

Fruit and vegetable processing

Released: 12 December 2017

Trade waste discharges from companies processing large quantities of fruit and vegetables for consumption could harm the sewerage system. Appropriate management practices at each site are needed. This guideline outlines the areas of concern and available technologies to control these trade wastes.

Key trade waste quality requirements

Parameter	Generally accepted level
Biochemical oxygen demand	≤1,000 mg/L
Suspended solids	≤500 mg/L
pH	Between 6-10 units
Total dissolved solids	≤1500 mg/L
Flow rate to sewer	Dependant on capacity of receiving sewers

Note: Discharge limits may be varied under certain circumstances for individual dischargers

Best practice management

- If possible, only clean pre-washed raw produce from farms is accepted.
- Dry clean floors, equipment and tanks prior to wash down/disinfection. Collected material is removed for solid waste disposal.
- Water conservation measures enable treatment of a smaller volume of waste water (e.g. reuse of 'clean' used water for wash down, efficient spray design).
- Catch trays or baskets prevent material lost from production lines from falling to the floor, to prevent it from entering the trade waste stream.

Typical pre-treatment

- Effective screening of all used water to remove coarse particulate matter (e.g. silt trap with basket having 2mm mesh size including a fixed secondary strainer with a 2mm hole size, static wedge-wire screen, rotating drum screen or equivalent - possibly with auto-cleaning option to avoid screen blockages).
- Gravity separation of fine particulate matter (e.g. settling pit, clarifier or advanced pre-treatment system (e.g. [dissolved air flotation](#))).

Additional pre-treatment

- Cyclonic grit removal stage to remove larger particles.
- Pumping of used water through hydro-cyclones to remove fine solids, starch and oils above 20-micron size.
- De-foaming agents may be required to reduce starch foam within the pre-treatment system and reduce solids carry over.

- Addition of chemicals such as a coagulants and polymers to aid suspended solids removal and reduce organic loadings - especially for used waters from potato processing.
- pH correction if necessary.
- Dewatering of solids by a belt or plate press, or other suitable means to minimise solid waste removal costs.

Maintenance

It is the responsibility of site management to ensure the effective operation of all pre-treatment equipment (e.g. regular cleaning, chemical replacement, sludge removal).

More information

Mains Water Protection (AS/NZS 3500.1:2015)

[Backflow Prevention Requirements - Office of the Technical Regulator](#)

[Restricted Wastewater Acceptance Standards](#)