
- **Purpose:** To detect and remove any non-target wildlife affected by secondary poisoning.
- **Areas to search include**:
    - Fence lines and established wildlife trails
    - Isolated trees, shelterbelts and shrub patches
    - Power poles and fence posts (inspect ground beneath)
    - Drainage ditches and low-lying areas
    - Brush piles, culverts and den entrances
    - Water sources (dugouts, ponds)

Non-Target Secondary Poisoning

When monitoring sites where two per cent liquid strychnine has been applied, look for the following signs of secondary poisoning in non-target species.

- **Carcasses**
    - Bird or mammal carcasses
    - Partially consumed RGS carcasses
    - More than one carcass in close proximity to each other
- **Live wildlife showing distress**
    - Lethargy or reluctance to move
    - Impaired co-ordination or difficulty flying
    - Unusual tameness

Reporting of Non-Target Secondary Poisoning

All incidents of strychnine non-target poisoning must be reported on the Product Evaluation Form**.** If you have any questions on how to report non-target strychnine poisoning, please contact the Saskatchewan Ministry of Agriculture by emailing rgs@gov.sk.ca.

Further details on non-target reporting are currently under development.

Contact

For more information on the Strychnine Stewardship Program and the EUR, see saskatchewan.ca/rgs-control.

Questions? Contact rgs@gov.sk.ca.