KAHL - Group

Complete Plants and Machines

Our Central Factory in Reinbek near Hamburg
KAHL Group

The Delivery Program

Plants and Machines for the Feed Milling Industry, Chemical Industry, and Recycling Industry

Plants and Machines for the Coffee-, Cocoa Industry

Plants and Machines for the Rice- and Grain Processing Industry

Machines for Spice milling

Poultry Feed Mill 30 t/h
Roughage Feed Plant
15 t/h
With long time conditioner and pellet presses
F 38-780, F 45-1250

Pelleting Press for Straw
Compound Feed Mill 60 t/h

Compound Feed Mill 7/10 t/h
1 Expander- / Pelleting Line
Compound Feed Plant 30 t/h
2 Expander- / Pelleting Lines

Bagasse Feed Plant 30 t/h
Product cake

Flat die

Pellets

Rotating pan

Grinder roller

Hydraulicsystem of the Press

Oil supply

Hydraulic nut

Forcing pressure

Roller

Spring assembly

Die
The KAHL Flat Die Pelleting Press

KAHL Bagasse Pelleting Plant
Amandus Kahl is well known for their know how and for the ability of their pelleting machines to process difficult roughage materials such as wheat straw, maize straw and of course bagasse.

Wherever cereal grains or sugar cane is being cultivated a lot of roughage, such as straw or bagasse is generated. These by-products are often burnt or utilised to provide boiler energy but they can also be used as ruminant feed.

The increase in the world population is forcing industry to seek and to utilise all known available feedstuffs in order to meet the demand for dairy and meat products. Companies might also find that it pays them to utilise such relatively low value products in a more profitable way, as a ruminant feed components, rather than to simply burn them for their calorific energy values.

Before whole bagasse can be fed to cattle it is necessary to condition the product by breaking down the ligno-cellulose component, to such extent that the animal can use the product, in terms of its digestibility and to make it more readily available. i.e. in pelleted form.

Different chemical means of decomposition and technical processes have been used, such as NaOH, Urea and Ammonia.

One process that has proven to be quite popular and most cost effective, is based on the addition of NaOH as a conditioning agent. It is characterized by:
• **Crushing and de-fibration** of the straw or bagasse, to render the material more accessible to the decomposition agent.

• **Conversion of the cellulose structure** from a crystalline state into an amorphous state by means of NaOH, together with heat, time, and pressure, in order to increase digestibility.

• **Compaction**, i.e. pelleting of the product in order to increase the bulk density of the straw or bagasse. This increases the animal's feed consumption and its performance.

One can also add UREA to increase the nitrogen content of the product and the production of bacterial protein, which in turn contributes to a general protein increase. This is particularly important for the feeding of dairy cattle.
The Amandus Kahl company, having recently celebrated their 125th anniversary in 2001, have a wealth of experience in the pelleting of biomass feed stocks, as well as many other raw materials.

Evidence of this can be found in the form of the many KAHL factories, turnkey installations, and machines in most parts of the world.

Particularly in the field of thermal heat treatment of feedstock and in the processing of roughage, Amandus Kahl enjoys a leading position and their R&D activities are internationally recognized.
• The unique flat die pelleting press has enormous advantages when used for the pelleting of roughage, or voluminous products such as straw or bagasse.

• Bagasse pelleting is a familiar concept to Amandus Kahl and they have installations to prove this.

• Pelleted bagasse can be used as a combustible fuel, for energy in the boilers of sugar mills and other factories; as raw material in furfural production, or treated with NaOH for use in compound animal feed.