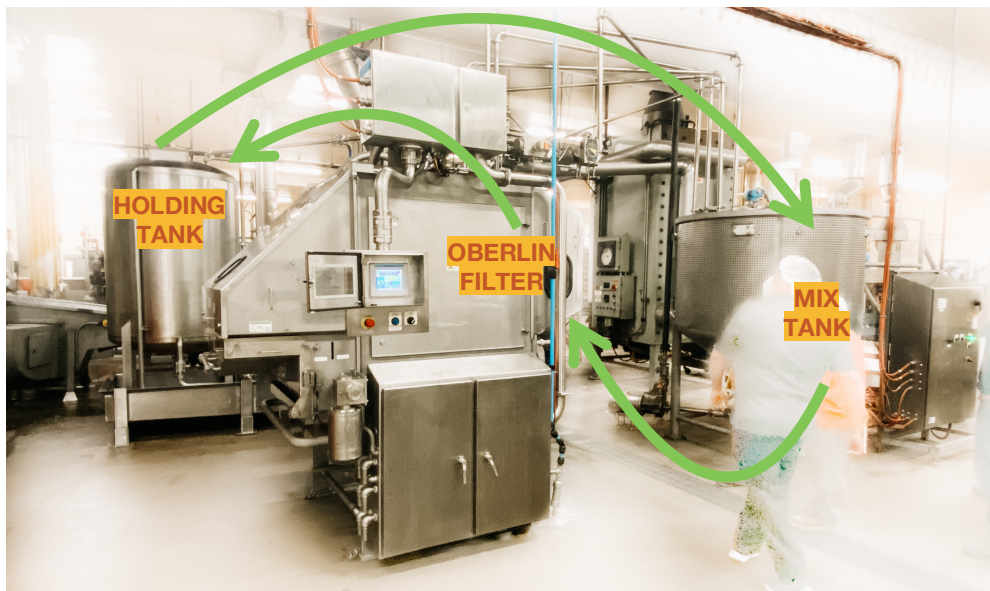


Evaluation of Applying Filsorb XP20 with Oberlin Filter to Clean Canola Oil Used for Frying Tortilla Chips

Customer X is a producer of tortilla chips. Their tortilla chips are cooked in standard canola oil at 340-380°F. The chips are made in batches, using 340-350 gallons per fryer.

An Oberlin filter, mix tank, and holding tank were installed at Customer X. Using this system with Filsorb XP20 their hope is to conserve their oil.



A trial and training evaluating the effectiveness of the Oberlin system and Filsorb XP20 on the used canola oil took place.

During this application the free fatty acid (FFA) value of the canola oil was reduced from 0.17% oleic acid to <0.01% oleic acid. Values were analyzed using the CDR FoodLab analyzer. There was also a visual difference in color and crumb in the oil.

Filsorb XP20 In House Trial Details

- Oil Used:** Standard Canola Oil
- Contact Time:** 10 minutes +/- 5 minutes after 1 bag Filsorb XP20 added, to start of filtration cycle
- Temperature:** 200 +/- 5F
- Filter:** Oberlin G4
- Filter Media:** HFO 80
- Filsorb:** XP20, LOT #01TFP22-008
- Amount Treated:** 340-350 gallons (batch treatment)
- Amount Filsorb Used:** 1 bag (40lbs)

Table 1. Details of the in house trial with the Oberlin system and Filsorb XP20 at Customer X facility.

	Before Filsorb XP20	After Filsorb XP20
Free Fatty Acid FFA	0.17% Oleic Acid	<0.01% Oleic Acid
Peroxide Value PV	6.31 meqO ₂ /Kg	4.07 meqO ₂ /Kg
p. Anisidine Value AnV	92.4 AnV	88.2 AnV

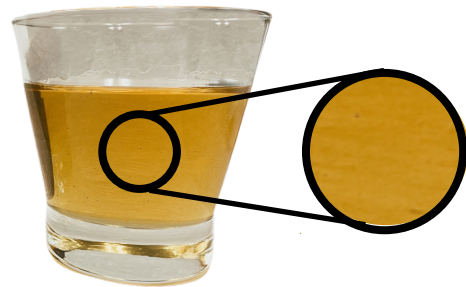
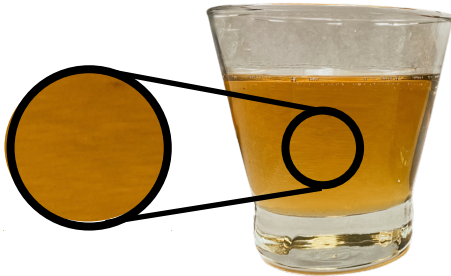
During this trial 340-350 gallons of canola oil were treated with 40lbs of Filsorb XP20 (1 bag) at 200 +/- 5°F. A 1.5% ratio of powder to oil. The oil had a contact time of 15 minutes prior to beginning the filtration cycles. To complete the filtration of all of the 340-350 gallons of oil it took 60 minutes including the 15 minute contact period at the beginning.



BEFORE
FILSORB XP20



AFTER
FILSORB XP20



Cost Evaluation

	Before Utilizing FILSORB	After Utilizing FILSORB
Cost of Oil	\$1.05/lb	\$1.05/lb
Pounds of oil discarded per month	13,300 lbs	0 lbs
Cost per month of discarded oil	\$13,965	\$0.00

Team Notes

Dosage Math:



Round down to 1 bag (40lbs) to keep process more simplistic for the plant. If FFA reduction is lower than desired dosage can be increased-1 bag (1.5%) worked extremely sufficiently.

Treatment Notes for Customer After Trial:

- Oil Temperature to treat at is 300-350°F (ideally 300°F)
- Add 1bag of FILSORB slowly to mix tank and let mix for 5-10 minutes not 15
- Make sure to treat oil that has no higher of an FFA than 0.4%-0.5% oleic acid (FFA)