

Motorized lay-down work carts

“There has got to be a better way” is a thought that has gone through nearly every small farmer’s mind after stooping, squatting or crawling for hours in berry or vegetable rows. An alternative is to use a motorized lay-down work cart that lets you lie face down while you work. Lying down instead of stooping or bending is less tiring and easier on your body. The work cart also holds your harvest container, so it moves along with you. This tip sheet will focus on the Swedish-made Drängen, and on the Finnish-made Crawler (Ryömijä).

How does it work?

Drängen and Crawler each look like a massage table mounted on snowmobile treads or wheels, powered by a small motor. One or more workers lie on padded supports that suspend them over the crop row. Both hands are free to pick, weed, or tend plants while the rest of the body rests comfortably. One person steers and adjusts speed with foot controls. Padded supports and framework can be adjusted to fit individual workers. The frame also adjusts, so you can position both the worker and the tracks or wheels right where you want them.



Finnish worker transplants strawberries on the Crawler.



Peter Seeley of Plymouth, WI, using Drängen to harvest beans.

Benefits:

Less fatigue and discomfort. Prolonged kneeling or stooping to harvest and weed puts vegetable and berry growers in one of the highest risk groups for occupational injuries. If you do these tasks while lying down, you eliminate knee and leg strain and reduce strain on your back and torso. You don’t get tired as quickly and you can comfortably work for a longer time. In a Finnish study of the Crawler, strawberry pickers’ pulse rates were on average 10% lower when working on the lay-down cart than without it. With Drängen, the small motor is behind you so you don’t breathe fumes, and it is quiet enough to listen to a radio or talk as you work. The Crawler is battery powered, which eliminates exhaust and further reduces noise.

Faster. Using a motorized lay-down cart can increase your speed, since both you and the crop you’ve picked move together along the row. Faster harvesting and quicker time to the cooler maintains high crop quality. In our field trials, farmers using Drängen harvested up to 24% faster and weeded up to 23% faster compared to similar work by hand.

Improves profits. Cutting harvest or weeding time can save labor costs. Compared to using a tractorpulled harvest platform you will not need an extra person to drive the tractor. You may also save on medical costs or miss less work due to injury.

**WORK
EFFICIENCY**



Tip Sheet

A series of tip sheets on labor efficiency for vegetable and berry growers.

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Weather protection. You can outfit a lay-down cart with a canopy that shelters you from sun and rain.

Safer. A motorized lay-down tractor with foot controls and hydrostatic transmission is safer than a regular tractor because it cannot spring forward without an operator. There is no PTO (Power Take Off) in which to risk entanglement.

Tips for using carts. Lay-down carts are most efficient when the task at hand is slow, steady and consistent, such as picking beans or de-blossoming strawberries. You need to take time to adjust the machine to your body. A poor fit can give you aches and pains. Some carts drive slowly from field to field, and may be faster to move on a trailer.

Lay-down cart specifications:

Drängen

- Aluminum frame adjusts 3' - 8' wide and clearance adjusts from 12" up.
- Moves on snowmobile-like tracks.
- Worker lies on adjustable pads; steers and propels cart with foot pedals.
- 5.5-13.5 hp gas engine; speed is slow creep to walk.
- Configurations available for 1 to 6 workers.
- Optional weeding brushes, conveyor system, trailing wagon, and seated unit with toolbar for seeders and cultivators.
- Farmers have built canopies, a vacuum salad harvester, and a pressurized water dibble.
- Base price approx. \$6,000, depending on options, exchange rate and shipping costs.

Crawler

- Galvanized steel frame adjusts in width and clearance adjusts from 7.5" up.
- Worker lies on adjustable pads; steers and propels cart with foot pedals.
- 16.5" diameter tires; all-wheel drive.
- 12V electric motor runs 7-12 hrs. on one battery charge; speed goes up to 0.3 mph.
- Optional second worker platform, canopy.
- Injection-molded plastic fenders.
- Base price approx. \$2,600, depending on options, currency exchange rate and shipping costs.

Where can I get one?

You can contact the inventors and manufacturers in Europe as follows:

Drängen: **Mats Andersson**
 MAPRO PROJEKT
 Box 42
 S-747 21 Alunda, Sweden
 tel. 011-46-174-71610
 email: design20@telia.com

Crawler (Ryömijä): **Petri Leinonen**
 Elomestari Ltd.
 Partala
 51900 Juva, Finland
 tel. 011-358-15-452494
 e-mail: petri.leinonen@elomestari.inet.fi

This material was developed by the Healthy Farmers, Healthy Profits Project, whose goal is to find and share work efficiency tips that maintain farmers' health and safety and also increase profits.

For more information, call (608) 252-1054 or visit our website at <http://bse.wisc.edu/hfhp/>



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