

# Composting Equipment

Composting significant amounts of material will require machinery for turning and handling the composting material. Composting can be done using different types of machinery from frontend loaders to self propelled windrow turners. These machines differ in cost, ease of operation and quality of compost produced. Using specialist equipment greatly improves efficiency when composting large volumes of material.

## Front end loaders

Front end loaders are often the first choice for smaller composting operations because they may be available on-farm already and have many other uses. A front end loader can be used to turn windrows and piles, and this may be a good option for carcass composting or small volumes of manure composting. However, front end loaders are slow to operate and may not adequately mix the compost piles.



## Windrow compost turners

A range of windrow turners are available in Australia, both from local manufacturers and importers. These include:

- Three point linkage units
- PTO driven trail behind units
- Self powered units (turner is driven off a separate engine but mounted to a tractor)
- Self propelled units.

The scale of the operation will usually determine the required size of the compost turner.

Three point linkage models are available for small to medium scale composting, while trailing units are better for larger windrows and can turn larger amounts of compost rapidly. Self-propelled turners are suitable for large scale operations where a significant amount of material is to be composted.

## Windrow dimensions

Tractor drawn models can generally turn a windrow less than 3m high, whereas some self-propelled turners may turn windrows up to 4m high by 4m wide. This affects the size and layout of the composting area and

the total amount of compost that can be turned. For example, smaller windrows require more space because of the need for traffic alleys between the rows.

## Turning rates

Turning rates will vary with the size and type of turner. Three point linkage turners are limited to a turning rate of between 200–400m<sup>3</sup>/hr, while tractor drawn turners may have a turning rate of 400–800m<sup>3</sup>/hr. Self-propelled turners can turn at rates of 1200–6500m<sup>3</sup>/hr.

## Power requirements

For tractor drawn turners, the size of the turner determines the power requirements of the tractor. Three point linkage models will require about 50–60 horsepower while a PTO driven trailing turner may require 80–140 horsepower. Tractors will require a creeper gear to travel at a slow speed. Hydraulic assist features are available for turners to remove the need for a creeper gear.



### Water application

Some windrow turners can add water to windrows using a trailing hose system. This is ideal for medium to large scale operations and improves operational efficiency. Alternatively, some windrow turners can tow a water tanker that will supply water during turning, and this may be more appropriate for small operations without water infrastructure.



### Straddle and auger turners

Straddle turners (as shown above) straddle over the top of the windrow, and turn the windrow in one pass. As such, the windrow width must match the drum length. Auger turners use paddles to lift and move the compost. As they move down the windrow, the compost is moved to one side, reducing the space between windrows. These are good for composting in small areas since less tractor space is needed beside the windrows.

| Model        | Indicative Cost (\$) | Windrow size (m) | Turning capacity (m <sup>3</sup> /h) |
|--------------|----------------------|------------------|--------------------------------------|
| Sittler 507  | 23,666*              | 2.1m             | 458                                  |
| PSU 36-18-16 | 22,000               | 3.6 x 1.8        | 700                                  |
| PSU 36-18-20 | 24,500               | 3.6 x 1.8        | 900                                  |
| EZ 1800      | 43,989               | 1.8 x 1          | 450                                  |
| EZ 2700      | 52,789               | 2.7 x 1.4        | 950                                  |
| EZ 3600      | 59,950               | 3.6 x 1.8        | 1400                                 |
| CT360        | 51,500               | 3.6 x 1.8        | 1300                                 |

*\*(requires shipping)*

### Purchasing a windrow turner

Cost is a major consideration when buying a compost turner. The size and type of turner (three point linkage, tractor drawn or self propelled) have the largest affect on price, with the largest self propelled machines costing in excess of \$500,000.

The prices above were collected from a range of manufacturers and suppliers in Australia to provide a general price range in 2018 (prices are shown excluding GST). Each supplier may offer alternative products.

The following list of suppliers is provided as a service to farmers. It is not intended to be a comprehensive list of suppliers or their products. No supplier or product mentioned here is endorsed above any other. Buyers are encouraged to carry out their own market research.

#### Supplier details

For the CT360 and related products contact **JPH Equipment**  
[www.jphequipment.com.au](http://www.jphequipment.com.au)

For the EZ1800 and related models, contact **EZ Machinery**  
[www.ezmachinery.com.au](http://www.ezmachinery.com.au)

For the PSU models, contact **Cutcon**  
[windrowcompostturner.com.au](http://windrowcompostturner.com.au)

For the Sittler 507 contact **URC recycle**  
[www.urcrecycle.com](http://www.urcrecycle.com)

Alternatively, search online for used machinery sales.