

Building an Electric Bear Fence

Because the only bear you want to come in contact with
your honey is this one:



Prepared by Landi Simone, Master Beekeeper, Gooserock Farm

Do You Need a Bear Fence?

- Just because you have never seen a black bear in your area doesn't mean the bears are not there.
- Black bears have a range of about 50 miles and can smell honey a mile away.
- You should check with the appropriate agency in your area (DEP in NJ, DEC in NY, in PA, etc. on the prevalence of bears in your area if you are unsure. (Don't necessarily rely on another beekeeper. They might tell you they've never seen a bear around there!))

Leaving Your Bees Unprotected is Like Playing Russian Roulette with Them...



Sooner or Later, the Bears Will Pay a Visit



Bears are Smart



We can use this fact to help protect both the bears and our bees.



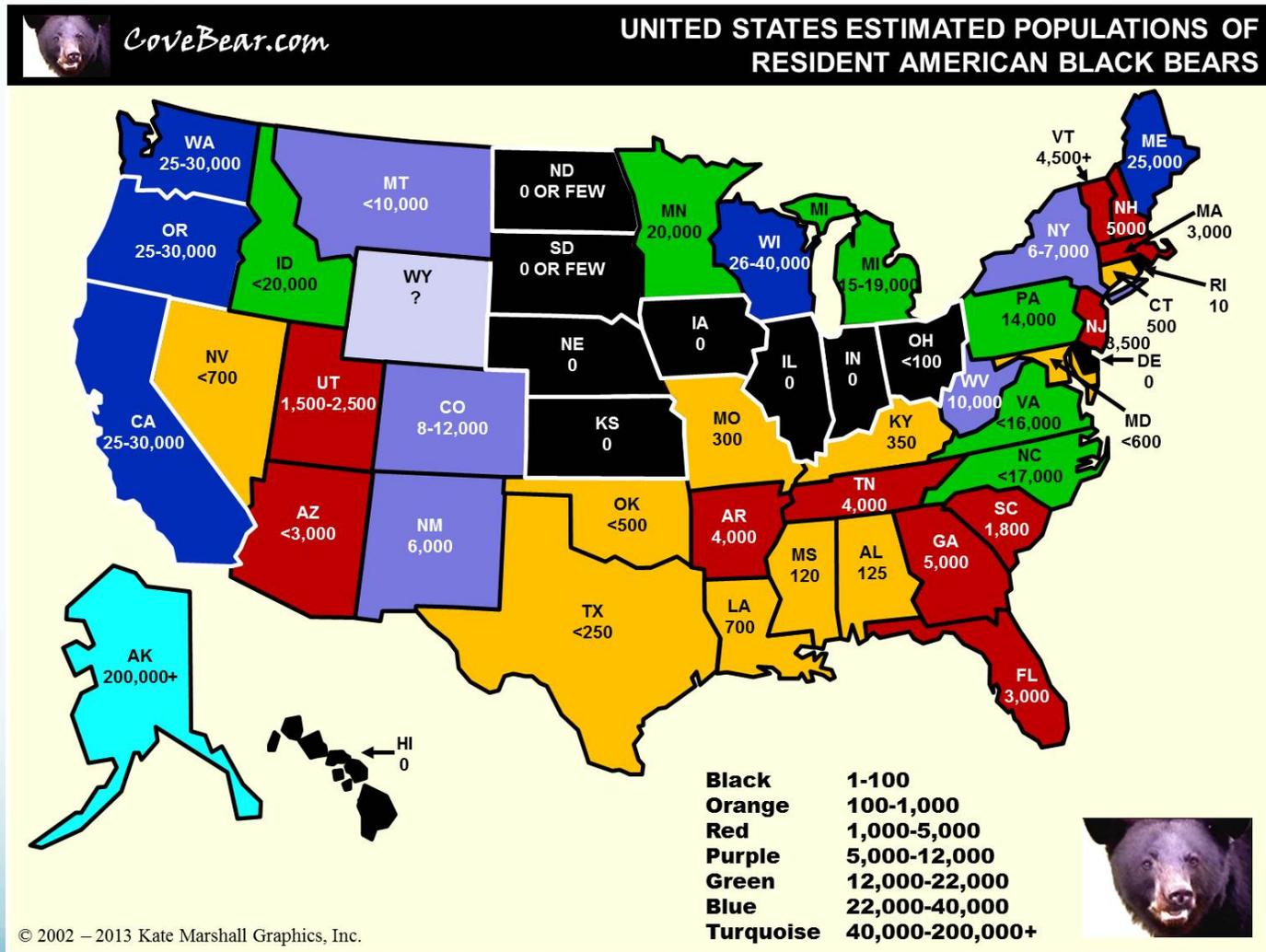
Once the bear has had some of your honey, your problem is much worse.

- If a bear has had a taste of your bees and honey, there's a good chance an electric fence will not be enough to keep him out. The fence is a *training* device.
- You may have to move your bees to a different location.
- The bear has become a problem bear, will likely destroy other beekeepers' bees and equipment, and eventually will probably have to be killed. Whose fault is this? The bear's? Or the beekeeper's who failed to protect his bees?

Let's Not Let this Happen



American Black Bear Distribution in 2013



Credit: www.CoveBear.com and Kate Marshall Graphics

Bear Fencing is Good Sense

- Beekeepers are thrifty but sometimes we can be “penny wise and pound foolish.” A good fence can cost several hundred dollars. How much did you spend on your bees and equipment? One night with a hungry bear can wipe out all your efforts and your hard-earned money. The fence will do its job for years and years to come.
- A well-constructed fence protects your investment in your bees and your equipment.
- It buys you peace of mind, knowing your bees are as safe as you can get them.

Beekeepers and farmers are not the only ones to use electric fences.



How We Build Our Fences

There are many different fence designs, some better than others. This is the one that we use, and it is a design that works.



Step 1: Dig the Post Holes



- 8' Landscape timbers work well
- Dig holes 24 – 30" deep, 7' - 8' on center
- Level posts before backfilling
- Set corner posts in concrete; angle out
- Tamp backfill well in small layers
- Power augers are well worth the rental fee in blisters and chiropractor bills!



A little extra effort now can save a lot of weed-whacking later!



Extend the mulch three feet beyond the fence line to keep weeds down in the area of the wires..

Cultivate a relationship with your friendly local tree guy



Most companies that take down trees are looking for places to get rid of wood chips. Add a little honey to the deal and everybody wins!



Leave a post or two out so
the truck can back in



Wiring the Fence: An Overview

- 15 gauge wire is a good weight to use.
- Use 5 strands, 8 to 10 inches apart.
 - Top, middle and bottom are “hot.”
 - #2 and #4 are “grounds.”
- Wires are held off posts by insulators: line, corner, and gate. All line and gate insulators are put in first. Corner insulators go on as each strand of wire is installed.
- Wires are kept taut by fence strainers that can be periodically tightened.
- Drive an 8’ grounding rod 7’ into the ground.
- Make the gate.
- Put up your fence charger.
- Hook everything up.

Install the insulators: line insulators first

Throw away the nails that come in the bag and use decking screws instead. Mark each post and put up all the line Insulators.



“Locked” insulators on the post by the gate keep the wires from slipping out.



Getting the First Strand of Wire up: Overview

- Measure enough wire to go all around the fence, plus about 6 to 10 feet. Do this by securing one end of the wire to a post by the gate area, and walking around, spooling out wire as you go. Don't let go! Protect your eyes!
- Thread your four corner insulators onto the free end of the wire.
- Walk around the fence, popping the wire into the line insulators as you reach them.
- When you get to a corner post, hammer it in place with U-shaped fence staples.
- When you reach the bay where you plan to put the fence strainers, cut the wire, draw up some slack, and twist the two ends of the cut wire to the two ends of the strainer.
- Keep on popping the wire into the insulators and attaching corner insulators until you reach the point where you started.
- Pull the wire taut and thread it through a gate handle. Screw in an eye screw on the gate post and hook the handle onto it.

Pay out enough wire to go all the way around, plus about 6 feet more



Now thread on your four corner insulators



- Corner insulators are more expensive but will pretty much guarantee you are not going to get a short at a corner post. They make installation and maintenance much easier.
- Be careful not to bend or kink the wire or the insulators won't go on smoothly.
- Thread all four insulators onto the wire you paid out before.

Walk around the fence, popping the wire into the insulators as you go.



Use U-shaped fence staples to attach the corner insulators.



Pick one bay for the strainers, about halfway around. Cut the wire and install the strainer when you reach that bay.



When you reach the gate, put on a handle.



- Put some thought into the best place for your gate.
- If the gate is at a corner, like this one, the corner insulators will wrap around the post. (They're called wrap-around insulators.)
- If the apiary is very large, you might want to make the gate wide enough to drive your truck in.
- The gate handles have springs and a hook. You can use screw eyes to hook the handle on, or even a twisted loop of fence wire, screwed onto the post.

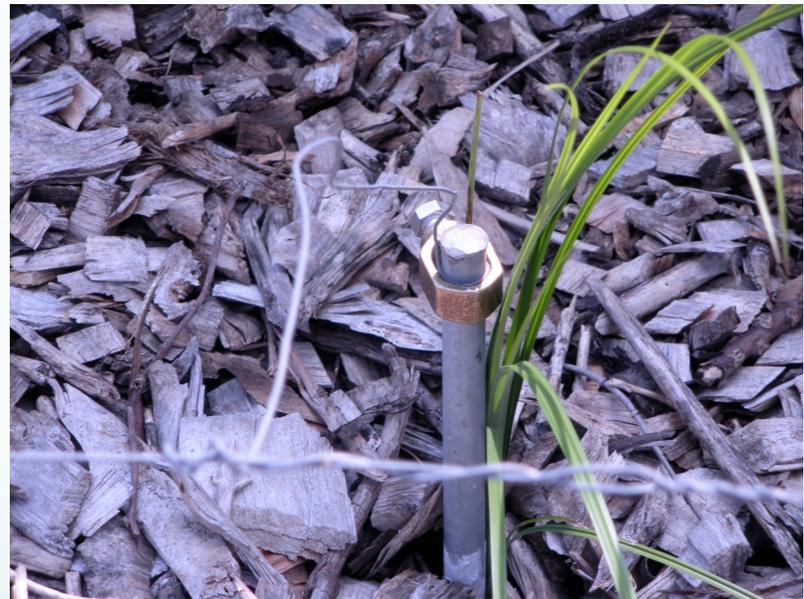
Now for the Fence Charger



- A fence charger, or “fencer” can work on standard current or, for remote yards, be solar powered.
- Solar fencers should face as close to due south as possible. Don’t guess! Use a compass.
- A 6 volt, low-impedance fencer works well. It will charge through weeds touching the fence. It packs a wallop but won’t permanently injure wildlife or domestic animals/kids.

Grounding Rod

- Best is an 8' rod, driven 7' in the ground.
- You cannot dig a hole and backfill. Use a sledge hammer and a ladder.
- A helper to steady the rod while you hammer is very helpful.
- Don't brain your helper!
- A grounding nut like this one is very secure but you can also just twist the wire around the rod several times.



Putting it all Together



The grounding rod can actually be attached to any of the ground wires at any point along the fence. It doesn't have to be right by the fencer.

- With the fencer turned OFF, use a generous strand of wire and attach the end to the hot pole of the fencer.
- Twist the same wire around the top, middle, and bottom wires of the fence, leaving a generous arc of wire between each, all on the same side.
- Then repeat the process on the other side, attaching a new strand to the grounding pole, the #2 and #4 wires, and the grounding rod.

The Finished Wiring



Almost Ready for Bees!



But....we're not done yet!

- Remember that the fence is a *training device!*
- Because of its thick fur, a bear brushing up against the fence will not feel much, if anything.
- YOU MUST CONVINCe THE BEAR TO BITE THE FENCE BY BAITING IT.
- This step is crucial. Failure to bait the fence is probably the greatest cause of fence “failure.”



Bait the center hot wire fall and spring, at a minimum. Bait need not be fresh all the time.

The New Tenants Enjoying their Bear-Proof Digs



Set your hives back a good 4' to avoid this. Big bears have long arms!



And this....



Add extra bait in vulnerable areas like this....



And be prepared for the consequences
When the bear high-tails it out of there!

Bears Can't be Blamed for Everything!



Fence Maintenance

- Bear attacks can happen at any time of the year (including winter!) but most attacks happen in fall. This is when it is especially important that you make sure your fences are working.
- Check all the wires and tighten the strainers.
- Use an inexpensive voltmeter to check the charge on the fence at various points along the line.
- Always look to see that the meter reads “in the green” after you have hooked up the gate and turned the fencer on.
- Inspect insulators regularly and be sure no fallen branches are shorting out your fence.
- Replace rechargeable batteries every two years.

An electric fence is the best way to protect your bees, your equipment, and your honey....unless, of course, you have an alternate plan.



I'm on it, Ma! You want this honey protected? I'm the one to do it. No bears are getting this honey, no way! Any old bear wants this honey, he's going to have to go through me. I'll just scratch his smelly old bear butt and bite his ugly bear toes.

No worries, Ma! I got this covered.

Thank you!