

Sprouted Fodder as a Living Food for Backyard Livestock

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Got backyard chickens, ducks, rabbits, or maybe a couple goats? Live, sprouted fodder (livestock feed) ranges from bucket-soaked and rinsed grains fed just as the seeds' growth cycle emerges, to hydroponic tray-grown grains grown up to seven or so green inches tall. Both types are fed to a wide range of livestock. The benefits of feeding sprouts can include heightened health of the animals and their subsequent products such as dairy, eggs and meat. Plus, they can be a year-round source of living food if it's difficult to set up a free-ranging system. For this article, we'll discuss quickly sprouted grains as well as those that grow for a little longer to produce more height and green growth.

Which to Choose - Just-Sprouted or Taller Green Growth?

Both just-sprouted grains and those with longer green growth and thicker root mats are grown hydroponically and usually only with water that's free of additives. The grains already have enough nutrients from the parent plants they were harvested from to produce life for the short time span they're grown before being fed.

The choice of just-sprouted or longer green tray grown sprouts depends partly on whether the livestock are monogastric - animals with one stomach compartment - or ruminant. Ruminants are animals with four stomach compartments, such as cattle, sheep and goats. The choice also depends on the nutritional goals of the owners of the animals. According to Jeff Mattocks, livestock nutritional adviser for The Fertrell Company, "Young sprouts only a couple days old would retain much of their energy value as starch-type carbohydrates. After the germ is popped and the sprout starts growing the stored enzymes start activating, thus changing the digestibility of the grain.

"There are some beliefs that this enzyme conversion reduces the grains stored anti-nutritional factors. The early sprouts would be most suitable for monogastrics - poultry, swine, equine, etc. While the 7-10-day old (tray grown, taller green) sprouts that are much bigger have a higher protein and fiber content with a much lower energy value due to the conversion of stored energy-starch to plant growth. At the larger stage of growth it is much more nutritionally suitable for ruminant feed.

"In the progression each day of the wheat sprouts (for example), the energy - stored carbohydrates - decreases very quickly. Those carbohydrates are very important in the diet of non-ruminants. However, ruminants are able to ferment the fibers and are able to digest the remaining energy."

Many of us with backyard chickens, however, are aware that green grass as a supplement is also part of a healthy poultry flock's diet and it's one of the benefits of free-ranging them on pasture. So a mixture of both types of sprouts could be beneficial to poultry.

Much has been spoken of the value of feeding plants with living, green chlorophyll. This type of food is known to provide something "beyond organic" to grazing and browsing livestock's health including conjugated linoleic acid (CLA) and activator X (or vitamin K2) discovered by Dr. Weston Price which is believed to be present in the products of animals that consume green chlorophyll, usually from living plants. This living substance has been reported to diminish in dried stored hay unless a specific drying method is used to preserve the green. So sprouted green fodder may have something of value to those who would prefer to feed greens year-round but currently have to resort to other dried feeds.

However, for those who choose to grow taller growing grains in trays, Matthew Sampson, founder of Feed Your Farm of Washington State which installs larger scale hydroponic fodder systems to farmers across the country, points out that the white roots that form mats within the trays also hold a key to health benefits. "What producers are looking for," he said, "is not necessarily tall grass, but thick, dense, bright white root mats." Important enzymes and nutrition are actually in the root mass itself, rather than it

just being benign “stuff” that holds up the green growth. “It’s with a thick root mass that the producers get their higher yields. A two-inch to three-inch thick root mass is what we are looking to accomplish.”

Types of Grain for Sprouting

Barley so far is the most popular grain to use for taller sprouted green animal fodder, and even the larger scale dairies often use only barley for their year-round hydroponic sprouting systems. But wheat, oats, alfalfa and other grains and seeds can be sprouted as well.

“We have experimented with sprouting over 20 types of grains to determine their various germination and growth rates,” Sampson said, “and we have worked with researchers from Washington State University and nutritionists from Organic Valley to learn more about the nutritional value of each of these grains as well. From these experiments we have learned that barley sprouts and grows really fast compared to other grains, and barley has more beneficial enzymes and more balanced nutrition compared to most of the other readily available grains. We have also learned that sprouted barley has higher levels of energy than many of the other grains, and this is particularly important for dairy cows and dairy goats that need the energy for milk production. Furthermore, barley seed is simple to grow in many parts of North America, and because there is already a large demand for this grain from the beer brewers, an established market already exists with somewhat stable supply and pricing levels.”

Finding Quality Grain for Sprouting

The best type of grains for sprouting, obviously, have high germination qualities. Grains that have been heat-dried or crimped have proven to have very poor sprouting qualities according to reports of homesteaders who’ve tried sprouting these types of grains. Most of it never sprouts at all, and that which does takes a long time. According to Jeff Mattocks, drying and crimping kills the grains’ germ. For barley in particular, there are certain types that work best. Malting barley seems to work better than seed barley, but some seed barleys that are also clean and high germinating enough do well, also. For finding locally produced grains, a gardener’s county agricultural extension agent or other regional agriculture non-profits may know of regional grain producers that sell in small enough quantities for the backyard livestock owner. Also, local seed and feed stores may have the sprouting seeds growers are looking for in the quantities needed for smaller numbers of animals.

DIY Sprout Production

In general, homemade sprouting systems for young sprouts without tall green growth consists of a bucket for first soaking the grains for several hours, then pouring the soaked grain into another bucket with drain holes drilled in the bottom and halfway up the sides. This soaked grain is rinsed twice a day just until sprouts are seen, at which time it’s fed to the livestock. Harvey Ussery (see below) points out that the rinsing is very important and can help prevent mold from ruining the sprouts.

Here’s a do-it-yourself home sprouting system for those feeding a variety of young non-greened sprouts to livestock. It’s shared by Harvey Ussery, owner of TheModernHomestead.us and author of *The Small-Scale Poultry Flock* (Chelsea Green, 2011).

His method of sprouting both grains and peas (grains take five days to sprout with this method, peas take four) starts with six 5-gallon food grade plastic buckets kept at temperatures above freezing. Two buckets are used as soaking buckets, and the rest are drain/sprout buckets which have dozens of holes drilled in the bottom and half-way up the sides. (Depending on the type of grain intended for sprouting, make sure holes are small enough to where the smallest grains don’t either fall through, or get stuck in the holes and clog the drainage ability.)

1. He starts by fully soaking grains such as wheat, oats and barley in the first soaking bucket.
2. On the second day he pours the soaked grains into one of the drain buckets and thoroughly rinses them. He pours new grains in the original soaking bucket he just emptied. In a second soaking bucket on this day, he pours in peas and covers them with water for soaking.
3. On the third day, the soaked grains from yesterday are poured into an empty drain/sprout bucket. The soaked peas are now poured into the grains from day one. There are now two drain/sprout

buckets with soaked and sprouting grains/peas. They're thoroughly rinsed. Then another batch of grains and another batch of peas are soaked in the two soaking buckets.

4. On day four, the process repeats - with the most recently soaked peas added to the soaked grains from day two.
5. On day five, repeat again. By now, all four drain/sprout buckets have contents.
6. On day six, the most advanced bucket of sprouts is fed to the livestock. That bucket, now emptied, is used to start over as in day one.

If this method seems confusing at first, Ussery suggests assembling six regular drinking cups and "practicing" with them which helps the system make sense.

Very Small-Scale Sprouting for Longer Green Growth

It usually takes about six to ten days to grow grains into the longer green stage for feeding. Time to reach the target height or thickness of the root mat can depend on room temperature and other factors that vary with each person's homemade system. Greenhouses or even indoor rooms with indirect light or regular room lights provide enough light during this short growing period.

1. In general, start by soaking the grains for about eight hours. Some soak for less, some overnight, so experiment in the future if the eight hours doesn't seem optimal.
2. Drain.
3. Spread grains evenly over the bottom of shallow trays with appropriately sized drain holes.
4. Water twice a day - don't drench them but don't let them dry out.
5. Harvest and feed when they've reached the size or age desired for fodder. Smaller livestock like poultry that won't harm the trays can be fed right from the tray if preferred. Or, the greens can be lifted from the trays and fed right along with their root mat.

Some feel that 60 degrees F. is a good temperature for the growth speed they're looking for. Sprouts can grow in both colder and warmer temperatures - up to 75 degrees F. for example, but the warmer temperatures are also more encouraging to mold growth.

People enjoy growing sprouts year-round for human food. And now, even our backyard livestock can enjoy enzyme-rich living sprouts. For those with rabbits or other animals with sensitive digestion, introduce sprouts to the diets slowly, only as a smaller supplement at first along with other familiar feeds, so they can adjust to the new type of feed without overeating an unfamiliar food. As well, know the basic feed requirements of the particular animal species. Some require at least some dry feed while relishing fresh food as a supplement. But when fed properly, most backyard companion animals are very grateful and even healthier for sprouted fodder in their diets.