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About CERERE

Through a balanced, multivector network of researchers and communities of practitioners, the project promotes innovation by producing and disseminating accessible enduser materials and training products for farmers, food manufacturers, consumers, researchers and policy makers.

PARTICIPATORY RESEARCH ON AGRICULTURAL MACHINERY: SELFBUILD OF A GRAIN BRUSH BY AND FOR THE FARMESE-BAKERS

PROBLEM

Grain brushes are used for industrial milling in order to lower the dust and mycotoxins contents on the cereals grains' surface, but there is no model adapted to the needs of artisans and farmer-bakers (cost, flow, size).

SOLUTION

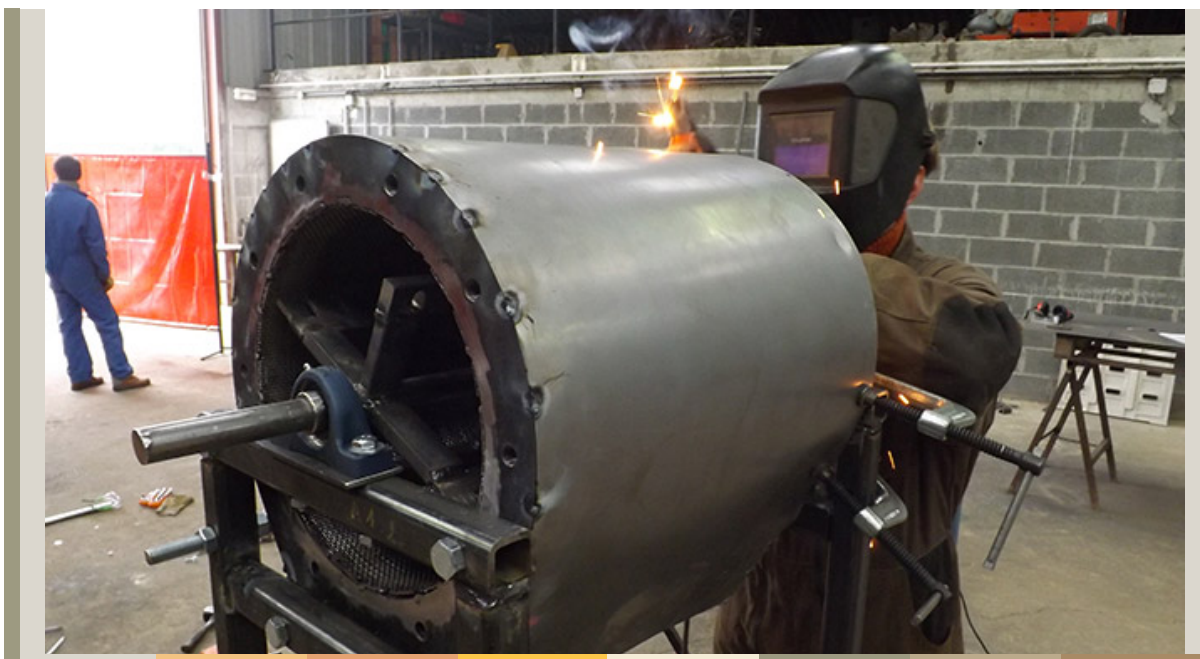
A grain brush was designed by the farmers of ARDEAR Auvergne-Rhône-Alpes accompanied by the "Atelier Paysan", a selfbuilding cooperative. Several prototypes can be built, tested and improved collectively. The design should be designed to simplify manufacturing and adjustments.

This brush is a rotating machine one meter high and of about 100 kg, consisting in a square tube frame, a stator corresponding to a cylindrical cage assembled on the frame, with two flanges to guide the grains in input and at the outlet of the brush, a rotor with 2 metal brushes and two fins, guided by two bearings on the frame; an electric motor of 2 kW; a belt pulley transmission and an outer casing for sealing the assembly and suction of dust by a conventional vacuum cleaner.

Outcomes

This design of the grain brush meets the needs of on-farm processing, for investment cost (less than 1000 €) as well as for the brushed grain flow (200 to 600 kg/h). Such a brush is used before milling in order to remove the dust fixed on the grain's surface. In addition to the cleaning effect, this meets the need for regulating the mycotoxins levels (concentrated in dust) within a mill.

This collective work paves the way for other projects for on-farm cereals processing, for which the same process can be realized.



Practical Recommendation

- Involve end-users in the designing process and machinery building for self-construction.
- Do not hesitate to design several prototypes and have them tested by several users in order to bring out solutions adapted to the various contexts.
- If possible, avoid mixing the crop from plots where signs of mycotoxin diseases have been observed with the crops of other plots.

Further Information

https://www.latelierpaysan.org/IMG/pdf/brosse_a_ble_3.1-2.pdf

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Related CERERE case study: ARDEAR Auvergne-Rhône-Alpes

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Project partners

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Evaluation and sharing of the results

Use the comment section on the CERERE website to share your experiences with other farmers, processors, retailers, advisors and scientists. If you have any questions concerning this Practice Abstract, please contact the author by e-mail.