

Plastic Mulch Cross Hole Puncher



Conventional hole punchers leave narrow slices in the plastic which can prevent adequate water and sunlight from reaching a young strawberry plant. In some cases, this leads to plant death and increased replanting rates. To combat this, some growers utilize hand labor to make a cut perpendicular to the existing slice, opening the hole and allowing more water and sunlight to reach the plant (Fig 1). This process is estimated to cost \$100/acre.

Figure 1. Manual cross hole cutting

The Cross Hole Puncher is a direct replacement for the conventional hole puncher. It consists of a linkage wheel system that always keeps the spikes in a vertical position (Fig. 2). The spikes can be customized to produce the required cut pattern and depth, and plant spacing is easily adjusted. Tests on growers' fields have shown promising results for sandy soils. However, additional work is needed for heavy clay soils due to soil buildup on the spikes.



Figure 2. Cross Hole Puncher (left) and example of punched hole (right).





Figure 3. Experimental center fin modification

We have also had promising results by utilizing a small fin placed in the center of conventional hole puncher blades. It produces a good cut with little buildup in moderately heavy soil. This approach would be a simple modification to conventional hole punchers.

