

# Wild Pig Bomb Still Rocking Agriculture

NOVEMBER 30, 2016 08:00 AM

Wild pig control is a daunting task due to year-round breeding. Sows produce two litters per year – six piglets on average.

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One bullet for one boar makes for poor hunting odds. In 1984, on the trail of a tracking receiver in the woods of South Carolina, Jack Mayer caught sight of radio-collared wild pig #20, drew a bead and squeezed the trigger, slamming a 12-gauge rifled slug into the body of a 200-lb. survival machine. The lead ripped through the wild pig's shoulder, bounced up across the neck, and deflected into the lower mandible, severing the jawbone in half.

The pig wheeled around, charged one of Mayer's fellow researchers up a tree, and dashed into deep cover and the relative safety of a lost radio signal. A year later, checking a wild turkey food plot at sunset, Mayer walked up on a large boar gorging on feed corn. He quietly slipped in and fired, dropping the boar in the middle of the plot. A Lazarus beast beneath his feet, **Mayer** had finally killed #20.

The subsequent necropsy revealed the trajectory of Mayer's initial 1984 slug. Incredibly, #20 had entirely healed and gained weight after the shooting. Any other animal with a gaping wound, mangled body tissue and broken jaw would have starved to death, yet #20 had survived and thrived.

The wild pig bomb has detonated, ripping and rooting billion-dollar scars across U.S. farmland every year. The search for a silver bullet has come up empty, and the past 30 years have seen an established wild pig presence balloon from 19 states in 1985 to 39 states in 2016. High-end estimates of 11 million wild pigs make warnings over impending wild pig invasions mostly moot: The porcine beasts have already set up shop. However, with new trapping techniques in hand, and promising control tools on the horizon, the means to halt wild pig advances may soon arrive.

Mayer is currently working on a project for USDA to estimate overall wild pig numbers. He places the U.S. wild pig population at 6.3 million, with an overall possible range of 4 million to 11 million. Prior to 1990, when total population may have been as low as 500,000, wild pigs typically expanded along drainage corridors in the South, but began moving into northern tier states in the 1990s, escaping from commercial fenced shooting operations or intentionally released for hunting purposes. Just a handful of wild pigs set loose on virgin land is akin to pouring water on gremlins. With no effective predators other than humans, wild pigs are permanently on the cusp of a population explosion.

They breed year-round and sows produce two litters per year – six piglets on average, but litters can be as large as 12 piglets. Between 24 to 48 hours before giving birth, sows construct a farrowing nest to provide protection and insulation; newborn piglets are particularly challenged with body temperature regulation. The rooted-out area resembles a giant bird nest, but sows sometimes craft a roof over the top by building a pile of debris and burrowing inside to create a nesting chamber. "We're talking about an animal with exceptional intelligence, easily on par with dogs," Mayer says. "In some cases and exercises, wild pig intelligence matches with chimpanzees."

Sows conceive as early as three months and boars are sexually mature at five months. "These animals can put more little feet on the ground than any other free-ranging mammal in North America their size or larger," describes Mayer, manager of the Environmental Sciences and Biotechnology Group at the **Savannah River National Laboratory** in Aiken, S.C.

Mayer, one of the foremost wild pig experts in the world, has examined 20,000 specimens spanning 43 years of research. When **National Geographic** television producers wanted to examine the carcass of the legendary **Hogzilla**, a massive pig killed in 2004 in Georgia that attracted global attention, they called Mayer. Hogzilla was purported to be over 12' long and weigh over 1,000 lb. "When we dug him up and examined the carcass, he was 8' long and about 800 lb. His tusks and skull were consistent with a pen-raised hog."

The average wild pig age is 1.5 years, with the oldest animals living 8 to 10 years. Sows and litters run together, often in multiple groups, but mature boars tend to be solitary except during breeding. Boars average 200 lb. (but can reach up to 500-600 lb.) and sows average 170 lb. in size. They can run at speeds nearing 30 mph and cross rivers or lakes with ease. (Documented accounts in Europe show wild pigs swimming over 2-mile stretches to access offshore islands on a regular basis.) Movement depends on environment. With water, food, shade and escape cover, they'll remain relatively confined. Northern expansion is limited by hard permafrost due to rooting or forage requirements, and wild pigs can't survive beyond permanent snow cover. Those academic details are no comfort to U.S. farmers: Wild pigs can survive in all the lower 48 states.

An opportunistic omnivore with no peers, wild pigs are tailor-made farmland marauders. Agriculture crops – fruit, leaves or roots – are an open pig trough, particularly in tandem with the irrigation sources many farms provide. They eat 3% to 5% of total body mass daily, and are decidedly herbivorous with 80% of diet composed of vegetation from grass, leaves, fruit and fungi, according to Mayer. Animal material makes up 10% to 15% of diet: larvae, earthworms, amphibians, fish, eggs, and small animals. There is also a 5% ingestion of miscellaneous soil items including dirt, sticks, and inedible garbage. “They consume up to 300 different food types. If it has a calorie in it and wild pigs can get their mouth around it, they'll eat it,” Mayer says.

The same snout which serves as a porcine front-end loader is also highly sensitive to smell, picking up scents from five to seven miles away, according to Mayer: “A grain crop ripens and pigs show up from all directions. It's not just surface smells. We've got documentation showing scent detection at up to 25' below the surface.” Their ability to root and tear up ground is phenomenal. A pasture hit overnight can appear to have been cluster-bombed, with knee-deep holes pocking a field. Phenomenal diggers, an hourglass nasal bone floats in cartilage to provide backing for the nasal pad, enabling wild pigs to lean in when rooting with amazingly strong neck muscles. “They can use the snout to literally open cracks in concrete,” Mayer describes.

Achilles' heel?

Can the march of a beast with no Achilles' heel be stopped? Dale Nolte is the national coordinator for the **National Feral Swine Damage Management Program** (NFSDMP) and leads the USDA's nationwide effort to reduce the impact of wild pigs. The survival of wild pig populations necessarily means a persistent bleed on farm profits. Nolte believes damage inflicted by wild pigs across the U.S. economy may be as high as \$2.5 billion per year, with roughly \$1 billion of the total exclusive to agriculture.

Congress provided funding to NFSDMP in 2014, with the overall objective to minimize damage inflicted by feral swine. In states where feral swine are emerging or populations are low, USDA is cooperating with local and state agencies to implement strategies to eliminate them. “We believe feral swine have been removed from six states,” Nolte says, “but we need to continue monitoring efforts to detect any that may have been missed or reintroduced.”

Trapping technologies are gaining in efficiency and USDA is developing contraceptive and reproductive inhibitors, along with sodium nitrite as a toxicant. Pending EPA registration, Nolte expects an oral toxicant might be available within four years.

Sledgehammer

As a supervisory research wildlife biologist with USDA's **National Wildlife Research Center** (NWRC), Kurt VerCauteren advocates for a sledgehammer approach to wild pig eradication. “A landowner needs to hit hard against wild pigs. Traps are consistently improving with remote technology,” he says.

Aerial gunning studies point toward the efficacy of a consecutive three-day hunt to wear down a wild pig population and usher in a long phase of rebuilding, VerCauteren notes. Single day hunts, spaced throughout the year, allow time for pig numbers to bounce back rapidly. VerCauteren suggests a multi-pronged control strategy, with all methods in complement.

VerCauteren serves as head of NWRC's Feral Swine Research Project, and his research team is conducting pen studies to test the efficacy and safety of sodium nitrite. He has submitted an application package to EPA,

and following field studies, projects licensing for an oral toxicant by 2020. Further on the horizon, VerCauteren hopes to deliver oral contraceptives in pig-specific feeders.

NWRC typically works with universities, research institutions, counties and states to boost wildlife populations, but regarding wild pigs, the effort is a near reversal. Experts in physiology, biology, ecology, control, baiting, and economic modeling are teaming with chemists and registration specialists for EPA in an unprecedented multi-disciplinary approach to wild pig control. “We’re on the front end of this effort and have weapons in hand,” VerCauteren says. “In our generation, we’re going to control them where they aren’t established. In states with heavy wild pig populations, we want to at least decrease the financial cost of their presence.”

“In the past, little attention was paid to feral swine,” Nolte adds. “Now we’ve got a major problem from Florida to Canada and most states want them gone or to at least reduce the damages.”

The cost of wild pig damage to the agriculture industry is staggeringly high, but Mayer warns the impact could be far greater. When a rogue group of hunters loads up a trailer of wild pigs for clandestine transport, the risks go well beyond damage to crop rows. “If we had a foreign animal disease outbreak that got into wild pig populations and then into our livestock, the cost could potentially reach into the hundreds of billions of dollars,” he says.

Control efforts require a pace to match prolific breeding, and 50 percent to 75 percent of a pig population must be killed each year to keep population numbers in check – an extremely tough task for any afflicted state. Even if a toxicant arrives by 2020 and an oral contraceptive follows on its heels, Mayer remains uncertain about wild pig population projections.

Wild pigs have become part and parcel of the agriculture equation, a financial drain with no signs of abatement. “We have a problem in this country and I don’t know what the answer is,” Mayer says, “but we’ve got to stem the tide and no single tool will work alone. There is no silver pig bullet.”