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Micromorphology of pelletized soil conditioners

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Soil conditioners produced by anaerobic digestion and subsequent composting of organic household waste, bear the potential to improve unproductive farmland together with a reduced input risk of unwanted pollutants into the soils. Within the VeNGA project (http://www.biogas-network.de/venga), soil conditioners from anaerobically digested organic household waste are tested for their potential to increase plant growth in glasshouse and field experiments. Because the production techniques of these soil conditioners may influence their physical and chemical behaviour in the soil, two different techniques for pelletizing the soil conditioners where applied. We present findings from a pot experiment with cereal that has been sampled after two months for micromorphological analyses. We visualize the decomposition and the physical behaviour of the soil conditioners. Pellets produced in an agglomeration mixer result in dense balls, that are only slightly decomposed after the trial. But the soil conditioners created under pressure in a screw extruder are rich in voids and have the potential of retaining more soil water.