IRM NEWS
Integrated Resource Management for the Profit-Minded Producer

# Ranch Biosecurity as a Weed Control Measure

By Earl Creech, Brad Schultz, and Ron Torell, University of Nevada Cooperative Extension

On some ranches, weeds reduce the quality and productivity of pasture, crop or rangeland. On others, weeds have caused injury to livestock. On still others, weeds impact the beauty or value of property. And the list goes on and on.

To minimize the impact of weeds, agricultural producers spend a great deal of time and money on weed control. The latest estimate is that farmers and ranchers in the U.S. spend around $12 billion per year to control weeds.

With such a large sum of money spent on the problem, you might think that weeds would become a thing of the past. Yet, noxious and invasive weeds continue to spread at rates from 10% to over 30% every year, depending on who you ask and what weed you are talking about.

So, as we look into the future, the number of acres impacted by weeds and the cost associated with weed control will probably continue to grow.

There are two general approaches to weed control. The most common — and least effective — is to wait until a weed has spread from one end of the ranch to the other and has started to impact profitability before control becomes a priority. Unfortunately, by then the weed has become so well established that it will likely be around for many years, if not a lifetime.

The other approach is to take steps to prevent new weeds from ever becoming a problem. You have probably heard the old medical adage, "An ounce of prevention is worth a pound of cure." In the case of weed management, a few dollars spent on prevention can be worth thousands (and sometimes millions) of dollars of cure.

Though often overlooked, prevention should be the cornerstone of the weed control program on every ranch. It is, by far, the most important thing we can do to save time and money in our weed control efforts.

In order to prevent weeds from entering our property, we need to understand how weeds move from one place to another:

**1. Contaminated products.** Weeds can hitch a ride to your ranch with nearly anything that comes from the outside. Products that are sometimes contaminated with weed seed include hay, straw, grain, and fill material. Even seed for planting crops, pasture or rangeland can contain weed seed. "Certified Weed Free" products are becoming more common and provide some assurance that a new weed is not contained in the product you are purchasing. Another option, especially if the source of the product is nearby, is to inspect the field or area personally to see what weeds you may be buying.

**2. Water.** Many weeds use water as a vehicle to move from one area to another. Banks of rivers, streams, canals, and irrigation ditches can be monitored and kept weed free in order to prevent downstream spread. The No. 1 goal of weed control along waterways is to prevent seed production (i.e., late season weed control).

**3. Wind.** Certain weeds, such as dandelion and marestail, have developed ways of using wind to spread seed. In fact, some weed seeds can travel for a mile or

## IRM Calendar

| | | |
|---|---|---|
| **May 8** | Texas A&M Beef Cattle Field Day | Beeville, Texas |
| **May 15** | Cattle Buyers Summit | Billings, Mont. |
| **May 22** | Cattle Buyers Summit | Chattanooga, Tenn. |
| **June 21** | Ranch Stewardship Live | Hebron, Neb. |
| | Contact: Greg Wiedel 402/768-7344 or Vaughn Hinrichs 402/353-4585 | |
| **June 30 - July 3** | Beef Improvement Federation<br>www.beefimprovement.org/convention.html | Calgary, Alberta |
| **July 11** | Cattle Buyers Summit | Kearney, Neb. |
| **July 15-19** | Summer Conference | Denver |
| **Aug. 4-6** | Texas A& M Beef Cattle Short Course | College Station, Texas |
| | Contact: 979/845-6931 or *extansc@ag.tamu.edu* | |

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more under the right conditions. The amount of seed that blows in can be reduced by controlling weeds with wind-blown seed along your ranch borders. Any weeds that arrive on the interior of the ranch can be removed before they produce seed.

**4. Animals and humans.** Weed seeds (like those from cocklebur and puncturevine or goathead) can become attached to clothing, shoe laces, animal hair, etc. These seeds should be carefully removed and discarded, preferably in an area that is already infested. Other weed seeds can be consumed and passed through the digestive tract of animals, while still being able to germinate. When livestock have grazed in a weed infested area, quarantining (by providing clean feed) those animals for 5 to 7 days will allow the seed to pass without spreading the weed to a new area.

**5. Equipment and vehicles.** Driving equipment and vehicles around weed patches will prevent weed seed from being picked up and carried to a new area. When it can't be avoided, contaminated machines can be washed with water to remove weed seed. Since weed seed is frequently found on vehicles, roadways are at a high-risk for weed. New weeds should be carefully monitored.

Even with the best prevention program, some weeds will find a way to slip through the cracks. An early detection/rapid response program can help a ranch catch these new invaders. The idea is to find a new weed, whether it is a single plant or a small patch, and then to immediately begin control measures — hopefully resulting in eradication.

Be aware of what is growing on your ranch. If you see something that you do not recognize, take a moment to identify the plant. This can be done using a good weed identification book or you can collect a plant sample and take it to your local Extension office where someone can help you. It may turn out to be something harmless, like a native plant; but it could also be a new invasive weed that if left unchecked might become a plague to your ranch for years to come.

# When Should I Not Ship Cows?

**Dr. John Paterson, Extension Beef Specialist, Montana State University**

Sarah Fields and George Perry from South Dakota State University recently published a paper (Beef Horizons, March, 2008) presenting the effects of stress on embryonic mortality in cattle. The following table demonstrates how transporting cows at different days after insemination affected pregnancy rates.

Briefly, shipping cows between days 5 and 42 could be detrimental to embryo survival, and cause approximately a 10% decrease in pregnancy rates. Other research showed that shipping cattle 45 to 60 days after insemination could result in 6% of embryos being lost. Critical time points such as blastocyst formation, hatching, maternal recognition of pregnancy and adhesion to the uterus take place during this early time of pregnancy. If any of these time points are disturbed, then the result would lead to increased embryonic mortality and decreased pregnancy rates.

**Effect of time of transport after insemination on pregnancy rates**

| Item | Days after insemination that transportation occurred | | | |
|---|---|---|---|---|
| | 1 to 4 | 8 to 12 | 29 to 33 | 45 to 60 |
| Synchronized pregnancy rate | 74% | 62% | 65% | |
| % Pregnancy loss compared to transportation on days 1 to 4 | | 12% | 9% | 6%** |
| Breeding season pregnancy rate | 95% | 94% | 94% | |

** Loss compared to precent pregnant prior to transportation (pregnancy determined by transrectal ultrasonography)

Data adapted from Harrington et al, 1995 and Merrill et al., 2007

## Take Home Message:

**Time points for shipping pregnant cows:**

**When to ship:** **Days 1 to 4 or days 45 to 60**
**When not to ship:** **Days 6 to 42**