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Cover: Robotics engineers have developed a novel device called the "magic wrist," with which scientists can steer the stylus-like tip of a scanning tunneling microscope (STM) over an atomic landscape while "feeling" the landscape's topography. Shown here is a color-coded STM image of a gold surface, depicting the bumps and valleys felt through the magic wrist. (Image: Hollis/IBM)

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Letters

Mosquito manipulation

In the Florida experiments with *Anopheles* mosquitoes ("The Swat Team," SN: 2/3/90, p.72), release of sterilized males did not work well because the normal females rejected them. But perhaps the release of sterilized females would do the trick, based on the theory that males will mate with "anything" resembling a female.

*D. Malkin
Los Angeles, Calif.*

Rick Weiss' article on the prospects of altering genes of vector mosquitoes may be too pessimistic about "altering natural insect populations." I'm surprised he didn't mention the highly successful program carried out by the U.S. Department of Agriculture in the early 1960s to exterminate the screwworm fly (*Cochliomyia hominivorax*). The screwworm fly larva had long been a dangerous pest of

livestock in large regions across the southernmost United States and in areas of Mexico. Newly dropped calves were especially vulnerable, since range cattle could not be inspected and treated on a daily basis.

The USDA made no attempt to segregate the flies by sex; all the flies were irradiated as they came from the laboratory hatcheries. Both the sterile males and females were released in enormous numbers into the affected areas, over and over again, using a special fleet of light aircraft.

One of the most difficult problems in getting the program started was to persuade the cattlemen to give up their hardscrabble dollars to help pay for such an "illogical" scheme. But the statisticians insisted it would work — and work it did.

There were sporadic reinfestations for several years, of course, but these were readily quelled by intensive treatment of the affected local areas. The detestable screwworms, which had killed the new calves by entering

their umbilical wounds and consuming their living flesh, were no more.

One interesting sidelight: Ranchers, hunters and others who frequented the woods and brushlands the year after the program began reported seeing unusually large percentages of whitetail does accompanied by fawns — twin fawns. Most people had supposed that deer twins were something of a rarity, when in fact they are the norm in screwworm-free populations. Here was a large operation, undertaken purely for economic benefit, with a "fallout" promoting the propagation of wildlife.

*Thomas A. Smith
San Antonio, Tex.*

CORRECTION

In "Seeding the Universe" (SN: 3/24/90, p.184), the image labeled "Observation" on page 186 should have been credited to de Lapparent, Geller & Huchra.

APRIL 7, 1990

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