



BIOPAQ®ICX and THIOPAQ®-Sustainable
Biotechnical Solutions for Food Industry

Lamb Weston
Jining, China



The Challenge

Frozen French fries production involves potato washing, peeling, slicing, frying, equipment washing etc. These processes generate a lot of solid wastes such as sand, clay, potato starch, palm oil and peel waste etc., resulting in potato wastewater with high TCOD and TSS. At the same time, the fluctuating wastewater discharge is also a big challenge to the treatment system.

The Solution

After pre-treatment, the wastewater enters the high efficiency anaerobic BIOPAQ®ICX reactor, which continuously and stably removes more than 85% of COD, and then enters the subsequent aerobic biochemical and tertiary treatment system to remove the remaining COD and TSS to meet the discharge standard. The BIOPAQ®ICX reactor generates biogas, a green energy source, while removing COD. The biogas contains 5,000~10,000 ppm hydrogen sulfide, which is then reduced to less than 50 ppm by THIOPAQ® Bio-Desulfurization Reactor, and then goes to the boiler as a supplemental natural gas energy to produce steam for the production of the plant, thus helping the company to realize a circular economy.

The Benefits

- The robust system is able to deal with high load vibration. Continuous and stable effluent meets the local EPB standard;
- Automated control of the system, reducing labor costs;
- Green energy from biogas: generating benefits of producing about 40 tons of steam per day;
- Produce anaerobic granular sludge which is additional benefits for customers.

Process

BIOPAQ®ICX
THIOPAQ®

Facts and Figures

- The COD removal rate of the BIOPAQ®ICX reactor is consistently higher than 85% and even reaches 95%;
- Biogas with a hydrogen sulfide concentration of 5,000 to 10,000 ppm, after THIOPAQ®, hydrogen sulfide is reduced to less than 50 ppm, and even undetectable in good operating conditions.

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Lamb Weston is a leading supplier of frozen potato, sweet potato, appetizer and vegetable products to restaurants and retailers around the world. For more than 70 years, Lamb Weston has led the frozen potato industry in innovation, introducing inventive products for customers. Lamb Weston products can be found in more than 100 countries around the world. The business is headquartered in Eagle, Idaho, with manufacturing operations focused in the Pacific Northwest, primarily in the world's best potato-growing region, the Columbia River Basin. Lamb Weston employs more than 10,000 people around the world in sales offices, manufacturing plants and corporate offices.

