INTERNATIONAL PROTEIN - USA

2516 CONE DRIVE, BIRMINGHAM, ALABAMA

Executive Summary

JANUARY 5, 2023

The meat industry in the United States has an issue with the disposal of wastewater solids that are created with the operation of its dissolved air flotation units.

The DAF units are being utilized at poultry processing kill facilities to pre-treat their processing water prior to its discharge.

These solids, referred to as SPN, are considered waste. The SPN waste is then transferred to a third party, who then land-applies the waste at a considerable cost. This is done at each plant. It also creates a potential liability risk for the poultry processing facility.

The industry has yet to find a solution to the SPN issue. It appears that the disposal cost is simply considered as a cost of operations, like gas and power. Most poultry processing plants are currently paying big fees to a third party who then mostly applies the SPN sludge to farms as a fertilizer. This SPN sludge has valuable nutrients [fats and proteins].

By using our ABVRS nutrient recovery system, the plant is able to eliminate the cost paid to the third party. Also, our ABVRS system allows the plant to recover all the nutrients and produce a dehydrated poultry meal that can be fed to the young chickens.

There is also the liability issue of paying a third party to dispose of the SPN sludge. There are multiple news articles documenting huge lawsuits and fines that the industry has suffered due to groundwater and surface water contamination.

Our attention is focused on the poultry industry. We will offer the following information, which will lay out a potential solution to the current issues associated with the disposal of SPN waste. The solution would involve installing our patented ABVRS [Agricultural By-product Value Recovery System] dehydrated nutrient recovery process and technology at each plant.

Top 10 poultry processing facilities in the United States:

1 - Tyson Foods
2 - Pilgrim's Pride
3 - Sanderson Farms
4 - Perdue Farms
5 - Wayne Farms
6 - Mountaire Farms
7 - Koch Foods
8 - Foster Farms
9 - House of Raeford Farms
10 - Butterball

As stated by the U.S. Poultry & Egg Association, these and other companies like them operate hundreds of what are referred to as "kill facilities" in the United States.

As an example, one of the largest poultry processors has at a minimum 25 kill facilities that produce an average of 600,000 pounds of SPN per week at each plant. On a zero-moisture dry basis, the SPN has approximately 60% fat and 23% protein by analysis. The SPN averages 30% solids and 70% moisture, meaning that weekly, they are land-applying 180,000 pounds of solids containing 108,000 pounds of fat and 41,400 pounds of protein. This also means they are land-applying 420,000 pounds (50,359 Gallons) of untreated process water per week.

The nutrients in the SPN, if handled properly, have a value added back into the feed that is produced at their feed mills.

In the example of the processor used above, they produce 108,000 pounds of fat per week times 52 weeks equaling 5,616,000 pounds per year and 41,400 pounds of protein per week times 52 weeks equaling 2,152,800 pounds per year, as well as 420,000 pounds (50,359 Gallons) of water per week times 52 equaling 21,840,000 pounds (2,618,668 Gallons) of untreated process water per year.

25 facilities which are all currently land applying the 5,616,000 pounds of fat which equals 140,400,000 pounds of fat per year and 2,152,800 pounds of protein times 25 equals 52,820,000 pounds per year of protein and 25 times (2,618,668 Gallons) of process water equals (65,466,700 Gallons) of water per year, all of which is being land applied at a considerable cost.

Today's market for poultry fat is $.53 per pound.

The 23% protein that is captured in the process has the same value as the protein in the soybean meal. Soybean meal sells for $500.00 per US ton. The 47% contained protein in the soybean meal would equate to a price of $10.63 per unit of protein. The SPN averages 23% protein. So, 23 units times $10.63 per unit equals $244.49 per ton or .1222 cents per pound.

Fat Recovery
140,400,000 pounds times .53 cents per pound equals $74,412,000 in recovered fat value.

Protein Recovery
52,820,000 pounds times.1222 cents per pound equals $6,454,604 in recovered protein value.

The total recovery value for these nutrients based on this scenario is $80,866,000 per year. As previously stated, most of these facilities pay a third party to dispose of the SPN sludge. The third party then land-applies the SPN as a fertilizer.

By using our patented ABVRS nutrient recovery system, these usable nutrients can be recovered in an environmentally safe manner to produce valuable usable feed ingredients for the chickens. This eliminates the cost of paying a third party to dispose of the SPN sludge. Our ABVRS nutrient recovery system creates absolutely no wastewater and emits clean steam into the air.

There is a fish processing plant in Illinois that utilizes our ABVRS nutrient recovery system, which was issued a lifetime permit from the Illinois EPA for the last 10 years. This plant produces a high-protein fish meal and omega-3 fish oil that is sold to the pet food and catfish feed mill industries in the United States.

In most cases, these poultry processing companies operate feed mills alongside their kill facilities. These mills are formulating feeds to feed their birds that require the same nutrients that are in the SPN (fat and protein).

With our ABVRS process and technology, we are able to mix and process the SPN with their soybean meal and produce highly digestible food for the chickens. University feeding trials have been conducted, and the results back up this claim.

Our challenge is to get this information into the right individual's hands, so that the poultry processing industry can utilize our solution to solve the SPN issues that are currently plaguing the poultry processing industry.