The Problem:

Over the years, many different models have been developed to harvest berries in the most effective way possible. Today, they all look very similar as they are closing in on a design that is nearly optimized. The Over-the-Row design (seen to the far right) is the most effective at both picking and organizing berries. The harvester is diesel-pwered and straddles the row of berry bushes. The picking Heads (circled in red below) can be changed depending on the berry. After the berry is knocked off, it falls onto the collection leaves (circled in blue below). This is where the problem arises. The collection leaves are far too stiff and wide which means that as the machine passes the plant, holes are left in between each set of leaves allowing blueberries to fall to the ground, rendering them useless.

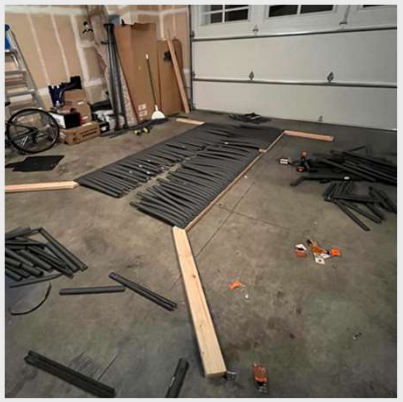
Oregon State University

Blueberry Collectors Team 112: Harvester Retrofit

Taking the design of the Littau OR Blueberry Harvester and implementing measures to increase the yield of blueberries during the harvest.

Our Solution:

Our solution consists of a wooden frame that will rest on top of the collection leaves already in place on the harvester. We used tubes made of a strong foam-rubber polymer that have enough flexibility to move out of the way in the same way the collection leaves to, while also maintaining enough rigidity that they snap back into their original places and fill in the holes. This gives us a brush effect that would be similar to that of an escalator bush. Once this design is implemented it will be able to reduce overall losses by approximately 50%.



The Littau Harvester

The Over-the-Row (OR) harvester is the industry standard for diesel powered berry harvesters. By straddling a row of berry bushes, blueberry or caneberry, the harvester autosteers and guides itself down the row allowing your crew to do more with less people. The Over-the-Row provides an excellent solution for harvesting berries with adjustable options to fit varius harvesting needs. This is the harvester that we had to work on and find the solution to its design shortcomings.