



Visitors From Chile Gain Insight At Greenhouse In The Snow

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Two engineers from Universities in Santiago, Chile — Abdo Fernandez, a professor at a college in Santiago and Marco Aquilar hold their nation's flag outside the Alliance High greenhouse and tour Russ Finch's Greenhouse in the Snow north of Alliance Sunday. The men, who are more familiar with solar systems, are building a greenhouse based on Finch's design. (Courtesy Photos)

ALLIANCE — Russ Finch's Greenhouse in the Snow has lived up to its name this week as late autumn has proven snowy and cold. Finch has been selling greenhouses the past several years consisting of the plans and major structural components. Interest in his geothermal method continues to increase. Two of his latest visitors to see the greenhouse north of Alliance arrived from Chile Dec. 13.

Two engineers from Universities in Santiago, Chile — Abdo Fernandez, a professor at a college in Santigo and Marco Aquilar are developing solar and other systems for greenhouses and are very interested in the Greenhouse in the Snow geothermal system and are planning to use this idea in a greenhouse being built in Chile, Finch said. "To them the most interesting thing about the Greenhouse in the Snow was the simplicity and low cost. They are used to working with high tech, expensive projects that are far too expensive for the average farmer or rancher. They were fascinated with fact that we can grow lemons and oranges in this climate and the quality of the fruit," he added.

The men had contacted Finch last summer after seeing his website. Finch thought he would be over his head considering the level of research the engineers have been conducting. However, converting Celsius and Fahrenheit was more of a problem. One of the visitors spoke English and conversations did not encounter miscommunication. Back in Chile some changes will be made from Finch's greenhouse. They currently operate 25-30 different greenhouse facilities, mostly solar. Finch explained the greenhouse he worked with Alliance High School to build cost \$22,000. In Chile even their simple facilities would cost \$100,000 or more in the U.S.

Hosting the Chilean visitors was a rare occasion due to travel involved. Finch said he has a folder documenting 25 countries where he has sent plans (not including Canada). The international interest ranges from South Africa to Spain to Vietnam. He thought the latter strange due to its warm climate. Instead the Southeast Asia inquiry was in regard to using the design for cooling.

In the past two years he has sold 10 or 12, and 17 overall in six states as well as one in Edmonton, Alberta, Canada. He has seen an increase in demand for the greenhouses, noting online exposure with a feature produced by Nebraska Educational Television (NET). A project expected to be approved at Iowa State would incorporate one of Finch's structures in a community garden.

Greenhouse in the Snow has sent several to eastern Nebraska. Idaho is the farthest west and St. Mary's, Kansas to the south (at least until the Chile greenhouse comes online). A customer in Moorcroft, Wyo., has four 96-foot units connected by a central corridor.

Finch had promoted his product locally when he decided to sell the design. “There wasn’t much interest,” he explained. Though his greenhouses still are not popping up nearby, Finch is happy to educate visitors and travel to inform others. Busloads of students from the University of Wyoming’s experimental farm at Lingle, Wyo., have come to hear about the greenhouse. Job Corps classes have made field trips there as well. Last week he went to the UW campus at Laramie to talk. Finch said all the people were really interest in the commercial application. “They do hoop houses in the summer ... now they can produce in the winter,” he said.

Expertise in building and operating a greenhouse does not necessarily mean success in sales. Importantly, a kit does not contain every part in the finished structure. Finch noted that the only parts they sell along with the plans are the frame and Lexan glazing and what it takes to put these up. The rest, he emphasized, is available at any lumberyard or hardware store. “That’s helped out a lot,” he said. Only one customer has followed the plans and built without buying Finch’s components.

The rest of the structures from Greenhouse in the Snow would not be possible without a partnership with local business Antioch Machine and owner Allen Bright. The shop fabricates all the metal supports. Finch commented on good fortune so far of finding a trucker with an empty load to ship the frame and Lexan, which he has been able to buy and store in large quantities. Latest modifications have been to hinge the supports to accommodate eight-foot crates.

As for the design itself, Finch always seeks improvement. He found the Alliance High School design is not as efficient as it could have been. That greenhouse has 110 feet of six-inch tubing. By changing the diameter to four inches and 250 feet in length Finch said the same size greenhouse could cool in the summer. He added that even twice as much tubing of that size is much cheaper. Finch is also experimenting with artificial lighting. He explained glow light panels operating on 14 watts cost \$36 each and could double his production of citrus.

Despite the short timeframe, Finch has seen his design in practice. People northwest of Mitchell, Neb., have a 78-foot structure just like his rural Alliance greenhouse. He said the efficiency is good enough that they raise tomatoes in the winter and tilapia in space for a fish farm.



Finch plans to follow the progress of the greenhouse in Chile, noting they will keep in contact. He said the engineers don't really have geothermal experience, at least not with low-grade methods — the tubing will be at an eight-foot depth.

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