Right of Way Pest Control 6B Exam Study Guide

This study guide is intended to serve as an outline of the knowledge base covered by the Right of Way Pest Control 6B Exam. If you don’t understand a statement or term, refer to Right of Way Pest Control Manual for more information. This exam consists of 50 multiple choice and true/false questions. Topics include:

1. General Right-of-Way Knowledge
   a. Rights-of-way are areas set aside for use in common transport including federal, state, county and municipal highways and roads; public airports; and railroads.
   b. Broadleaf weeds and grasses along the shoulders of roadways can cause the edges of the pavement to break up.
   c. Vegetation may cause drainage problems on public paths and trails.
   d. Trees and brush may cause a power shortage and grounding when allowed to grow near electrical power lines.
   e. Weeds, grasses and brush may obstruct bridges, road signs and runway landing lights.
   f. If there are ponds, lakes or streams near areas to be treated, the applicator should leave an untreated buffer strip adjacent to the bodies of water.
   g. Weeds and grasses catch and hold soil, which may restrict water flow from the pavement surface.
   h. Applicators must ensure their applications do not drift or run outside the treatment area, know how the pesticide being applied can affect adjacent areas, and carefully follow all label directions since most rights-of-way are long and narrow and have a large number of adjacent landowners.

2. Vegetation Management
   a. The finished survey included in the vegetation management plan should include both desirable and undesirable plant species present, any special features in the terrain that would affect control methods, the height and density of plant species to be controlled, and any sensitive areas adjacent to the right-of-way including crops, water ways and homes.
   b. The primary reasons for managing vegetation along roads include the safety of the motorist, the condition of the pavement, and aesthetics.
   c. Perennial grasses are usually planted in rights-of-way because their fibrous roots stabilize soil and help prevent erosion.
   d. Vegetation control methods are generally designed to stress the undesired plants and to enhance the environment of desired plants.
3. **Weed Control**
   a. The most common types of manual vegetation control include cutting, girdling and burning.
   b. Brush should be cut in the spring when food reserves in the roots are lowest to decrease the amount of resprouting from the cut roots.
   c. Mowing is the most common means of vegetation control, especially along the highway rights-of-way.
   d. Herbaceous perennials are difficult to control by mowing because of their underground reproductive structures.
   e. Although herbicides are cheaper than either hand labor or mechanical methods, they might not always be the most appropriate technique to use.
   f. Plant growth regulators can be eye more pleasing to the public because they do not cause brownout (when the foliage turns brown).
   g. Weeds are most easily controlled in the seedling stage.
   h. In the seedling stage, seed leaves may be present along with the first true leaves.
   i. During the vegetative stage, weeds are growing rapidly and taking up large amounts of water and nutrients.
   j. During the reproductive stage, growth is limited, the uptake of water and nutrients slow down, and the plant produces flowers and seeds.
   k. As plants reach the maturity stage they are usually much harder to control by either mechanical or chemical methods.
   l. Foliar treatments to control deciduous woody plants are most effective when the leaves are mature and when the roots are actively growing.
   m. Herbicide sprays tend to run off plants with narrow, vertical leaves.
   n. Adding a surfactant to the herbicide helps it penetrate to the leaf surface.
   o. Soil applied herbicides need rainfall to carry them into the plant root zone, so they should be applied when rain is expected.
   p. Light is the energy source that drives photosynthesis, which affects plant growth and flowering.
   q. When the relative humidity is high, leaves are more succulent and have thinner wax layers and plants are more likely to be growing actively.
   r. Postemergence herbicides are applied to growing vegetation.
   s. Preemergence herbicides are applied before plants emerge from the soil.
   t. Selective herbicides are effective only against certain species of plants.
   u. Nonselective herbicides kill almost all plants.
   v. Contact herbicides kill only the green portion of the plants they contact and are most effective when applied to actively growing plants before flowering.
   w. Many systemic herbicides are especially useful for controlling perennial weeds because they move in the xylem or phloem, disrupt physiological processes in the plants, and may move into the roots.
   x. A surfactant may be added to a pesticide in order to make the pesticide penetrate leaves better by decreasing the mixture’s surface tension.
4. **Weed Identification** - Be able to identify (from pictures) the following weeds:
   i. Broom snakeweed
   ii. Creosote bush
   iii. Johnson grass
   iv. Mesquite
   v. Nutsedge
   vi. Pigweed
   vii. Prairie sunflower
   viii. Puncture vine
   ix. Russian thistle
   x. Spiny aster

5. **Weed Characteristics**
   a. A germinating monocot has a single primary seed leaf or cotyledon, which does not emerge from the soil.
   b. Monocots are often called narrow leaf plants because they have narrow, parallel-veined leaves and fibrous root systems.
   c. Germinating dicots have two primary seed leaves or cotyledons, which do not look like the later true leaves.
   d. Dicots are referred to as broad leaf plants because they have broad leaves with veins usually in a net like pattern.
   e. Annual plants complete their life cycles in less than 1 year.
   f. Large crabgrass is an example of a warm-season annual.
   g. Wild oat is an example of a cool-season annual.
   h. Biennials complete their life cycle in 2 years by growing vegetatively one year, producing seed the second year, and then dying.
   i. Wild carrot is an example of a biennial.
   j. Perennials complete all four of the growth stages in the first year and then live on for more than 2 years, reproducing vegetatively or by seed.
   k. Perennials can be classified as simple, creeping or woody.

6. **Application Equipment**
   a. Sprayers should be able operate at a low pressure, less than 40 pounds of pressure at the spray tip, to control drift.
   b. Common right-of-way herbicide application equipment is a sprayer mounted on a flatbed truck set up to spray roadsides and railroad rights-of-way.
   c. Vehicle mounted sprayers usually deliver low to moderate volumes at 15-100 pounds per square inch (psi).
   d. With a handgun, the size of the droplet is determined by the pump pressure and the size of the orifice.
   e. Pressurized hand sprayers and knapsack or backpack sprayers can be used for spot treatments and for areas inaccessible to power sprayers.
   f. Tanks must be made of noncorrosive materials such as polyethylene plastic, fiberglass and stainless steel.
7. **Calculations** - There will be 5 questions based on a given scenario. Using the facts provided you must determine critical factors such as how much herbicide to purchase, how many pounds you’ll be applying, how much water you’ll need, etc. Study Chapter 11 of the *National Pesticide Applicator Certification Core Manual* to prepare for these questions.