

Fire ants slack off to avoid traffic jams

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PORTLAND, OREGON—Red imported fire ants (*Solenopsis invicta*) are a scourge of the American South, parts of Australia, and even China, causing billions of dollars of damage annually to crops, livestock, and human health. The ants owe their success to large, efficient colonies, sometimes hundreds of thousands of workers strong. But researchers have discovered that of these many, only a select few ants do the heavy lifting, digging out underground nests and extending narrow foraging tunnels for hundreds of meters. Why don't the rest pitch in? To find out, a team of biologists worked together with engineers and biomechanics experts to build small, inexpensive "digging robots" from off-the-shelf parts. In one experiment, they programmed the autonomous machines to work continuously, and in another experiment, they programmed just a few to do the digging at any one time. When the work was shared equally, [the robots often got into traffic jams](#) as they tried to remove artificial soil particles, the team reports today here at the annual meeting of the Society of Integrative and Comparative Biology. But when just a few robots did the work, their excavation rates went up 35% with half the effort. The results could not only help [solve the mystery of other lazy ants](#), but—as scientists [build more systems with multiple, cooperating robots](#)—they could also help get more work from these machines.

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