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## BIODRYING OF ANIMAL SLAUGHTERHOUSE RESIDUES AND HEAT PRODUCTION

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**ABSTRACT** For several years, the cost of disposing of slaughterhouse residues has been rising sharply in Québec. Composting of animal carcasses is usually done on farms, but the composting process is not optimized and requires large amounts of carbonaceous inputs. This type of composting takes place over a prolonged period of time (6 to 9 months) in a static pile that is non-aerated and use a large volume of carbonaceous residues that is the equivalent of 3 to 5 times the volume of the original carcasses. To optimize the treatment of slaughterhouse residues, CRIQ developed an organic biodrying process (BIOSECO) adapted to large-scale operations. Biodrying is a form of composting, in which the thermophilic phase is optimized, making it possible to evaporate large amounts of water. Biodrying is done inside a building and reduces the amount of carbonaceous residues significantly (1.75 volume of slaughterhouse residues for 1 volume of carbonaceous residues). The sequence in which the slaughterhouse residues are added, the choice of input and the aeration flow make it possible to optimize the process. Slaughterhouse residues can be treated non-stop throughout the year, summer and winter. Biodrying can be done near the slaughterhouse, since the odours are almost completely limited to the building. During the pilot phase of the project, CRIQ staff observed that a large amount of heat was produced by the process and realized that it offered an interesting potential for use. In brief, the BIOSECO biodrying process makes it possible to treat slaughterhouse residues in an effective and economic manner, to produce heat that could be put to profit for various purposes (hot water, heated floor, refrigeration, etc.) and to produce compost for use on farmland.

**Keywords:** Biodrying, slaughterhouse residues, heat, composting