Stone Crushers feature open cutting throats to gather material and a tapered downstream configuration to produce a finer finished product.

Stone Crusher Makes Land Reclamation Easy

Land reclaimers, road builders, and rural county managers in need of powerful land-clearing equipment now have another option for turning rocky terrain into usable ground.

Fecon's new Stone Crusher Series, including the SC7620 and SC6220 models, uses universal skid-steer mounting and is powered by hydraulically driven skid-steers with 80 hp or more.

The 76 and 62-in. Stone Crushers feature open cutting throats to gather material and a tapered downstream design to produce a finer finished product. Heavy-duty rotors are positioned within the body's width, so the tracks travel over uncrushed material.

"These machines' strength and crushing impact are due to their cutting chains, hex-head bolt tooling system, and large single-point carbide tools and teeth," says Fecon inside sales representative Matt Springmeier. "They're not a rock miller but a stone crusher that works best in loose stones. They're not really for digging out rocks, although they do a degree of subgrade."

Featuring Fusion smart control and the heaviest build in its class for optimal crushing inertia and durability, the units make short work of any land reclamation project. Quick-access panels and single-bolt tooling speed up service, while sectioned wear liners and adjustable shear bars make maintenance simpler and extend lifespan.

The sturdy machines crush rocks up to 6 in. in diameter, producing a desired level of finished product depending on the number of passes and working speed selected. The fine output blends into the soil, improving moisture retention and controlling erosion.

Fecon equipment is made in Ohio. Springmeier recommends that interested customers contact their nearest dealer within the extensive North American, Alaskan and Hawaiian networks for prices and availability.

"Order soon for 2026 deliveries," he says.

Contact: FARM SHOW Followup, Fecon, LLC, 3460 Grant Dr., Lebanon, Ohio 45036 (ph 800-528-3113; www.fecon.com).

Photo courtesy of NightHawkInLight on Autodesk Instructables

Mosquito trap can be made with just a box fan, a window screen, and a method to attach the two together.

Chemical-Free DIY Mosquito Catcher

If mosquitoes won't leave you alone, a homemade trap can provide relief. All you need is a box fan, a window screen, and a way to attach the two. Best of all, this trap is simple to take apart and works without harsh chemicals or expensive supplies.

First, find a piece of window screen large enough to cover the fan's face. Any type is acceptable, but aluminum might last longer outdoors than plastic or fiberglass. Position the fan so the air blows directly onto the screen. Attach the screen to the fan's grate by pressing the two firmly together. Duct tape or zip ties can help keep it in place. Sometimes, an inexpensive furnace filter is used instead of the screen, and small binder clips can keep it attached to the fan.

The trap is ready to use as soon as you turn on the fan. Mosquitoes are attracted to movement and will be drawn into the screen. Since mosquitoes are weak flyers, they get caught in the fan's gusts. That's why leaving a fan on overnight can help prevent bug bites. While some DIY enthusiasts add bug zappers or other light sources to their traps, they don't serve a real purpose because the insects aren't attracted to light.

Mosquitoes will start collecting on the screen immediately. An eco-friendly way to kill them is by spraying a mist of rubbing alcohol diluted to 50%. Brush the dead mosquitoes off the screen, then leave them outside for nature to handle.

A portable battery and power inverter make it possible to use the trap off-grid. DIY enthusiast NightHawkInLight brought his homemade mosquito trap on a Northern Michigan camping trip and detailed the process on Autodesk Instructables (www.instructables.com/How-to-Get-Rid-Of-Mosquitoes-with-a-Fan-Window-Scr/).

He powered the fan using a 12V marine battery and a power inverter in his truck. While the first night at the camping site was so buggy that it was hard to breathe without inhaling bugs, he was down to swatting only a few per hour by the end of the second day of running the trap. His fan was 2 ft. by 2 ft., but any size can work as long as it moves enough air to trap mosquitoes.

"We excite just the electrons and create biodiesel in milliseconds using a fraction of the energy," says Slunecka.

Research Advances In Plasma Reactions

Plasma reactions are not new, but recent research is opening new possibilities. They produce sunlight and have long powered fluorescent lights and plasma arc cutters. Now, plasma reactions are being used to quickly produce biodiesel, enhance plant health, reduce bacterial contamination on foods and surfaces, and treat water.

"Plasma reactions are what we see in the Northern Lights and in neon lights," says Tom Slunecka, Plasma Blue. "When you hit a gas with the right frequency of electricity, electrons escape the atom, and when they return back, a byproduct is light. With plasma reactions, we're exciting the electrons enough that they create different reactions."

Plasma Blue makes equipment designed to produce plasma reactions in a continuous flow of materials. The company is owned by the Minnesota Soybean Research & Promotion Council. Recently, Slunecka was one of the presenters at a summit on research with Plasma Activated Water (PAW). The summit was organized by Dr. Christian Nansen from U.C. Davis, as part of a collaboration between U.C. Davis, the University of Minnesota, and Cornell University.

Slunecka and other speakers presented the latest developments in university and industry-led research. They highlighted both the technology and its applications, such as sustainable nitrogen production, disease prevention and more.

"Plasma-activated water affects plant growth and development," reported Neil Mattson, Cornell horticulture professor, to Zoom attendees. "Compounds in PAW increase dissolved oxygen required by seeds and roots for respiration and increase germination and root growth. At the right amount, it can activate plant resistance, turning on plant genes to handle drought or heat stress. It can also reduce pathogens in growing root zones."

Plasma Blue works closely with researchers and commercial applications of cold plasma technology for water treatment.

"We design and sell cost-affordable systems to researchers and companies," says Slunecka. "At the same time, we're working on commercial applications ourselves."

Biodiesel production is one area where Plasma Blue has demonstrated success. Commercial biodiesel production involves heating soybean oil, methanol, and a catalyst to excite electrons and initiate a reaction, producing biodiesel and glycerin. However, electrons are only 1/1000 to neutrons. Plasma Blue accelerates the reaction by targeting the electrons.

"Why heat up the entire room when you can just heat the coffee?" says Slunecka. "We excite just the electrons and create biodiesel in milliseconds using a fraction of the energy."

Plasma reactions can also break apart chemical bonds that are otherwise unbreakable, such as those in PFAS.

"When fluorine and carbon are combined using pressure and heat, they never want to come apart," says Slunecka. "However, if you excite the electrons, they come apart."

PAW generates hydroxyl groups and free radicals. The emitted light is ozone, which can kill bacteria.

"Our reactors produce ozone, radicals and peroxide," says Slunecka. "If you spray plasma-activated water on a plant with a disease like tomato blight, it automatically affects the blight. Spray it on a wet seed, like from a tomato or watermelon, and any fungus or bacteria on the outside of the seed is controlled."

Slunecka warns that some claims being made today lack the necessary proof. One problem is that reactions can be short-lived, lasting from just milliseconds up to 30 min. Without oxidation, the reaction might last a bit longer. However, once the energy released in the reaction dissipates, PAW becomes ordinary water.

"PAW in a flow is more attractive," says Slunecka. "Greenhouses will be one of the first markets. Hydroponic and aeroponic systems could use it to treat recycling water."

While Plasma Blue could produce biodiesel at a lower cost than commercial systems, it would require overhauling production processes, which the industry often resists. Slunecka believes that removing PFAS from drinking water has significant potential.

"We can remove PFAS with a low capital expenditure, low operating costs, low temperatures and low pressures," says Slunecka. "Systems are safe and easy to operate, with few parts, and they're repairable. We can remove PFAS for 7¢ per 1,000 gal."

Slunecka is equally optimistic about other agricultural and industrial applications.

"All our units are customized and ready to ship within a few weeks of an order," he says. "We have different designs for different industry needs."

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