



SOUTHERN PIEDMONT

**CLIMATE-SMART
PROJECT**

led by: **RODALE
INSTITUTE.**

What is a BCS?

The BCS, or walk-behind tractor, is a versatile machine designed for a variety of agricultural and landscaping tasks. They are characterized by their compact size, maneuverability, and compatibility with various implements, ranging from tillers to hay balers. A BCS can meet almost any need you have on your farm. Learn more about the operations, uses, functions and advantages of BCS use in the information below.



BCS Usage

- **Preparation:** Check the tractor's fluid levels, including fuel, oil, and hydraulic fluid. Inspect the tires for signs of damage and proper inflation. Ensure all safety guards and shields are functioning and in place.
- **Attaching Implements:** Select the appropriate implement for the task at hand, such as a flail mower, crimper, or plastic layer. Follow the manufacturer's instructions for attaching the implement to the tractor. Make sure all connections are tight and that the implement is properly aligned.
- **Adjusting Settings:** Set the depth or height adjustment on the implement according to the requirements of the type of soil. Adjust the tractor's throttle and speed controls to match the operating conditions and the implement being used.
- **Starting the engine:** Ensure the tractor is on level ground and clear of any obstructions. Follow the manufacturer's instructions for starting the engine, and allow it to warm up a bit before beginning operation.
- **Operating the tractor:** Grasp the handlebars firmly and stand behind the tractor in a stable position. Engage the transmission and slowly begin to move forward, keeping a steady pace. Use the controls to adjust speed and direction as needed. Make adjustments as necessary.
- **Maneuvering safely:** Be aware of your surroundings and any potential hazards. Avoid sudden stops or sharp turns that could cause the tractor to tip over or dislodge the implement. If operating on slopes, always traverse them perpendicular to the slope rather than up or down.
- **Shutting down safely:** When finished, disengage the implement and return the tractor to a level, stable surface. Lower the engine speed and allow it to idle for a few moments to cool down. Follow the manufacturer's instructions to shut down properly and secure for storage.
- **Maintenance and storage:** After use, clean the tractor and implements to remove any dirt, debris, or residue. Check for any signs of damage and address any maintenance issues promptly. Store the tractor and implements in a clean, dry location away from extreme temperatures and moisture.

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Implements

Berta 30" Flail Mower

Flail mowers consist of a horizontally-mounted rotor with numerous hinged blades. These blades move at high speeds and pulverize materials, leaving behind a uniform residue that will break down more easily. For example, a six-foot-tall cover crop can be reduced to 2'-4' pieces in a single pass.



Roller Crimper

Roller crimpers effectively terminate cover crops and prevent weed emergence without the use of herbicides, deep tillage, or plastic mulch. This design was modified at Earth Tools to fit the needs of a walk-behind tractor. This smaller version uses weights instead of water to fine-tune the downward pressure needed for a proper crimp.



BCS 30" tiller with Tiller Depth System

This implement breaks ground with horizontally-mounted shafts and a vertical tilling action. It is the most widespread tillage tool for small-scale farming. The tiller depth system adds a full-width roller to the tiller, which allows you to precisely regulate tilling depth. This enables consistently shallow tillage to minimize soil disturbance.



Photo: Earth Tools

Aldo Biagioli Bedshaper

Because of its compact size, a BCS doesn't have the weight and power to cut into the soil and shape beds while laying plastic like a standard size tractor. This well-designed implement solves that problem by shaping the beds beforehand. The disc hillers on the sides throw up the soil to make a raised bed. Then a drag chain at the rear pulls the ridges in and levels off the top of the bed. It will make beds up to 32" wide, and can raise them 2"-6".



Photo: Earth Tools

Plastic Mulch Layer

Plastic mulch layers have become a widespread method for reducing chemical and labor inputs and increasing yields at harvest. This mulch layer is capable of laying 4 foot plastic either flat on the ground, or over a 30" raised bed. The drip wheel attachment increases your efficiency by allowing you to lay your irrigation line at the same time as your mulch.



Photo: Earth Tools

