

Green Ideas: Making Concrete from Rice

July 21 2009, by Miranda Marquit



Image source: Botanical.com

(PhysOrg.com) -- Concrete accounts for about 5% of all human-related CO₂ emissions. The fact that we use so much cement in building could mean that the issue becomes even more pronounced in the future. But what if there was a way to make concrete that was more environmentally friendly? A team of researchers in Texas thinks there might be -- by adding rice to concrete.

One of the ingredients that can be used in [cement](#) is ash. By mixing [rice](#) husk ash into the cement, there is the possibility of greener concrete. [Discovery News offers](#) this on the process of creating carbon neutral rice

ash:

Now, Rajan Vempati of ChK Group, Inc. in Plano, Texas, and a team of researchers have figured out a way to make nearly carbon-free rice husk ash. Heating husks to 800 degrees centigrade (1,472 degrees Fahrenheit) in a furnace drives off carbon, leaving fine particles of nearly pure [silica](#) behind.

"The process emits some CO₂, but it's carbon neutral. Any that we emit goes back annually into the rice paddies," Vempati said.

Concrete is a favorite repository of unwanted waste materials, from steel slag to silica fume, since it can provide a useful way of recycling products that are hard to get rid of without filling landfills. Ash from rice husks, while not completely neutralizing the pollution that comes from making cement, could reduce it. On top of that, this ash provides protection against [corrosion](#) and strengthens the concrete.

The process has yet to be refined and tested in real-world conditions, so the idea is still mostly in its initial stages. However, when one considers that up and coming economic powers, such as India and (especially) China, will be likely ramping up production of concrete for use in buildings and roads, the prospect of reducing carbon emissions and pollution through the use of risk husk ash in [concrete](#) becomes even more interesting.

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Citation: Green Ideas: Making Concrete from Rice (2009, July 21) retrieved 2 May 2024 from <https://phys.org/news/2009-07-green-ideas-concrete-rice.html>

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