



Saving Children's Lives by
Cleaning Up Pollution

Project Completion Report

Short title: Fighting radioactive contamination in the food supply in Bryansk, Russia

Short problem: Chernobyl fallout contaminated milk & dairy products for decades

Short solution: Chemical treatment reduces food radioactivity levels by over 90%

Quote: Chernobyl. Because no pollution problem is too big for Blacksmith to fight!

Project Name: Reduction of radioactive health risk for the population of Bryansk region

ID#:

Location: Bryansk region, Russia

Start Date: June 26, 2005 **End Date:** October 6, 2006

Cost – Blacksmith: \$12,000
Others: -

Implementation Partner: Veterinary Radiological Laboratory of Bryansk, FGU "Brjanskvetradiologija"

PROBLEM:

One of the most infamous symbols of life-threatening pollution is the Chernobyl reactor, which suffered a meltdown in April 1986. To this day, the settlements closest to the reactor site remain depopulated ghost towns; however, the explosion sent a radioactive cloud over most of Europe, and many regions received a fallout level that, while not quite serious enough to require permanent evacuation, is still more than enough to blight local ecosystems and human communities with radiation poisoning.

110 miles away, in the region of Bryansk, nearly 2 million acres received a heavy dose of radioactive pollution, primarily Cesium-137. Hundreds of thousands of people still inhabit this largely agricultural area, and the greatest danger they face is the ingestion of radioactive particles (or radionuclides) that have accumulated in the meat, fat, and milk of local cattle, as well as the produce from local farms and gardens. In some provinces over 20% of all dairy milk is dangerously contaminated. Children receive the highest doses of cesium, as they tend to ingest more dairy products than adults and their still-growing bones absorb more pollutants from their food.

SOLUTION:

Special chemicals known as sorbents bond to radioactive particles and remove them from an organic substrate (such as milk and meat). The sorbent mixture known as “Bifezh” is particularly suited for preventing radioactive cesium from being transported further up the food chain. With enough of these sorbents, food in the Bryansk region can be rehabilitated and rendered safe for consumption again.

OUTCOME:

Blacksmith collaborated with a local partner, the Veterinary Laboratory of Bryansk, to procure chemical sorbents and use them for food rehabilitation and safety treatment in six badly polluted districts of Bryansk. Beginning in September 2005, the groups used 1.5 tons of Bifezh sorbent mix in food rehabilitation, enough to clean 350 tons of milk. Radioactivity levels in the treated milk decreased by over 90%, to levels that were safe for human consumption—thus significantly helping to reduce the body burden of Cs-137 in locals.

FOLLOW-UP:

With the food rehabilitation technique a proven success, what remains is to repeat the project on a larger scale. Blacksmith estimates that with a steady annual supply of about 20 tons of sorbents, it could purify over 5,000 tons of milk and 1,500 tons of meat annually.

- **Additional Resources:**

www.chernobyl.info