

Tick Repellents – Information you need to know

DEET is an excellent mosquito repellent, but is slightly less effective as a tick repellent.

On the other hand, **Permethrin** is a synthetic **pyrethoid** insecticide that is widely used as an insecticide in both agricultural and home applications. There are pros and cons to using either DEET or Permethrin for personal use.

Permethrin is a spray that is used on clothes only! If ingested permethrin is **toxic** and can cause a variety of neurologic symptoms, and prolonged exposure in rats caused lung **cancer**. It is also highly toxic to aquatic systems and fish. For this reason care must be given to using pyrethroid insecticides on yards that drain to near by aquatic systems. When permethrin is sprayed on clothing, it becomes odorless and can last for several weeks with a single application. Once it is applied most ticks will curl up and fall off if they make contact with the clothing, and the ticks will eventually die if there is prolonged exposure. Care must be given to all insecticides to ensure that they are as safe and effective as they can be without human and ecological side effects. Permethrin is used in over 100 million applications a year in agriculture and home use. But its use as a tick repellent on clothing is a tiny fraction of the amount used world-wide for insect control. The military tested permethrin on soldiers and published a 67 page report of its efficacy and safety.

For domestic use, small amounts of spray are quite effective for most day hikers and campers. Permethrin sprays are best applied to clothing outdoors in well ventilated areas, applied directly on the outside of clothing especially in those areas that are most likely to come in contact with ticks including: shoes, socks, pant legs, belt lines, cuffs, collars and hats. For further protection from ticks and mosquitoes, mosquito sprays containing DEET or less can be applied to bare skin.

Permethrin containing products that are approved for human use are manufactured by Coulston labs, and can be found under labels such as Duranon, Permanone, Repel w/permethrin, and Congo Creek Tick Spray. A 0.5 % veterinary permethrin product can be found in most feed stores and horse supply shops as a horse tick repellent. The veterinary products tend to cost about half the price per ounce as the human-use product.

In a field test that the Minnesota Insect-Borne Disease Education Council did in Jay Cook State Park in Northern Minnesota, they found that the permethrin products out performed the DEET containing tick repellents. A walking shoe was sprayed with Duranon 0.5% permethrin and then three weeks later it was tested against its matching mate that was sprayed with Deep Woods Off 35 % DEET. The

ticks that made contact with the Duranon shoe immediately rolled up and dropped off. The ticks on the soaking wet DEET saturated shoe continued to crawl unimpaired.

NOTE: Permethrin is dangerous – follow the label instructions and use this product with caution. Permethrin residues can transfer from your clothes to your skin, or from clothes to clothes, etc. It is indeed highly effective against ticks – it practically kills them on contact, but that protection comes with a price that your must consider and weigh against the alternative of perhaps being subject to Lyme disease.

To avoid ticks wear light colored clothing. Tuck your pants into your socks. Tuck your shirt into your pants, and wear a hat. Spray your shoes, socks, belt-line, collar, and hat with a repellent. (Ticks like to move upward so tucking clothes in is quite effective). Do a tick check after walking in high-risk areas, and put any clothes that might have live ticks on them into a hot dryer for thirty minutes to kill all insects.

These products do NOT contain **Permethrin** (this information is from a leading consumer protection group).

Product	Active ingredient	Type	Cost/oz.	Overall score	Effectiveness (hr.)		
					Aedes mosquitoes	Culex mosquitoes	Ticks
				0 P F G V6 E 100			
Off Deep Woods For Sportsmen I	deet 98%	pump	\$6.50	92	12.0	13.0	10.1
3M Ultrathon	deet 34%	cream	3.80	72	7.3	9.5	10.6
Off Deep Woods For Sportsmen IV	deet 30%	aerosol	0.70	70	6.4	10.8	9.5
Cutter Unscented Outdoorsman	deet 30%	aerosol	0.80	70	5.4	11.5	13.0
Ben's 30 Wilderness Formula	deet 30%	pump	3.20	67	4.7	11.5	12.0
Repel Sportsman Formula	deet 20%	cream	2.00	55	2.9	9.3	10.6
Repel Sun & Bug Stuff	deet 20% (+ sunscreen)	cream	1.30	54	3.1	7.3	11.3
Repel Plant Based Lemon Eucalyptus	p-menthane-3,8-diol, 26%	pump	1.90	51	3.6	7.8	8.1
Cutter Advanced Sport	picaridin 15%	aerosol	0.90	40	1	4.8	11.5 □
Off Skintastic IV Family Unscented	deet 7%	pump	0.90	33	1	2.4	5.7
Walgreens with Aloe Vera for Family Unscented	deet 7%	pump	0.70	33	1	2.4	5.8
Cutter All Family	deet 7%	pump	0.80	32	1	2.6	4.3
Skin-so-soft Bug Guard Plus IR3535 Unscented Expedition	IR 3535	aerosol	2.50	24	0	10.4	11.5
Cutter Advanced	picaridin 7%	pump	0.80	15	0	2.5	5.3 □
Bite Blocker Outdoor Extreme	botanical	pump	0.40	12	0	2.0	2.2
All Terrain Herbal Armor	botanical	cream	2.00	4	0	0	1.3 □
Natrapel Plus	botanical	aerosol	1.00	4	0	0	0.5 □
bugAway Lymnessa	botanical	pump	1.30	1	0	0	0

□ Does not claim to repel ticks.