

## Electric Tractor Powered By Solar Or AC Outlet

Whether it's charged by its solar panel or an AC outlet, the new Sun Horse electric tractor can do an hour of heavy tillage work or several hours of lighter work before it needs recharging, or it can be used for many hours to power AC tools. Developer Tom Lopez says the Sun Horse is ideal for market gardens or hobby farms such as his 5-acre operation.

"We replaced a 23 hp subcompact with the Sun Horse, and it does everything we need -- tilling, mowing, hauling and more," says Lopez. "Using the AC outlets on it we can trim all day with an electric chainsaw running off the tractor and still have enough power to drive home."

Lopez has been supplying solar-powered farming and gardening equipment since 1995. The Sun Horse Model 4812 takes his solar line to a new level. It has all the features of a standard compact or subcompact tractor, including pto and Category 1 3-pt. hitch. A loader and other attachments are under development.

Lopez combined an 8 hp electric motor from D&D Motor Systems with a hydrostatic wheel drive from Parker Hannifin. The combination gives the Sun Horse a top speed of 6 mph with the torque of a 12 hp gas-powered tractor.

Power is provided by 8, 6-volt, deep cycle

golf cart-style batteries with a plug-in-the-wall recharging system. The 200-watt solar panel with a 2,500-watt power inverter and two 110-volt AC power outlets are available as options.

"The solar panel will produce power whether the tractor is operating or not," says Lopez. "We'll do about 2 hrs. of work in the morning and then let it recharge all day while we do planting and other hand work. Then it's ready for another 2 hrs. of heavy work in the late afternoon."

In addition to the variable speed pto with 400 to 600 rpm's and the 3-pt., Lopez has designed the tractor to handle mid-frame attachments. Weeding, seeding, sweeping and mowing attachments are being field tested this year for introduction in 2012. A front-end loader is planned for 2013.

Standard features include on-board charger with battery status indicator, toolbox under the seat, LED lighting for front and rear, a roll bar and an adjustable seat.

Options for 2011 include a 300-watt sound system, a tool bin mounted behind the seat, mid frame tool hitch and a rear towing hitch.

The base tractor is priced at \$13,500. It sells for \$16,000 with all options. Lopez says state and federal rebates and tax credits should lower the base price to around



Sun Horse electric tractor can do several hours of light work before it needs recharging, or it can be used to power AC tools.

\$10,000.

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## Bale Feeder Designed For Cattle With Horns

"I couldn't find a portable round bale feeder on the market that would work with long-horned cattle, so I built my own," says Bruce Maitland, DeKalb, N.Y.

Maitland keeps 25 Scotch Highland cattle on his farm. Their horns are impressive.

"On most commercial hay feeders the openings are covered by slanted bars to reduce feed waste. Mine has open sides that can be adjusted up or down, depending on the size of the animals and the size of the bales. The feeder's sides can also be slid inward to minimize waste. All adjustments are made using set screws," says Maitland.

"My feeder has reduced hay losses by 80 percent compared to on-the-ground feeding. It can hold up to six 4 by 4-ft. bales so I can load the wagon at weekly intervals, instead of daily."

The feeder is built on a used wagon running gear and measures 16 ft. long by 8 ft. wide. There's room for two rows of 3 bales, which set on a floor made from cross members spaced 30 in. apart.

Each side of the feeder has 2 parallel rails

attached to vertical end pieces. Collars with set screws welded to the top rail allow it to be adjusted up or down.

"I experimented with different size openings and ended up placing the bottom rail 24 in. off the ground, with the top rail 24 in. above that. Anyone with taller cattle or 5-ft. bales may want to add a third rail above to keep the bales upright during transport," says Maitland.

The sides can also be slid inward to provide the cows with better access as they eat the bales. Short lengths of tubing are welded onto the bottom at the front and back and slide into lengths of larger tubing. "If an animal catches its horns on the sides and pulls back, welded-on chains keep the sides from coming all the way out and falling off," says Maitland.

The sides are removable, allowing him to use a loader-mounted spear to load bales in from the side.

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Portable round bale feeder is built on a used wagon running gear and has room for two rows of 3 bales.



Feeder's open sides can be adjusted up or down, depending on the size of the animals and the bales.

## Front-Mount Kit For Compact Tractors

Eliminate twisted neck pain with rear-mounted snowblowers and blades with a front-mount kit from M.K. Martin Enterprise. The kit fits a wide variety of compact and subcompact tractors in the 20 to 30 hp range and smaller.

"Currently we offer a 60-in. snowblower and 60 and 70-in. blades but we have more attachments in the works, including a sweeper," says Keith Martin.

The company makes a broad line of traditional rear-mount or towable farm implements that includes rotary cutters, tool carriers, hay baskets, bale elevators and horse arena and track conditioning equipment. The company also makes gravity boxes, rotary cutters and finish mowers under private label for other companies.

The Martin front-mount pto and 3-pt. hitch add only 155 lbs. to a compact tractor. The

pto requires a 2,000-rpm mid-mount on the tractor. Power is transferred through a 30 hp reduction gearbox.

The 3-pt. hitch offers 1,000 lbs. lift capacity at lift pins. Self-leveling arms and a Category 1 quick hitch make it easy to use.

M.K. Martin offers the kit through dealers with a suggested retail price of \$3,000. The company's SB60 (60-in.) snowblower is priced at \$2,000. The RB60 (60-in.) and RB72 (72-in.) snow blades are priced at \$750 and \$800, respectively.

Contact: FARM SHOW Followup, M.K. Martin Enterprise, 3950 Steffler Rd., Elmira, Ont., Canada N3B 2Z3 (ph 519 664-2752; sales@mkmartin.ca; www.mkmartin.ca).

Front-mount kit fits a wide variety of small tractors and can accept a 60-in. snowblower or 60 and 70-in. blades.

