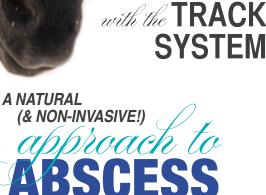
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FEATURE ARTICLE

Challenges and Solutions for Small-Scale Forage Harvest

by Joel Dufour

Hay field cut, raked and baled with walk-behind tractor.

et's say you have 10 +/- acres of land growing decent hay and, with the animals you have, you have a need for it... why buy forage if it's already growing on your land? But your small acreage really doesn't justify the expense of purchasing new haying equipment; after all, the smallest conventional tractor/ baler/ hay rake/ mower combo will cost you over \$40,000 new and buying used is usually buying somebody else's problems. So, maybe you can get a neighboring farmer to come over with his equipment and harvest it for you for a share of the hay, or you'll pay him outright. I will make a guess that many readers of this article are in this (or a similar) situation. From the many folks whom I have known with this set of circumstances, here are some common outcomes:

Everything works out fine. The neighbor comes and cuts the hay at peak food value for your animals, doesn't let it lay in the field too long before baling it, and charges a reasonable price. It's even square baled, so you can easily move the bales by hand. The neighbor won't come and cut yours until their own hay is done and you end up with over-mature, sub-standard forage. It sometimes lies out in the field too long also, because they got busy with something else... and this further depletes the food value.

C You are having a hard time even getting anyone to come over and cut your little acreage; none of the local farmers want to drive their big tractors down the too-busy roads to get to your place.

You can get one farmer to cut and bale it for you, but he leaves you with 1000-pound round bales that you can't even move. You have to break apart the bales and haul loose hay to your animals: Labor-intensive, and a lot of hay ends up getting wasted.

C The farmer who cuts your hay will not take his tractor on the steep/ narrow/ wet areas of your farm; therefore a lot of your hay is going to waste.

If you answered A, you are certainly in the minority. And that minority seems to be getting smaller all the time, with most farmers having fuller schedules, roads being busier, most farm equipment getting larger, and so on. Many small-acreage hay growers have to deal with *more than one* of the challenges listed above. I have even seen some folks give up and say: "Heck, it's just too much trouble... I'll just buy the darn hay!" Of course, for anyone interested in permaculture/ sustainable agriculture/ holistic animal care, etc., this is a real blow, because you'd like to be able to provide *and* control the quality of what your animals eat, if possible. (How do you know what was sprayed on the hay you just bought?)

8 • NATURAL HORSE Magazine – VOLUME 17 ISSUE 1



SO, What are the Options? In the "old days," many farmers had smaller acreages and needed to

harvest forage for small animal herds. Before the days of mechanized farm equipment, this was done by hand, cutting the hay with scythes and either hauling it loose into barns or stacking it in the fields in haystacks. Very labor intensive, but even today, on a small enough acreage, this can be practical if you are willing to devote the time to it. (I will not profess myself an expert on the art of using a scythe or building good haystacks, but I know there are still folks out there doing it. You can check out www.onescytherevolution.com or www.scytheconnection.com for more information.) However, for the landowners out there with limited time on their hands who want a more efficient way to harvest forage on small acreages, we can learn something by looking to a part of the world where small-scale farming has stayed much more the norm - the mountainous countries of Europe. Because of the steep terrain and traditional small farm size, many countries in Europe have invested in producing very small-scale farming equipment... most notably, walkbehind farming equipment.

When you mention "walk-behind equipment" to an American, it usually conjures images of mowers, tillers, etc... not actual *agricultural* equipment, more like lawn and garden equipment. What typically comes to mind is relatively poor-quality stuff, designed with a pretty limited life expectancy. Another thing we've come to associate with walk-behind equipment is a "single-purpose" nature, where each separate machine has its own engine – a maintenance nightmare.





Scratch all that when it comes to European Walk-behind Tractors.

These machines are built with not only the same quality you would expect to find in a full-sized farm tractor, but also with an equally impressive array of implements that operate off one tractor unit. Of the various countries, Italy leads Europe in walk-behind tractor production: They currently produce *16 brands!* Here is a list of some of the implements a typical European walk-behind tractor will operate: plow, harrow, tiller, cultivator, bed former, brush mower, flail mower, lawn mower, disk mower, sickle-bar mower, hay rake/ tedder, hay baler (Yes, a baler, producing 50 lb. round bales at a rate of one per minute!), bale wrapper (for silage), utility/ transport cart, chipper/ shredder, electrical generator, fertilizer spreader, snowblower, dozer/ scraper blade, power sweeper, log splitter, stump grinder, seeder, and the list goes on. Walk-behind tractors are available with gas or diesel engines, and are

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Walk-behind tractor with round hay-baler implement.

built well enough to easily last 30 years with little maintenance... even when operating all the implements necessary for a small farm.

Economics

How much hay do you need to have to justify a walk-behind tractor and haying implements, and how much can you efficiently harvest? I have seen folks with as little as 5 acres of hay, or as much as 20 (especially in areas where the terrain is unsuitable to safely use 4-wheel tractors) investing in walk-behind hay equipment. There is no question that this stuff is an investment: A typical "haymaking package" (walk-behind tractor, sickle-bar mower, hay rake/ tedder and hay baler) will cost about \$17,000; but this is *less than half* of what the smallest 4-wheel equipment would cost. (Note: Of that \$17,000, a bit more than half is the *baler*! Most of the implements are much more reasonably priced.)



Walk-behind tractor with 59-inch sickle-bar mower.

In terms of "payback," here's an example:

Let's say you have 10 acres that produce 2 tons of hay per acre, per year. At 50 lbs. a bale, that's 80 bales per acre x 10 acres = 800 bales per year. If you had to buy that hay in the form of square bales (which in the Eastern U.S. are also around 50 lbs. each), you would probably spend about \$4 a bale, or \$3200 per year. Presto: In less than 6 years, the equipment has paid for itself, PLUS, you have complete control over the quality of your forage crop; you are not at the mercy of someone else's schedule. DOUBLE PLUS, you got exercise while using this equipment (how many times have you heard that "walking is the best form of exercise?").

Coming to a Farm near You!

While it is true that walk-behind tractor dealers are pretty few and far between in North America (owing to the general unawareness that equipment like this even exists), there are some well-established dealers out there who stock products and spare parts, and some will ship equipment right to your door.

So there it is, folks... there *is* real farm equipment out there that makes sense for small farms. For more information, check out: www.earthtools.com, www.bcsamerica.com, www.grillo-america.com \bigotimes



About the author:

Joel was raised on a farm in southern Indiana, where his family ran a small-engine business and an organic vegetable farm. He has been using, repairing, and selling walk-behind tractors for over 30 years. Joel's business, Earth Tools Inc., is currently the largest retail supplier of Walk-behind Tractors and compatible implements in North America. Joel lives with his wife and 2 daughters on a farm North of Frankfort, KY, in an off-grid house he and his wife built.