

# BusinessWeek

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## Developments to Watch

EDITED BY NEIL GROSS

### A PIGSTY THAT DOESN'T STINK LIKE ONE

THERE'S SOMETHING MISSING at Keith Barefoot's 8,000-head hog farm near Raleigh, N. C.: the stench. "Our neighbors have to go somewhere else to learn what a hog farm smells like," he says. Why? Barefoot is one of a handful



of farmers who have installed an innovative animal-waste-control system from Denver-based Bion Environmental Technologies Inc. Traditionally, pig and dairy farmers have pumped manure into sewage lagoons and sprayed nutrient-laden wastewater onto fields as fertilizer. But those methods not only smell awful, they have polluted nearby streams and rivers.

The Bion system tackles these problems by first flushing manure from barns with

water infused with high levels of bacteria. The bacteria bind with the smelly compounds, shutting off the odor, explains Bion co-founder Jere Northrop. The microbes rapidly begin breaking down the waste in an initial pond, dubbed a bioreactor. The waste is then pumped into another pond, which fills up with solids over a period of 4 to 12 months. Those solids create an odorless, soil-like fertilizer.

Finally, excess bacteria-laden liquid continues on to a third pond, which then is used to flush out the barns again, completing the cycle. "I have been amazed," says Evan Jones, emeritus professor of animal science and biochemistry at North Carolina State University in Raleigh, who has looked at the system. "It is an awfully good solution."

Scientists and engineers are tackling the problem from the other end as well. Pioneer Hi-Bred International is developing feed corn that would produce less polluting manure. And biologists are working on genetically engineered pigs that would do the same. *John Carey*