In the following essay, Jackie Goldenberg makes a case for the genetically modified pig known as the Enviropig. She emphasizes the environmental and economic advantages and dismisses concerns that GMOs are unnatural.

The Advantages of the Enviropig

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The Enviropig is a breed of Yorkshire pigs that researchers developed at the University of Guelph. This genetically modified organism is safer for the environment and has a financial benefit for farmers. “Pigs fed on a diet of corn or wheat are unable to absorb a form of phosphorus that these cereals contain. Therefore farmers add phosphorus to their diet. This adds to the cost of pig production and makes the manure the pigs produce very high in phosphorus” (Mason and Singer [207-215]). Phosphorus is dangerous to the environment but vital to the life of a pig. The Enviropig has been genetically modified so it can absorb the phosphorus in corn. Therefore, by all indications, the Enviropig resolves the environmental hazard caused by phosphorus, and eliminates the costly diet supplement unmodified pigs require.

The Enviropig utilizes plant phosphorus more efficiently than the ordinary unmodified pig. Currently, there is a build up of phosphorus in the soil when manure from ordinary pigs is spread on land in areas of swine production. During heavy rains, the phosphorus from the manure runs off into ponds, streams, and rivers. Although some amount of phosphorus is essential in bodies of water to support a natural level of algae, too much phosphorus can produce an algal bloom that results in a reduction of oxygen in the water. Reduced oxygen leads to the death of fish and other aquatic life. Also, with a

high amount of phosphorus in the water, toxins are produced which makes the water undrinkable. Because the Enviropig excretes a smaller amount of phosphorus, there is less opportunity for pollution in water sources. “The phosphorus content of the manure will be reduced by 60 to 80 per cent, which will allow manure to be spread on land at the same or greater rate than before and still meet stringent nutrient management requirements” ("Enviropig").

The Enviropig has a financial benefit for farmers. An unmodified pig requires phosphorus in their diets because they need minerals for skeletal growth. Farmers put supplemental phosphorus in an unmodified pig’s diet because pigs are unable to absorb the phosphorus that is naturally presented in their food. However, the cost of these supplements is rapidly increasing. For example, Mon-Dicalcium Phosphate, (one of the supplements) has increased from approximately $200 per ton to $900 per ton in the past few years. This drastic rise in cost is forcing farmers to find more cost effective solutions. One of the reasons phosphorus has risen in cost is because of the high demand for corn. “Of 10,000 items in a typical grocery store, at least 2,500 use corn in some form during production or processing“(MacLean). Corn production requires twice the amount of phosphorus than soybeans and wheat. Due to the high demand for corn and other crops, pigs have less of a supply of supplemental food; therefore, prices have increased for phosphorus (Baker and Augspurger). Thus, the wide spread use of the Enviropig could lower the cost of phosphorus. Also, in less developed countries that require pigs and crop production for survival but cannot afford to purify their water after it has been contaminated from excess Phosphorus, the Eviropig would offer a significant cost advantage because they would not have to purchase supplemental phosphorus for a pig’s

diet.

Some critics of GMOs believe that it is not “right” to change the genetic structure of organisms. The reasonable answer to this claim is that for the past 10 thousand years, we have been modifying the plants and animals we use for food. Agriculture is not natural. Realistically, there is no way society could support the 6.8 billion people who live on earth without selectively bred organisms. Therefore, although some may believe that GMOs are “unnatural,” they are just the result of our continued efforts to create more productive plant and animal food sources.

The Enviropig effectively reduces toxins in water. It also has a huge effect on protecting the environment by regulating the amount of phosphorus in manure and significantly reduces farming costs. The benefits outweigh the harms.

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