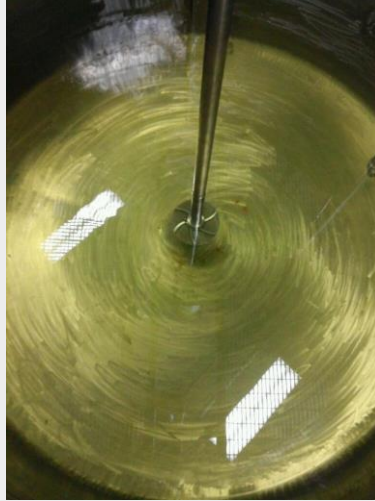


## CASE STUDY

CLIENT: Harcross Chemical Tampa, FL, United States

Citric Acid Production

Increase production 100% Reduce mixing time with 22Hrs.



### Scenario:

- Process begins at 6 a.m.
- Water heaters run for 2 hours to heat the 1000 Gal water to 120°F prior to adding powder in the tank.
- The process involves adding 116 off 50lb bags of citric acid powder to 1000gal of water.
- Time adding the bags, normally takes 6-8 hours. If this is done at a faster rate, agglomeration and settlement takes place.
- The Pump runs simultaneously to help the mixing process.
- The mixer and pump will run until 6 a.m. the next morning before emptying the tank.

Batch time: Combined 23 hours.

### Solution:

- Installed Turbulator 10Hp Variable Speed.
- Batch starts with no heated water.
- Turbulator mixer running at 35% on VFD setting.
- The 116 off 50lb bags is added within 45 minutes and dissolve instantaneously as the powder is added.
- Total running time of the mixer 1 hour before a sample is taken.
- Lab reported that the batch tested exceeded required expectations.

Batch time: 1 hour.

The installation of the Turbulator so successful that the batch can be made taking 232 bags of Citric Acid mixed into 2000gal of water within 2 hours. The Turbulator unit can run with 80% setting on the VFD.



[www.turbulator.co.za](http://www.turbulator.co.za)