

Do more with less, using

Reduced

Agent and

Area

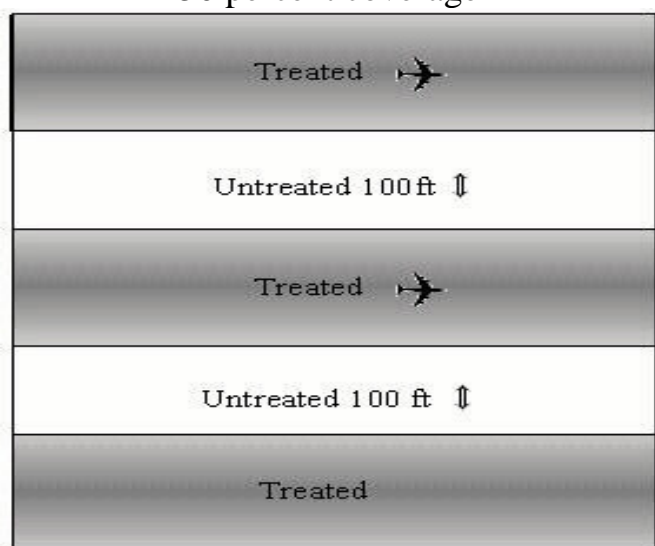
Treatments



### How to use RAATs

Research conducted by University of Wyoming and USDA scientists in cooperation with state departments of agriculture and weed and pest districts has involved 125 40-acre experimental plots and 14 640-acre operational trials at densities of 7 to 70 grasshoppers per square yard from 1995 to 1999. The following tactics most often optimize economic returns and are recommended by the National Grasshopper Management Board:

A schematic of a RAATs application with 50 percent coverage



### What to expect from RAATs

#### *Efficacy*

This method normally will result in 80 to 95 percent control, which is approximately 5 to 15 percent lower mortality than with a standard (high rate, blanket coverage) treatment. Leaving low densities of

grasshoppers after RAATs does not necessarily result in a subsequent outbreak (*see environment*).

#### **Economics**

Using RAATs will reduce costs by approximately **50 to 60** percent, depending upon the agent and swath width. For example, if a standard insecticide application costs \$4.50 per acre, the equivalent RAATs program should cost approximately **\$1.95 per acre**. In some cases, costs are reduced by two-thirds. It should be noted that the greatest economical benefits derive from swath spacing since it effectively decreases the costs for both purchasing insecticides and application.

#### **Environment**

RAATs means **60 to 70** percent less insecticide is applied to our rangelands for grasshopper control. The untreated swaths harbor species essential to rangeland ecosystems, including biocontrol agents of grasshoppers and weeds. Low densities of surviving grasshoppers allow predators and parasites in the untreated refuges to recolonize and thereby reestablish natural regulation of grasshopper populations. For these reasons, RAATs programs also may promote higher densities of birds than blanket application.

(All information has been quoted from the "Do more with less, using Reduced Agent and Area Treatments (RAATs). This is a public brochure produced by the Cooperative Extension Service University of Wyoming College of Agriculture.)