



## USING STRAW FOR HIGH EFFICIENCY HEATING IN FARMING

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### ABSTRACT

The publication „Using straw for high efficiency heating in farming” contains of theoretical and research parts. In the theoretical part of the publication straw is viewed as a fuel for producing heating energy, types of straw boilers and ways for using straw as fuel for heating is collected.

At the beginning the objectives are determinate, the vitality of the theme is researched and positive and negative aspects for using straw as fuel for energy production are being gathered.

In the research part of the thesis main parameters of real package-type straw boiler are collected and analyzed when two different types of straw are burned. After research author of the thesis concludes that no matter which kind of straw is being burned, the classical assembly connection of straw boiler isn't energy effective and a new assembly connection is given.

All package type straw boilers contain of a huge accumulation tank to equate temperature fluctuations. All the water circulation is being organized through the tank which has great heat yield area so great amount of heat is given away.

Author has given solution for this problem. All package type boilers have water cooled firebox door. When a new bale of straw is put into the firebox, the circulation is organized through the heat exchanger, at the same time flue-gas economizer and door cooling water is heating up a small accumulation tank. When the temperature falls under given boarder, 3-way valves changes circulation from heat exchanger-consumer to accumulation tank-consumer. After putting a new bale, temperature rises and system work usual way. So there's no need for as huge amount of water to be heated and kept on high temperature all the time.