BioChambers
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Partnering with Researchers

University of Toronto

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History of the BigFoot™ series

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History of the Bigfoot Series

Universities and private companies are often challenged by limited floor space for plant growth chambers. Prior to 2000, the standard growth chamber design had the cooling equipment on the side of the chamber, which took up 25% of the chamber footprint, in addition to adding a need to space the chambers one meter apart from each other to allow access to the cooling equipment.

In 2000, Professor Rowan Sage and the faculty at the University of Toronto wanted to maximize plant growth area on the limited floor space available in their building, the Earth Sciences Centre. They asked the leading growth chamber companies to consider an alternative design that would maximize floor space use. BioChambers rose to this challenge and worked with Professor Sage to design the prototype of the Bigfoot chambers in widespread use today. By moving the air conditioning systems to the top of the chambers, the entire chamber footprint could be used for plant growth area, and the chambers could be placed against each other since there was no longer a need to access the cooling equipment from the side. This innovation increased the use of the floor space over 35%, allowing the Botany faculty to acquire enough growth chamber space to meet their needs to the current day. For Professor Sage, the Bigfoot innovation enabled his research team to grow sufficient replicates of a wide range of plants, from white lupine at low CO_2 to large C_4 plants such as maize and *Flaveria bidentis*. For the research community in general, the increased efficiency of space use allowed Bigfoots to set the industry standard and become one of the most popular plant growth chambers across North America.

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