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Sativa Building Systems – Creating New, Safe, and Sustainable Building Materials using Mold-Resistant, Pest-Resistant, Rot-Resistant, and Fire-Resistant Hempcrete



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Interview conducted by: Lynn Fosse, Senior Editor CEOCFO Magazine

CEOCFO: Mr. Popp, prominent on the Sativa Building Systems website is "Pioneers in Sustainable Building Materials." What does that mean for you?

Mr. Popp: We try to be the leader in creating new, safe, and sustainable building materials. We recognize that there is a lot of opportunity for improvement in the way we construct buildings specifically with some materials that we use. We are working towards using innovative manufacturing methods. Currently, it has been exclusively hemp-based building materials to the market.

CEOCFO: Why hemp?

Mr. Popp: It is not that we are biased towards hemp for any specific reason except for the fact that it just seems to be that hemp has superior performance traits. When I was exploring building materials specifically something used to construct the walls for buildings, I came across hempcrete as a material and that was intriguing to me.

When I dove into some of the performance characteristics of hempcrete I realized it was mold-resistant, pest-resistant, rot-resistant, and fire-resistant. I thought I did not know of a single material that could check all those boxes. I was impressed with that.

A lot of people have tried to make similar material with other types of plants and bio-based options but it seems that hemp works the best. It seems to be the most suitable.

CEOCFO: Are you surprised that no one has thought about it before?

Mr. Popp: Whenever you are doing something new there are always some doubts and you wonder if there is a reason why no one has done this before. I am a data-based person, I like seeing things proven out with real data. Once I got some research into hemp and hempcrete I realized it was the real deal and I mitigated the concerns that I had.

CEOCFO: What can you tell us about the hempcrete that deserves a patent?

Mr. Popp: Hempcrete as a material we have not patented. What we have patented is the shape, functionality, and mix ratio. It is the specific ingredient and the proportion of those ingredients that go into making it, which is what we have a patent on. The biggest thing is the shape and functionality which is the most unique thing about it.

There is no other company that has created a hybrid block panel like ours that works with light-frame construction the way ours does. It interlocks with conventional 2x4 or 2x6 framing and it interlocks top and bottom with each other, and the fact that it has an embedded blocking that goes horizontally across the face of it so that it can attach itself to the stud. Those are unique components and no one else does that, not just with the hempcrete but there is no other block panel that I am aware of that even is close to functioning in that same way.

CEOCFO: *Is the construction industry aware of Sativa?*

Mr. Popp: Yes, on a small level. We are a startup. I would say if you were going to poll a hundred different contractors there might be one. Awareness is the biggest challenge in our industry right now. The construction industry sometimes tends to be resistant to change and I understand that because there are things that have worked for decades so why not keep doing what you are doing.

We are putting in some big effort here especially to get the word out because we recently finished up our code certification process and now we can say confidently to those in the construction industry that our product meets code standards and we demonstrated that through laboratory testing. We will be getting the word out more but right now people are not familiar with us.

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CEOCFO: How did you get involved with the US Army and DoD, as you received a contract from them?

Mr. Popp: That is a great question. About a year-and-a-half ago it was brought to our attention that the army through the SBIR (Small Business Innovation Research) program, put out an RFP for our sustainable building materials. Sometimes they will just say if you have innovative technology they would like to hear about it but this one was unique where they said they had a specific interest in sustainable building materials. We thought that was right up our alley and we had to explore that.

We submitted a response to RFP for a Phase 1 project, which was last year and we were looking at a new material using hemp but also replacing our current lime-based binder Z panel with a bio-based binder. We had a lot of success on that Phase 1 project and in creating that new material. That is why we can transition into Phase 2 because they liked the work we did in Phase 1 and we did some successful prototyping. We want to take that a step further and see if we can commercialize this project and learn more about its properties because we want to make sure that whatever we put out into the market is functional, safe, and effective.

It was because the Army said they had an interest in sustainable building materials that made us realize that we should throw our hat in the ring. It was too big of an opportunity for us not to consider.

CEOCFO: Working with the government can be challenging. What has been your experience?

Mr. Popp: There is more structure to some of these programs than I thought there would be. The Army specifically has provided good support. On each one of our projects, we have what is called a technical point of contact, which is a person who is assigned to oversee our project but from the Army's side. They are always just a great resource. I have been pleasantly surprised and if I have learned anything it is just that I was not expecting them to provide the level of support and engagement that they do. This is considered a contract versus a grant. We have deliverables and things we

need to provide as we go through this project. There are milestones that we are working towards hitting through every phase of this project. I have been impressed by the well-structured programs and have not had any issues so far.

CEOCFO: Would you tell us about your tiny homes at Sativa?

Mr. Popp: Getting into the tiny home space was something we never originally planned on doing. About two-and-a-half years ago I realized that we had to take the step to go through the code certification process for our Z-Panel and I knew it would be a long journey of up to two years. I was thinking of what we could do in this period and what we could sell to consumers which would be a stepping stone into the construction industry. We had the idea to build tiny homes because tiny homes are not subjected to building codes; they are subjected to zoning ordinances.

A tiny home on wheels typically does not have to go through a building inspection which means that you can build them with novel materials if you want. We had a lot of confidence in our material. We knew there would be no issues with it but we did not have that final stamp of approval from the International Code Council. We decided to build tiny homes with it because that is a lower-risk opportunity to still sell something to the general public. We have one standard model now called 'The Cultivated.' We try to focus on staying in the lane of having a product that uses sustainable materials but also safe and non-toxic materials.

Throughout the years I would have people reach out to me that were looking for a place to live temporarily because maybe the apartment or house they were living in had mold issues. I wanted to build a place that would be almost a sanctuary where people could have a high level of confidence that their home is not going to be contributing to making them sick. That is why I decided to build The Cultivated. That might be a division of the company that we keep. As of right now there are people still interested and want tiny homes but it was never my intent for it to be a big part of the business. We are seeing how it plays out over the next few years.

CEOCFO: What is involved in the manufacturing and construction process?

Mr. Popp: Manufacturing is straightforward. We use off-the-shelf pieces of equipment to manufacture. As of right now, it is more labor intensive than what we might like but usually, we have two people in our facility that focus on doing the fabrication of the Z-panels. It is a four-stage process of mixing and batching, form preparation, the drying stage, and then the finishing stage. That is how we make the Z-panels in our facility.

Construction depends on the project we are working on. We can build tiny homes in our facility because they are small enough. Standard residential projects vary a lot. Many moving pieces can go into a residential project. Incorporating Z-panels is a small addition to those projects.

CEOCFO: Are you seeking funding, investment, or partnerships as you grow?

Mr. Popp: We might at some point. As of right now, we do not need that. We are in a healthy position right now and we have a good runway. We sought investment partners in the past. We did a pre-seed round and got an investment from a pretty notable investment accelerator group here in Wisconsin called 'Generator,' they have been great partners for us but that was pre-seed over a year and a half ago and now we have a good runway. We do not have a planned fundraising round in the immediate future.

CEOCFO: What does 2025 look like for Sativa?

Mr. Popp: I see 2025 as being a big year because it is the year we are going to get our product into projects in the market and bigger projects than tiny homes. We have a few projects already lined up and we are going to hit the ground with trying to make more relationships with contractors, builders and developers. Anyone in the construction space just to spread awareness and make sure that they are comfortable with our product and we can get it incorporated into some of their projects. I think it is the year when you start seeing Z-panels more frequently in construction projects.

CEOCFO: What if anything might people who are looking at Sativa Building Systems miss or misunderstand that they should recognize?

Mr. Popp: There is not as much awareness as there could or should be around how our homes and buildings are affecting our overall health and lives. People see someone in the hemp industry and they might think these are just some hippies who have an interest in hemp, but that is not it at all. I came to what we are doing with hemp because I had an interest in a superior product, something that could make our homes and buildings better as well as make people healthier.

My daughter had a negative experience with toxic mold in a home that was put in and that is what precipitated all of this and put me on this journey to find a better building material and something that would not trap water in the walls. I was looking for something that would be mold-resistant and hempcrete was that.

There is still a little bit of a stigma when people hear the word 'hemp,' they think it is marijuana, but it is something different and it is something that is now grown in every state here in America. We source our product domestically and it can provide a superior product for better homes and buildings. I think that is what people miss. Hemp is a cool plant that you can make amazing things from. That is what we are doing.

