

Urea treatment

Fecal matter contains many pathogenic microorganisms which can pose a risk to human health. The nutrients in the excreta are a valuable fertilizer that should be made available for farmers in a safe manner. In order to safely recycle these nutrients in human excreta back to agriculture, the pathogens need to be inactivated.

Urea is the most common nitrogen fertilizer in the world and a harmless chemical substance which can be used to treat fecal matter. When urea comes in contact with the feces, it degrades to ammonia and carbonate. Ammonia has proven to inactivate pathogens, including bacteria^{1,2}, viruses³, protozoa⁴ and helminthes^{5,6}.

By using urea to treat fecal matter, the fertilizer value of the final product increases. The treatment is easy to operate; all that is needed is sufficient dosage and storage time, and a closed storage facility so the gaseous ammonia is not lost and there is no risk for regrowth of pathogenic bacteria.

The role and work performed by SuSan Design is to transform the research from the Swedish University of Agricultural Sciences (SLU) into practical production facilities assuring correct treatment and hygienic logistical structures from the collection point all the way towards integration in the field.

References:

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