

How to Make Dog Poppers

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The long-awaited comprehensive guide for the cottage industry that's sweeping the nation!

Includes real digital photographs (no imitations), a bit of poetry, and semi-literate features like punctuation, paragraphs, even bulleted lists!

"Outside of a dog, a book is a man's best friend. Inside of a dog, it's too dark to read."
Groucho Marx

You've seen your friends use 'em while cycling, scaring off dogs and permanently keeping them off the road without hurting them at all, and now you, too, want in on the action. No problema, amigo! Read on, and you can make your very own dog poppers at home like I do, and amaze your friends (like I do!).

First of all—in case you're not authorized to read this and don't know what all the excitement is about—a dog popper is a type of firecracker that explodes when thrown against a hard surface. They look like this:



As you can see they're quite small. They're also light as a feather and easy to carry in a jersey pocket. Red paper wraps around an easy-to-crumble, whitish, dry, clay-like core.

How they work: When a dog comes out onto the road when you're cycling by, you let him get to within a few yards and throw the popper straight down on the pavement. BANG! It goes off with a sharp loud snap and scares the dog. *It'll stop him in his tracks* and usually they high-tail it back to their yard, never to come out to hassle you when you ride by again. The noise they make (the popper, not the dog) is similar to a balloon bursting, or maybe almost as loud as a small firearm (like a .22). Here's a picture of one going off on a dog that was particularly problematic:



We never saw this dog again. The farm where he lived can't be found, either, including all of the out-buildings. In this case, an early prototype was used and since then we've dialed back the charge just a tad so that these things don't physically hurt the dog at all. In fact, it's hard to imagine how one could harm a dog with a dog popper, but if somehow that did happen, your risk of liability is very low because you're defending yourself from attack. You have a right to defend yourself against attacking dogs, you know (Iowa Code 351.27).

Dog poppers work immediately (no fuse to light), don't cost much, are very easy to carry, and are **the most effective dog-deterrent out there, BAR NONE!** You don't have to talk with the dog's owner, law enforcement, or the dog itself. You don't need a good aim, can control your bike when you throw it down, and don't have to stop. Just pop 'em and ride on. Dog trained. Job done. Road safe. I've popped at least 80 dogs to date and *almost none* have come back into the road on subsequent rides. Of course, I haven't ridden past *all* of them yet, but I have for quite a few, and so far retention rates are near 100% for at least one year. And they keep the dog off the road for other cyclists, too. I have no way of evaluating that, so no firm claims there. Best guess is that dogs become cautious of all cyclists.

Want to order some and get started? Google "adult snap pops" and follow the search results. Except for the first couple of boxes I bought at a fireworks outlet in Missouri, I've purchased all of mine online.

Note: laws governing fireworks vary state-by-state. Here in Iowa, it's been legal to possess them, but not sell them, so we have to purchase outside Iowa (a new law in 2017 may change that). Also, if fireworks are of a certain size or larger, you need a permit to set them off. These poppers are *not* in that category (in Iowa). The companies that sell them on-line are not in Iowa, so that's how you can get them mailed to you. If you live in another state, the online retailers will know if they can ship them to you or not. As of this writing, a box of 20 costs \$1.99. Shipping will be as much or more than the poppers. If you buy 10 packages to get 200 (more than enough for most cyclists), it'll cost about \$30, including shipping. That works out to 15 cents per pop (assuming they'll all work, which they don't—sometimes there's a dud), and doesn't include the additional small costs to prep them for cycling.

Safety note: as much fun as these things are, they are not children's toys. More like adult toys (as firecrackers typically are). Keep them out of the hands of all children, especially wise-ass adolescents. If you drop one from waist high onto a hard floor/surface, it'll likely go off, so be cautious handling them. Any sufficient force can set them off, including squeezing them in your fingers *real* tightly. Dropping one onto carpeted floor is highly unlikely to detonate it.

Here's what the warning label on a box of these things says:

CAUTION - EXPLOSIVE
USE ONLY UNDER CLOSE ADULT SUPERVISION
FOR OUTDOOR USE ONLY
DO NOT PUT IN MOUTH
THROW ON GROUND
DO NOT THROW AT OTHER PEOPLE

Disclaimer: Anyone using this guide to make these things does so at their own risk. I accept no liability for any injury or damage that may result.

So, you ask: "why do I need to prep dog poppers for cycling if they come ready to use?"

Answer: these cheap things are not at all durable, and will crumble in your jersey pocket after one or two rides. They also must be kept dry or they won't work, so with exposure to sweat, rain, etc. they need to be waterproof.

Our research and development team has spent years and hundreds of thousands of dollars developing the best way to prepare dog poppers for cyclists. It's a work in progress and we're still refining it in our carefully regulated QI process, but after all our work and research, the solution is remarkably simple: coat the dog poppers in beeswax and they'll be waterproof and stand up to the rigors of road cycling.

Why beeswax? Because it has a higher melt-point than paraffin (canning wax). Coating in paraffin works, but on hot days the wax gets soft and mushes around, which can be messy and might actually prevent them from detonating. Beeswax will get a little soft, yet stays firm enough to protect the popper. Besides, it smells better. We tried fingernail polish, but that was messy to apply, requires good ventilation, has a strong chemical odor, and is pretty time-consuming, although the color selection is phenomenal! You can get sparkles and everything, a different color for each day of the week, special colors for certain rides, match the popper color to the dog's color, match it to your own hair color, jersey, etc. But fingernail polish doesn't make a very thick coating, which we've found is useful for greatly increasing the popper's durability. A beeswax popper can go through the wash and come out unharmed and still be effective. That's with air drying. I don't know what would happen if you put it in the dryer. The wax would probably melt enough to make it a permanent part of your jersey. Not recommended. Leaving them in a car on a hot day will probably make a mess, too. Take note.

OK, let's git 'er done! Here's how to prep your poppers, people! (That's the alliteration lucidly alluded to a lot earlier. LOL)

These are the items you'll need (more or less)...

Note: Don't be intimidated by what you (see photo below). This is a highly professional, customized dog popper prep kit. You can prep *your* poppers using some common household items and they'll work just as well as the ones the pros make! Don't be tempted to invest in a lot of expensive equipment that's hyped and marketed by popper prep companies. It's really not necessary. Here's a list, if you're into lists (note it's bulleted, as promised):

- beeswax
- saucepan
- glue
- the actual firecrackers (adult snap pops)
- Scotch tape
- thread
- toothpick (the ones in the picture are new, but used ones are OK, and USDA certified organic if possible)
- scissors



Step 1: get your poppers (as discussed above) and popper prep kit ready.

Step 2: line up them up for gluing.



Placing the poppers on a trough-like surface is not necessary, but will keep them touching together for the next step, gluing. The reasons for using two is that two make a louder pop, and one of 'em might be a dud. When you have a dog chasing you, you really want the popper to go off the first time and not have to fiddle around digging out another one. Moreover, two coated poppers are bigger and are easier to find in your pocket, and to throw. A single popper is pretty small in a gloved cycling hand.

The loudness of a popper is important. The louder the pop (and the closer it goes off near the dog), the greater the effect. Now the question: are two poppers *really* louder than one, or enough louder to warrant the extra expense of using two instead of one? Short answer: yes and yes.

The long answer to this question appeared in a study published in *The American Journal of Canine Deterrence*, Vol 23, No. 4, p 524-573. This study, which took place right here in Iowa (in front of *Nick's Bike and Fitness* in West Burlington), was double-blind (the two

primary researchers couldn't see worth a hoot) and placebo-controlled (the placebo was styrofoam packing peanuts coated in beeswax). It carefully evaluated decibel levels of detonated dog poppers using sophisticated sound measuring equipment and a number of human subjects who appeared as though they were about to commence a bike ride. By detonating a single-charge popper, then a double-charge one, and finally one with a triple-charge, at close intervals, the researchers were able to determine a one-to-one correlation ($p < 0.0001$) between the sound of the popper and the number of charges used. Given the rigorous screening of the human subjects, the statistical reliability of their audiological acuity, and their high credibility ratings (all of them had valid driver's licenses and none were parolees), the study authors concluded that when it comes to dog poppers and loudness of detonation, "...the more the merrier." (op. cit. p 568). For those who are not experienced consumers of scientific research and its specialized vocabulary, the bottom line is this: two poppers are louder than one, three are louder than two. Noticeably so. Beeswax-coated packing peanuts don't work worth a crap, although one of the human subjects—an obvious outlier whose father sells styrofoam packing peanuts—disagreed with this. Duly noted, in the interest of objectivity, transparency, and rigorous scientific research.

I popped my first dogs using just a one-charge popper (with no coating) and it worked really well. So one by itself is loud enough for good effect. I've had duds though, so the back-up strategy of using two has merit. Actually, I now use triple-charge or 4-charge poppers. They're loud and easier to grab and throw. The extra expense of using multiple charges is well worth it. We're preventing serious injuries here, people, all kidding aside.

Step 3: glue the poppers together.



I use Elmer's glue. It takes longer to dry (several hours), but it's cheap and easy to clean up. If you're in a hurry, Super Glue works, and probably model airplane glue. The idea here is that you need to have the poppers stuck together for dipping in wax. Scotch tape might work, but that requires too much manual dexterity for most people's patience, and believe me, you want these things in a hurry because they work so well! Go! Go! GO!

Step 4: attach a thread to each popper.

It might be a little hard to see in the picture below, but while the glue is wet, take about a 6-8" piece of thread (any color) and get one end embedded in the glue, right in the center of the poppers as shown (the toothpick is good for helping with this maneuver). Elmer's glue takes longer to dry so you've got plenty of time to fool around adjusting things. If you're using Super Glue, it's trickier because it's stickier, but quicker. (That's the poetry alluded to in the title. Are you getting your money's worth here or what?)



If you're gluing 3 poppers together, this is the time to place the third one on top of the other two. That configuration works really well. I've prepped 4, 5, or 6-charge poppers together in one large popper, and they work fantastic (really loud)! But then the cost per popper goes up, and they're noticeably bigger in the jersey pocket. Trade-offs. It's all about trade-offs.

Let everything dry before moving on. I usually let the glue dry overnight, but it'll work if it's just several hours.

Step 5: mount the poppers for wax dipping.



The idea is that you're going to take a sauce pan full of melted beeswax and submerge each popper by bringing the pan up to the popper from underneath, so space the poppers out so that it's easy to dip one at a time. I simply tape the thread to my kitchen cabinets with a small piece of Scotch tape.

Step 6: melt the beeswax.

I use a dedicated sauce pan, *put the beeswax in the pan on **LOW** heat*, and wait for it all to melt. This takes awhile, so get this step started and then start mounting the poppers for dipping. There *might* be a risk of the popper exploding if the beeswax is at high temperature, but I don't know about that. The beeswax might start burning before it can get that hot. Since this is an unknown, **use only low heat** which I know from experience is safe.



When the poppers are finally prepped, I let the beeswax cool down in the sauce pan until it's hard, then just leave it in the pan until the next time I need it. That's what I mean by using a dedicated sauce pan. Once you melt the beeswax in the pan, you'll never get it clean again.

Step 7: dip the poppers in the melted wax. This is where your true artisan nature has a chance to come to the fore. The general public doesn't realize it, but proper popper prep is a real craft, mastered by very few, and then only with extensive training and practice. Keep at it, though, and you, too, will be a proud producer of prepped poppers, pronto!

Safety note: if there's any time during this whole popper prep process when you'd consider wearing safety goggles, now is the time to do it. I've never had a popper go off on me during prep, and I don't wear goggles myself (I wear eyeglasses), but dipping them in hot wax is a higher risk moment, and if one went off in the pan it would not only make a tremendous mess, splattering all over your face, etc., it could possibly cause eye injury. Reread the disclaimer above, page 3.



When I bring the pan of wax up underneath the popper to submerge it, I keep the popper in the wax very briefly (no more than 3 seconds, if that), then lower the pan and move over and repeat with the next popper. If you need to stop for some reason, put the pan back on

the burner on low heat. If you don't, the beeswax in the pan will start to cool down and form a skin on the top—like hot milk does when it cools—and this will interfere with the dipping—you'll get an uneven coating. An unevenly coated popper is hard to fix, and much worse, an embarrassment to any self-respecting dog popper prepper. [Tip: if you let the popper cool down to room temp between dippings, each dip will pick up more wax than if you dip while the wax is still warm.]

You will have to dip each popper at least 3 times, probably more. I usually do 7 or 8 times. I like the coating to be thick enough so you almost can't see the red paper of the popper. If you're thinking that the wax might cushion the popper and prevent it from detonating on a hard surface, don't worry about that. They still work fine. I've even set them off on gravel roads (hard-packed dirt, not soft dusty stuff). (BTW: they don't go off in snow). If you get too much wax, though, on a *hot* day it may get soft enough to prevent detonating (that happened to me once). So, yeah, you can get too much coating.

Also, with repeated dippings, you'll get some excess wax solidifying in an icicle-shape on one end of the popper, on the underside. If you don't want this, just pinch it off and toss it back into the sauce pan. [Note: there are various techniques for removing this excess, as lucidly explained at the *National Conference on Preparation of Dog Poppers*, October, 2014, Las Vegas, NV. You can get the PowerPoint presentation online from the *Archives of the International Association of Professional Dog Popper Preppers*. It's free. Or attend a local workshop...those are usually sponsored by the Humane Society and are often free as well.] By removing the excess wax you'll have dog poppers that are aesthetically pleasing and not cause you embarrassment when you show them off to your friends, who will undoubtedly be pestering you about them when they see how professionally you train dogs to not chase cyclists. Think of how proud you'll be when this happens! That's why you want your poppers always looking their very best. So go ahead, pinch and toss. It's good dog popper prep technique, and the peace of mind you'll have in doing proper popper prep will pleasingly prop up your pride.

Step 8: cut the threads. I snip them off as close as possible to the wax while it's still warm and a bit soft, then 'massage' over the exposed thread hole to seal it from the very remote possibility that somehow water may penetrate through. Remember that these things might have to make it through the washing machine because in you're excitement over your new-found mastery of dogs and dog popper prep, you might forget they're in a jersey pocket when it goes in the laundry. We know of at least one instance where this has happened. (Not mentioning any names, and the popper still worked.)



You're done! *Hmmmm, yummeeee!* "Here, doggy doggy, here boy! Come and git it!!"

Instead of dreading dogs on your rides, you'll now gladly anticipate every encounter because each one is a training opportunity that will make the world a safer place! In fact, a Gallop Poll recently reported that cyclists using dog poppers feel *invincible* on the bike! It's true! It's good for the cyclist (decreases risk of injury and damage), good for the dog (doesn't hurt it and keeps it off the road), and good for the owner (decreases his risk of liability for causing an accident and paying a home owner's insurance deductible as part of a settlement). Win, win, win!

I usually carry a couple of these in a jersey pocket on every ride. Here in rural Iowa there are no county leash laws, so dogs are often legally unrestrained. You never know when you'll come across one. On long rides, I may take 3 or 4 poppers (I actually used 8 on a ride once, a personal best). These things work so well you just hate to get caught short and miss a dog-training opportunity! Once you train most of the dogs in your cycling area, don't rest on your laurels. The unrestrained dog population is constantly in flux. You never know when you'll encounter one, so always have a couple with you on rides. And maybe after 2-3 years the dog will forget its training and need a quick refresher course. Be glad to oblige (at no charge to the owner).

In cold weather when you're wearing gloves, it's harder to get a popper out and deploy it on short notice. You have to anticipate where and when a dog might show, and get ready beforehand. There are some esoteric workaround techniques that work in these situations, but are best left to professionals. That's all I'll say about it.

Another workaround (and this hasn't been tried) would be to make a loop using the thread for dipping so the popper becomes a necklace you can wear. When a dog comes out, you could just grab the popper and give a quick tug, which would easily break the thread, leaving the popper in your hand ready to throw. Because cyclists are usually leaning forward as they ride, the popper-necklace would be constantly swaying around, so maybe this wouldn't be so practical an option. If you try it, let me know how it works.

Other safety notes:

1. *Can a popper go off when I don't want it to?* If you held one up in the air and simply dropped it on a hard surface, it can go off. *So be careful* about dropping them.
 2. If it's in your jersey pocket and you fell off your bike onto it, it can go off, but not likely cause any injury. This has happened to me. I had two 3-bangers in my right jersey pocket, hit some ice on a right-hand turn, and went down on my right side. I didn't hear anything, but when I got home, one of the two poppers had detonated tearing a very small hole in my jersey. The other popper was intact.
 3. If you put it in your mouth and bit down hard and fast on it, it might go off, so definitely don't do that! The manufacturer specifically says to not put them in your mouth.
 4. We mentioned to keep *these away from children* for obvious reasons, and repeat that advice again, especially about adolescents.
 5. Will heat set a popper off? Not sure about the heat issue. These things are like gun powder, not dynamite. You don't need a fuse (heat) to set it off. Like gunpowder, a quick compressive force will detonate it. That said, there's certainly a temperature at which the chemical reaction will occur, but probably so high we don't have to consider it for the purposes of cycling.
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Addendum

some more on deterring dogs, if you're interested...

The problem:

A dog comes out onto the road while you're riding by. *That's* the problem.

Forget the dog's motives. Just by being in the road the dog can get in contact with a cyclist and cause a crash. We're talking uncomfortable consequences: road rash, broken bones, lots of pain, torn cycling clothing, damage to the bicycle, plus you might be off the bike for weeks. It ain't fun. Oh, yeah, and it ruins that ride, too. The risk of being bit by the dog is definitely there, but it's not nearly as serious or likely as the risk of crashing. If a dog bites you, you have to report it to law enforcement. This is mandatory, because it's a public health issue (possible rabies). The dog will have to be quarantined. This scenario is guaranteed to get an owner's attention. What they'll eventually do about it is another matter altogether.

How to keep dogs from chasing you when cycling?

The solution: There are two basic approaches: **verbal** and **non-verbal**

Verbal:

You speak with the dog's owner, explain the risks to yourself and to him (he's liable for damage his dog causes), and ask him to restrain his dog. Probability of success: close to zero. Especially if there is no leash law where he lives. And if he doesn't like the idea of people riding bikes on public roads, he'll probably be glad his dog is chasing cyclists.

You call the county sheriff and report the incident. He may or may not contact the owner and discuss the complaint. Will the owner be affected by this? Not likely. The sheriff's deputy will probably get an earful of why people shouldn't be riding their bikes on the road to begin with. The dog will continue running onto the road.

You talk with the dog. Probability of success: near zero, but higher than talking with the owner. He may get scared off if you shout at him. If you stop, he may become suddenly very friendly. But the next time you ride by, the dog is out chasing you again. Problem persists.

Verbal approaches to controlling dogs might even be worse than doing nothing at all, that's how effective they are. My opinion, obviously, but based on experience.

Non-verbal:

There are a lot of things people have tried to ward off dogs that chase cyclists. Here's a partial list, in no particular order of effectiveness:

- ▶ **Squirting with your water bottle.** This technique has the advantage of not costing you any money, because you already have the water bottle for other reasons. Downside: requires a good aim from a moving bike, you use up needed drink (on a hot day this might actually be an issue), or you might not have much fluid in the bottle. Plus you have to invert the bottle so the fluid squirts out, and with a nearly empty bottle, this might not be easy. And the next time you encounter that dog, he may ignore it because it didn't hurt him. Bottom line: this is a good Plan C or D, not reliable. Use it if there's no other option at the time.
- ▶ **Throwing rocks.** Very cheap. You have to find some, and carry them with you, be a good aim from a moving bike. If you miss, it won't deter the dog as it's

- pretty noiseless. This option is Plan C quality, but can work great if you're lucky enough to actually hit the dog.
- ▶ **Sprinting.** Fast. Really fast. A lot of smaller dogs can't run as fast as a good cyclist can sprint. Just hope the dog comes out while you're on a flat or downhill and when you have fresh legs. Uphills, and at the end of a ride when you're tired, will undermine your ability to out-sprint a dog. This is a good Plan B, especially if you can sprint faster than the other cyclists you're riding with. Then it becomes Plan A.
 - ▶ **Using a decoy.** This only works when you're riding with someone else, and preferably with a group that has at least one inexperienced cyclist. When you approach a place where you know a problematic dog will come out, hang back and let the inexperienced guy go first (don't tip him off). When the dog comes out after him, quickly sprint off and leave him behind to deal with the dog. This works especially well when the decoy is riding a recumbent. Dogs love those guys!
 - ▶ **Pepper spray.** Yeah! That should work. Get the dog in the face with that nasty stuff and he'll learn his lesson and never come out again. Good in theory, but try to spray that stuff while you're rolling along on your bike. The wind will blow it around, you'll be taking your eyes off the road trying to aim it at his face, and the probability of actually hitting the dog with any of it is so low it's about as practical as talking with the owner. Plus, you have to carry that canister in a way that makes it readily accessible. That's a bother, too. And we know of at least one dog that did get peppered, but continued to chase cyclists anyway.
 - ▶ **Pepper gel.** Even better than pepper spray! It shoots out a stream of the nasty stuff, and should be easier to use than pepper spray, right? Bottom line: it's as ineffective as pepper spray, plus you have to have a better aim because it's *not* a spray, it's a focused stream. Not quite as affected by wind as the spray, but still affected a lot.
 - ▶ **Bear pepper spray.** This stuff looks like it really could work. It's expensive and comes in a *big* aerosol can, so carrying it along at the ready is a problem. It works just like pepper spray, except it has a noxious odor and stings the nasal and oral mucosa, and eyes. Shoots up to 30 feet! They say it works better on bears than a gun. This is an option for cyclists, if you want to spend the money (\$20/can) and have a good aim from a moving bike. Bottom line: forget it.
 - ▶ **Insect spray.** Similar to bear repellent, much cheaper, doesn't shoot as far, and may cause permanent harm to the dog, not to mention the highly toxic chemicals that might get on your hands. Hard to carry along and requires a good aim from a moving bike. Forget it.
 - ▶ **Boat horn.** These horns are required for small watercraft on public waterways. Big, bulky, but the loud blast of sound will probably scare the dog off. Will it work every time? Hard to say. Might depend on the dog and what he's willing to tolerate.
 - ▶ **Ultrasonic horn.** These devices are made specifically for cyclists and pedestrians to scare off dogs. They make an obnoxious noise at a very high frequency that humans can't hear. Bulky to carry along, and won't work on dogs who are older and hard of hearing. You might have to use it every time you ride by that same dog. Not a satisfactory solution, but might work for some.
 - ▶ **Air gun.** These are a type of handgun that shoot pellets using a CO2 cartridge. Will probably work if you have a good aim from a moving bike, and want to carry a heavy, bulky item around with you all the time. Won't kill the dog, but may injure him. Forget it.
 - ▶ **Handgun.** This can be a permanent solution to a dog problem. Just shoot the dog dead. In Iowa, you have the legal right to kill a dog that's attacking you (Iowa Code chapter 351.27). You have to be a good shot from a moving bike to pull it off, and have a legal permit to use it (which requires money & training). Handguns are heavy, very expensive, and *highly dangerous* to the user and anyone in the area (fellow cyclists, children playing in nearby yards, etc.). Some cyclists have actually considered solving a chronic dog problem this way, but it's

- highly, highly discouraged. Don't do it. Dog poppers are more effective, cheaper, safer, essentially harmless to everyone.
- ▶ **Poisoning.** There are ways to kill a dog by feeding him certain chemicals. Don't do it. The dog is an innocent instrument in this whole problem. Better to tolerate the dog, wait until you get injured by it and bring a claim against the owner, than get arrested for destroying his property. Now that dog popper technology has been developed, this option, along with all others that can hurt a dog, is completely unnecessary.

I claim that *none* of these techniques are reliable or easy for the average cyclist, most are awkward, some require carrying a bulky device, and some are downright dangerous. Anything that requires you to aim it means that your attention will be distracted from your riding, which can cause you to crash, dog or no dog. Anything using sprays will have issues with the wind and aiming. Loud sounds might scare a dog the first time, but he'll usually overcome that the next time you go by and get close to you again, which you don't want. Weapons are impractical (though possibly effective) and dangerous, so completely out of consideration.

Advantages of dog poppers (in no particular order):

- ▶ Cheap (can be made for less than 50 cents each)
- ▶ Light (weigh very little: 8 grams for a coated 3-banger)
- ▶ Easy to carry
- ▶ Easy to deploy with short notice (I can get at one in less than 5 seconds)
- ▶ Doesn't require a good aim
- ▶ Doesn't distract the cyclist from steering the bike like sprays, gels, rocks, and water bottles do
- ▶ Almost completely unaffected by wind
- ▶ Durable (waterproof and strong enough to survive many rides)
- ▶ Cuts out the middleman: the dog's owner. No wasted time talking, no interruption of the ride. No phone calling. No discussions with lawyers.
- ▶ Eliminates need to contact law enforcement
- ▶ Law enforcement gets fewer calls from cyclists
- ▶ Deals directly w/the dog in a fraction of a second. No shouting or screaming needed (but you can throw it in for added psychological effect if so desired).
- ▶ Keeps almost all dogs off the road (so far, anyway), so road is safer for yourself and other cyclists as well
- ▶ Can train more than one dog at a time (i.e., if 2 or 3 come out, will scare off all of them)
- ▶ Doesn't hurt the dog
- ▶ Helps protect the dog by training it to stay off the road
- ▶ Helps the owner by keeping his dog from injuring someone, avoiding subsequent liability costs
- ▶ Protects the cyclist from pain and injury, damage to cycling clothing, damage to bike, and time lost cycling
- ▶ Eliminates the dread, anxiety, and frustration that cyclists have when they encounter dogs

A lot of cyclists never have to deal with dogs. They cycle in areas where leash laws are in effect, and it's just not an issue. But if you encounter dogs while cycling, it can be very frustrating trying to deter them. Dog poppers are a very effective and practical solution to this problem, making cycling a lot more enjoyable. And I bet a lot of pedestrians (including US Postal workers) would find them useful, too.

About the author:

Greg Titus has been an avid road cyclist for over 30 years, mostly in SE Iowa, and in 2011 had his collarbone broken from a collision with a dog who was a chronic chaser (the owner refused to restrain the dog). He has since popped the dog that popped him, to his deep satisfaction. The dog never comes out to chase him anymore. But if it does, he's ready. He credits his father, Kenneth Titus, with the idea of using this type of firecracker to scare off dogs. If these things become marketed, they'll probably be named "Ken-poppers".
