



## **Pelletec - We harvest pellets!**

Did you know, that

- In China, illegal straw burning in the field is responsible for more than 18% of the country's particulate matter pollution? With Pelletec D 8.0 it is possible to supply this straw cost-effectively to good use
- Many contaminated soils can be remediated more quickly by using energy crops. These plants then deliver green energy as pellets and save the use of fossil fuels!
- the 16 largest container ships blowing up more environmental toxins than all car traffic worldwide? With Pelletec D 8.0, the transport of pellets by such ships from overseas can be reduced!
- Cotton perennials are usually incinerated on the field, because transport is usually more expensive for meaningful recovery than the proceeds? As pellets, a large part of this valuable heating material can be transported cheaply. With Pelletec D 8.0 pelleting takes place where the raw material is produced!
- Grass paper requires for one ton of cellulose only about one-tenth of the energy compared to wood as a raw material? However, a delivery in pellet form is indispensable. With Pelletec D 8.0, the costs can be significantly reduced!

The SCM has developed a mobile harvester that produces ready-to-use pellets of stalk biomass (such as straw, hay, alfalfa, energy crops, field debris) in one go. The potential uses of pellets are increasing: feed, litter, energy pellets, fertilizers, recycled pellets, industrial applications (such as grass paper, 2nd and 3rd generation biofuel, insulating material), etc.

The novel and patented technology reduces the energy required for pelleting to less than 3%. The costs for a ton of pellets (1,000 operating hours per year on a full-cost basis - including depreciation, interest, operating resources, labor costs, service,

repair, insurance according to Austrian wage and price levels) are less than 40 euros - about 4 cents / kg. This quantum leap in costs (only about one third of the energy used in conventional pelletizing plants) now makes many applications that could not be carried out for cost reasons economically feasible and affordable.

The production capacity amounts to approx. 8 tons per hour depending on the pelletizing material and depending on its nature. The prototype built by SCM was extensively tested and technically redesigned (performance increase), the pilot machine was designed and already completed and tested. The market launch took place at the end of 2017.

The purchase price of approx. € 540.000, - (including peripheral equipment such as shredder, trolley, tractor about € 700.000, -) pays off with a conservatively applied value added of 4 ct / kg in two years. Savings due to lower transport and storage costs in relation to the starting material are not yet taken into account.

#### **Some technical data:**

Specific energy input: Peak value 24 kWh per tonne of pellets, expected maximum value 30 - 40 kWh (peak values of conventional pelletizers 65 - 90 kWh, on average about 100 kWh).

Initial moisture content of the material for the pellets: ideally approx. 16 - 20%, loss in the pelleting process approx. 8 - 10%, with lower humidity water or steam can be supplied in the conditioning chamber, moist pellets should be dried depending on the purpose and material, or otherwise (eg with additives) be made storable.

Temperature: The raw material is preheated to approx. 60 ° C by the waste heat of the unit in order to minimize the energy requirement during the actual pelleting process with the patented compressor unit; the outlet temperature of the finished pellets is approx. 90 - 100 ° C. By reducing the cooling in the pellet bunker strict hygiene regulations (heating period) are met.

Additives: Basically, no additives are needed for pelleting, which during the pelleting process liquefied biomass lignins act as an adhesive, but from 2 additive tanks various additives can be added, e.g. Lime at planned thermal utilization, eucalyptus for bedding (stable hygiene, avoiding litter grazing by horses) ...

Feed pellets: By adding high-quality and germ-free raw fibers (see temperature) to the concentrated feed, the meat quality can be increased in the pig fattening without slowing down the growth process, for example, by whole plant pelleting of z. As barley (concentrated feed + crude fiber) can be saved as the threshing. Pelleted alfalfa (high protein and crude fiber content) can be added to the feed and large amounts of soy (rainforest destruction!) can be substituted, from about 70 - 80 kg mast weight, these can be used as a complete feed, even in the cattle fattening is possible.

Due to the projected demand and the existing great interest, we are looking for partners worldwide for the production of individual modules or for the license production of the entire machine. In China, one of the largest mechanical engineering companies in the country has already been found as an optimally suitable license partner. There, with the help of our technology, an impressive improvement of the air quality (pelleting of the surplus straw instead of incineration in the field) should take place. Negotiations are taking place with potential partners in other large agricultural countries.

Assembling and maintenance should always be done in our house for the European market. However, this requires an expansion of capacity for which a very well-suited property is already in the offing. The own funds portion for the establishment of this production site, which will serve as a prototyping, assembling, service, trading and testing center, will be raised through the existing crowd-investing offer. In addition, state and federal subsidies are used.

**A technical revolution with a lasting impact on our environment begins. Get on board now!**

Staasdorf, August 2018