

Re: Electric Farm Tractors

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I always thought farm tractors should be the most practical place for a battery-powered electric vehicle. They need to be fairly heavy, so the battery pack weight is at worst not a minus, and at best replaces other ballast. They might cover miles and miles going up and down a field plowing or whatever but as the crow flies they don't get that far from home base so range isn't nearly the issue it is for a vehicle used for commuting.

To here you're more or less correct.

Someone else pointed out that I was giving too much credit to heavy – I was assuming that weight was good for traction when pulling heavy equipment and plows.

They don't get used at night very much so the charge cycle could be almost all night, so no quick charging to reduce battery life.

Some do some don't, so we're limiting the perspective market a mite here.

Again, I didn't think that even at the busy seasons things went on 24/7.

Tractors need tons of torque at very low speed, which electric motors

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do
very well, but don't need as much horsepower as a typical small
econobox
car. They don't need very high top speeds which keeps the drivetrain
simpler. Yes, you have all the normal needs for auxiliary power,
like
ac and heat, so it's not perfect. However, you don't have to worry
about aerodynamics, either :-).

Here we have a problem. A typical tractor will be running
200–400 HP and using most of it most of the time. Running equipment
like a hay baler or any other PTO driven equipment alone will use WAY
more power than an econobox. Tractors are very rarely simply driven
around the fields, they are accomplishing something while they are
doing it, that consumes power, great gobs of power. By comparison, an
econobox at cruising speed is using roughly 20 hp, and only uses the
rest of its 60 hp for takeoffs.

Yep, I was thinking in terms of moving, not sitting still and running
other equipment as a power source.

Thanks for the input. I knew there had to be some reason they weren't
already on the market and I think you guys hit the major ones. Hate to
post and run but I have to hit the road for a few days.

Even if a battery pack could only last
for half a day of work, given the rest of the scale of the equipment
on
a medium to large farm it would be practical to just swap in a fresh
battery pack for the afternoon.

You will never see "swappable" battery packs that size, they
make up most of the mass and cost of the vehicle.

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Regards,
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(remove nospm or make the obvious changes before replying)

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