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Despite persistent doubts among hikers and campers venturing into bear country, you're better off with an eight-ounce can of bear spray than a gun, according to an analysis of 20 years of data.

Canadian and American researchers announced Wednesday that they found the spray stopped aggressive bear behaviour in 92 per cent of the cases, whether that behaviour was an attack or merely rummaging for food. Guns were effective about 67 per cent of the time.

Brigham Young University bear biologist Thomas Smith , along with Stephen Herrero, bear expert and professor emeritus at the University of Calgary, and their research team report their findings in the April issue of the Journal of Wildlife Management. The researchers analyzed reported bear encounters in Alaska involving 175 people.

"Working in the bear safety arena, I even found a lot of resistance to bear spray among professionals," Smith said in a release. "There was no good, clean data set that demonstrated definitively that it worked, so that's why we did this research."

Shooting accurately during the terrifying split seconds of a grizzly charge is very hard thing to do, Smith pointed out, and his data suggests that it takes an average of four hits to stop a bear.

The research also debunked some myths about bear spray, including the common belief that wind interferes with its accuracy and it can disable the person using it.

The researchers found wind interfered with spray accuracy in five of the 71 incidents studied, although the spray reached the bear in all cases.

Smith used a wind meter to test the speed of the spray as it streams out of the canister. Repeated tests showed an average of 112 kilometres per hour.

In the 71 incidents documented in the study, users reported minor irritation 10 times and near incapacitation twice. There were no reports of the spray malfunctioning.

The average distance at which the bear spray was used was 3.5 metres.

Nearly 70 per cent of the incidents involved grizzlies with most of the remainder involving black bears. The study also documents the first two reported incidents involving polar bears.

Smith believes one of the primary reasons bear spray works is that it gives users a reason to stand their ground. Running is the worst response to an aggressive bear.

Still, the study contain an important caveat about the use of bear spray. Researchers found 11 incidents when the residue of bear spray applied to objects like tents, with the intent to repel bears, backfired and attracted them.