



Reference Case

Solving harvest season challenges, cutting treatment costs, and saving freshwater

CarboNet ●●

North America's largest winemaker operates a 24/7 treatment plant in California where grape harvest months create sharp swings in pectin, sugar, and TSS. Their chemistry program could not meet KPIs, and increased cost put pressure on profit margins.

This plant averages 350 GPM influent flow, peaking to 600 GPM during crush. Water is sent to a DAF and then to secondary treatment, while float solids are pressed and hauled. The incumbent chemistry program included ACH / DADMAC + anionic / cationic PAM.

Problem:

The plant's KPI of ≤ 750 mg/L TSS could not be met during harvest. The operations team routinely doubled polymer feed, yet DAF effluent still drifted past 1000 mg/L. Daily chemistry spend increased from \$850 to \$1,700. High doses strained pump capacity, disrupted secondary treatment, and undermined cost targets just when production margins were tightest.

Approach:

We designed a program to address the challenges of harvest season and simplify things year round. Based on site conditions, we moved the flocculant injection point downstream to reduce shear, and integrated progressive cavity pumps with SCADA for consistent dosing to cut down on labor during peak season. These operational changes were paired with a new chemistry program:

SimplePrime 6650 – Blended coagulant applied before the DAF to form pin floc under high TSS and color load.

SimpleFloc 3035A – High-charge anionic flocculant used to form strong, floatable flocs and improve clarity.

SimpleFloc 3061C – Added in extreme conditions to offset coagulant demand and control overall treatment cost.

Results:

The new program consistently held DAF effluent between 600–700 mg/L TSS, even during peak harvest. Switching to SCADA-integrated pumps improved dose stability as flow rates shifted. Together, these changes cut manual adjustments and reduced chemical handling during the busiest weeks of the year.

CarboNet's chemistry is now in full-time use, where site operators reported 20–25% reductions in treatment cost.

RESULTS

- 20–25% reduction in cost-to-treat
- \$100,000 annual savings (estimated)
- 4.9M gallons of water saved annually
- Reduced labor needs during peak season

CarboNet: As freshwater becomes increasingly scarce and regulated, companies from energy and mining to food and beauty turn to CarboNet to reduce, recycle, and renew the water they need to compete.