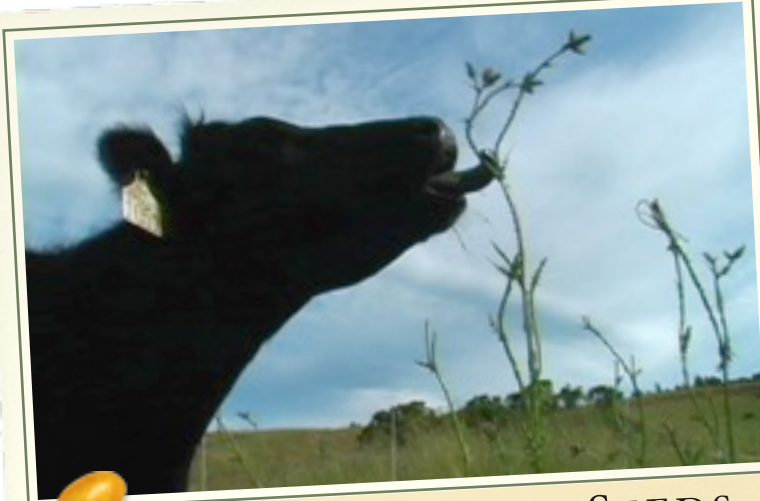


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(ALMOST)
EVERYTHING YOU NEED TO KNOW
About Teaching Cows to Eat Weeds



WEED EATING COW SEEDS

WWW.LIVESTOCKFORLANDSCAPES.COM

PRESENTER
KATHY VOTH

This is a simple, inexpensive process that anyone can use to teach livestock to eat weeds in just 8 hours over 7 to 8 days.

**WHY DON'T MY COWS
EAT WEEDS ALREADY?**

Because they never have, and there's nothing that says they should.

Here's what we've learned about how animals choose what to eat:

Mother is the most important influence on what a young animal eats. They will eat what she eats and avoid what she avoids. As they grow, they begin to learn from their herdmates too. Here's a link to an article with a video to demonstrate this at work: <http://wp.me/p3iZtI-1Ay>

If Mom didn't eat a plant, and no herd mates eat it, the animal is unlikely to try it. Second, animals are "neophobic" or afraid of new things. Like us, they're likely to keep doing what they've always done as long as it works for them.

Here's a link to an article to help you see how this works: <http://sp.me/p3iZtI-1ii>

To get around this, we're going to use routine, and tasty treats to open trainees minds to all the tasty things in their pastures.

**It's Not Magic.
It's Animal Behavior.**

I started teaching cows to eat weeds in 2004 with a pilot project at Grant-Kohrs Ranch National Historic Site in Montana. The simple process I developed and refined over the next few years is based on decades of research about how animals choose what to eat, and on the research done by animal behaviorists like Skinner and Pavlov.

It's Easy.

Farmers and ranchers don't have any time or money to waste. So I made the steps easy and inexpensive. Using them, anyone can teach a cow, sheep, goat, bison or any other creature to eat new foods in just 8 hours spread over 5 to 7 days.

I'm Here to Help!

I want you to be able to quit worrying about your weeds and start using them as forage. So, in this handout I've provided all the basics, along with articles and videos that will show you how to get started.

I've done so many projects with farmers and ranchers, that I can solve just about any problem you may have over the phone. So if you run into problems, give me a call.

Kathy Voth
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970-260-2185 (I'm in Tucson, AZ)

If I don't answer your call right away, do leave a message. I'm actually kind of shy and once I know who you are, I'm happy to call back.

How to Teach a Cow to Eat A Weed

Check out this On Pasture article on the entire process, along with a video showing how I used this to train cows in Boulder, Colorado: <http://op.me/p31ZtI-vM>

1. Know Your Plant.

Big Bonus - Weeds are nutritious and no more toxic than other forages!

Nutritional value is important because scientists have learned that animals choose what to eat based on the internal feedback from nutrients and toxins in their foods. The more nutritious a weed is, the more likely the animal is to eat it.

I've tested enough weeds for nutritional value to have developed a rule of thumb: "If it's green and growing, it's nutritious." In fact, most weeds are equal to or better than alfalfa in nutritional value. As forbs, they are generally less fibrous than grasses, so they are more digestible. Last but not least, many maintain their value through the growing season longer than grasses do. All this means that weeds are good forage.

But what about toxins?

All plants contain toxins, including the grasses we plant for our livestock. But very few plants are so high in toxins that they will cause harm or kill livestock.

Naturally, you don't want to teach your animals to eat a weed that could cause harm. To help you know the difference, I've put together information about weeds here:

www.livestockforlandscapes.com/edible.htm. And here's a flyer on Weed Nutritional Values and Toxins too: <http://wp.me/p31ZtI-2Aj>

2. Choose Trainees.

Big Bonus - You don't have to train all your animals. Herd mates will learn from each other when you mix trainees into the larger herd.

Make the process easy on you. Choose animals that will be around for awhile, and that are in a pasture that is convenient. It's best to have at least a dozen animals in your group. I generally train groups of 25 to 50 at a time.

3. Make the unfamiliar seem familiar.

Big Bonus - Train once and you're done. As long as you have one trained animal on your place, or animals that have learned from a trainee, you will never have to train again.

Routine makes everything seem normal. Your training routine will be to show up at a particular time, morning and afternoon, making the same sounds, driving the same vehicle, with the same feed tub/trough, and something tasty for your trainees to try.

Every morning and afternoon for 4 days, you'll feed something an unfamiliar nutritious food. Just go to the feed store and pick 8 different things, one fifty pound bag per 25 cattle. Choose a variety of textures, flavors, shapes and smells (Soy flake, wheat bran, rolled oats, alfalfa pellets, range cubes,

Used supplement tubs are a great training tool. They're big enough that more than one animal can eat at a time, but deep enough that one can't see what the other is eating. This boosts competition and encourages trainees to try new things. You'll need one per 3 cows.



and COB for example). Trainees learn that every time you show up, they may not recognize what you're giving them, but it will surely be something good to eat.

On the 5th and 6th, and 7th days skip the morning feeding. Then clip weeds, mix with a bit of feed and serve them up in the afternoon. Loosely fill two 50 lb grain sacks or one 250 lb supplement tub per 25 cattle trainees.

Weeds will just be one more new thing in a series of strange things. Trainees will try the weeds, get the good feedback, and begin eating them in pasture. Start watching the weeds in your pasture as soon as you start feeding weeds. Trainees will often try them shortly after eating them in tubs.

Final Bonus - You don't have to train them to eat every single weed.

Once trainees realize that not all food looks the same, they will begin to experiment in pasture, and eventually eat a little, or even a lot of everything they find. Here's why, as long as they have variety, they won't be harmed. <http://wp.me/p31ZtI-M7>.

Alternative Forage Info

Buckthorn

(*Rhamnus spp.L.*)

The seeds, and to a lesser extent, the leaves, have laxative properties. But, because such a large amount has to be eaten to cause this, this plant is not a problem. I might teach cattle to eat something else first, and then add this to their diet later.

Canada Thistle

(*Cirsium Arvense*)

This is one of the easiest weeds to teach livestock to eat because it compares to alfalfa in nutritional value (21% protein in Spring, 13% in Summer, and 12% in fall). If you have this in your pasture, I'd highly recommend starting here. Once animals are eating this thistle, they quickly add other thistles to their diet and then begin looking around to see what other kinds of plants in the pasture could make good forage.

Spines are of no concern at all to grazers. It's actually the nitrates in this plant that cause a little bit of concern. To keep animals safe:

- Give rumen microbes time to adjust, introducing the food in small amounts over 5 to 7 days.
- Never put animals in a solid stand of this plant.
- Don't put hungry animals into a field that is primarily Canada thistle. Full ruminants prevent nitrate poisoning.

Other Thistles

Musk - *Carduus nutans*

Bull - *Cirsium vulgare*

Scotch - *Onopordum acanthium*

Sowthistle - *Sonchus arvensis ssp.*

Spiny plumeless - *Carduus acanthoides*

All thistles are very edible including these. Train them to eat one kind of thistle, and your cattle will eat them all.

Cocklebur

(*Xanthium strumarium*)

You must wait until this plant has at least 4 leaves before you put your stock in a pasture where it can be grazed. At the two-leafed stage, when very young, it has a toxin that affects the liver. Poisoning can occur when animals eat a large number of the two-leafed stage of the plants or when they eat seeds.

Common Sunflower

(*Helianthus annuus L.*)

Animals have been known to eat some of this plant but it is high in oxalates reducing its palatability. I would teach cows to eat other things first and then let them learn to eat this one on their own.

Curly Dock

(*Rumex crispus*)

Animals have been known to eat some of this plant but it is high in oxalates reducing its palatability. I would teach cows to eat other things first and then let them learn to eat this one on their own.

Field Bindweed

(*Convolvulus arvensis L.*)

High in protein, this plant can accumulate nitrates just as Canada thistle does. Follow the same cautions listed under Canada thistle to be sure your animals are safe grazing this. It's such a tasty plant that Boulder County cows would walk through grass to the next patch of bindweed.

Hoary Cress

(*Cardaria draba*)

Every group of cattle I've worked with LOVES this plant, probably because protein values run from 30% when bolting to 8% in full seed. A Nevada rancher I worked with said that his herd survived one droughty summer thanks to whitetop grazing. He kept it vegetative by grazing it down and then regrazing when it grew back. As a member of the Brassica family, it contains glucosinolates which can cause enlarged thyroids. Fortunately, ruminants are not too prone to thyroid issues unless they eat very large quantities of Brassica plants.

Horse Nettle

(*Lythrum salicaria*)

Cows in Louisiana learned to eat this and they have been eating it for 3 years now with no harmful effects.

Leafy spurge

(*Euphorbia esula*)

It is not true that the latex in this plant causes harm to cattle. This is one of the first plants I trained cattle to eat in Montana. I chose it because I knew of a herd in Nebraska that ate this plant, and I figured if they could do it, I should be able to teach other cattle to eat it. They grazed it in pasture, doing better when their pastures contained more variety. When they only had a little grass and lots of spurge, they didn't graze as much spurge.

Multiflora Rose

(*Rosa multiflora*)

This is another great plant to graze with cattle. Don't worry about the thorns. Cattle don't seem to mind them on this plant, or any other. There are no toxins of concern and it runs about 12-15% protein depending on how much of the woody part the animal eats. When training this plant, clip the softer, more tender, leafy ends of branches. It might take a bit longer to harvest than other weeds, but the end result is worth it. A farmer I worked with in West Virginia is just tickled by how much multiflora rose his cattle eat.

Plantain

(*Plantago major*)

Not only should you teach your cattle to eat this, but you might want to try it out yourself. It is one of the most widely distributed medicinal crops in the world. It's leaves can be used to prevent

infection, reduce pain and facilitate healing of wounds, stings and sores.

Humans prefer to eat the young tender leaves raw and to boil the older leaves in stews. It's high in calcium and vitamins A, C, and K, iron and calcium which is stored in a form readily used by livestock. Plantain also has biologically active compounds that can positively influence rumen function and overall animal health. There is research underway to determine the extent of these effects.

Poison Hemlock

(*Conium maculatum* L.)

The name says it all. Don't teach your livestock to eat this.

Puncturevine

(*Tribulus terrestris* L.)

Do not teach your animals to eat this plant. It causes liver lesions, severe sensitivity to the sun and ends in death.

Quackgrass

(*Elymus repens* L.)

Elymus species are associated with grass tetany. The real problem with this, and with other undesirable grasses, is that it has a limited palatability window.

Russian Knapweed

(*Acroptilon repens*)

Next to Canada thistle, knapweeds are some of my very favorite weeds to train cows to eat. They are the equal of alfalfa in nutritional value, animals take to them quickly, and they eat the heck out of them in pasture. If you graze Spotted and Diffuse before they set seed, they will put out new flowers. But grazing reduces the numbers of

seeds and many are not viable. I have done a report on the best time to graze these to reduce them. Contact me if you are interested.

Teasel

(*Dipsacus spp*)

This one does not appear in my reference books. I would not train animals to eat it until I come up with more information. Until then, I'd rely on animals to try it on their own after learning to eat other plants.

Velvetleaf

(*abutilon theophrasti*)

This plant is a nitrate accumulator and it is unclear whether it contains something else that can cause poisoning. Cases are so rare that researchers have been unable to find a cause or treatment. I would not train my livestock to eat this. If they eat small amounts as part of a wide variety of other forages, I would not be concerned.

Wild Carrot/Queen Anne's Lace

(*Duacus carota*)

This plant is edible **BUT** it looks very similar to poison hemlock. I would not train livestock to eat this plant simply because I would be concerned I would choose the wrong plant and cause harm.

Wild Mustard

(*Sinapis arvensis*)

I trained cows in California to eat several types of wild mustard. They ate it happily. It is similar to Hoary cress in nutritional value.

Don't see your weed here?
Email me your plant's scientific name.

kvoth@livestockforlandscapes.com

I'll check it out for you.

Bonus Training Tips

You don't have to teach cattle to eat every single weed in your pasture.

Choose one, teach them to eat that, and then watch to see what else they start to eat in pasture. If they don't try something that you know is safe for them. Bring a few training tubs out and put them near the weed you'd like them to try. Clip a bit of the weed, put it in the tub, and you're good to go. The cows will remember that the tubs mean "Good Food," they'll eat the weed, and then begin to eat it in pasture. It's easy!



Use your training tubs as a tool to make moving cows to new areas easier.

My trainees know that when they hear my truck horn or see me with tubs it means "Good Food." When I'm all alone and need to call them in from a long distance, I drive my truck to where I'd like them to be, honking along the way. I've also used the car alarm to call them while standing nearer their line of site holding a tub up so they can see. They come running, making it easier for me to work in large pastures by myself.



Working with stockers? Use weed training to acclimate them to their new home.

Even the wildest cattle and bison I've worked with have gentled as part of the short teaching process. They quickly learn to expect that the teacher brings good food and can be trusted.

By teaching your stockers to eat weeds, you'll also be able to use them to manage your pastures, and they'll put on weight thanks to the extra forage you have to offer beyond just grass.



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