

CELL 23

Biorefinery - carbohydrate line - product line lactic acid

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Sustainable economical growth requires safe resources of raw materials for the industrial production. Today's most frequently used industrial raw material, petroleum, is neither sustainable, because limited, nor environmentally friendly. While the economy of energy can be based on various alternative raw materials, such as wind, sun, water, biomass, the economy of substances is fundamentally depending on biomass, in particular biomass of plants. Special requirements are placed to both, the converting industry as well as research and development regarding the efficiency of raw material and product line as well as sustainability. "The development of biorefineries represents the key for the access to an integrated production of food, feed, chemicals, materials, goods, and fuels of the future" [1].

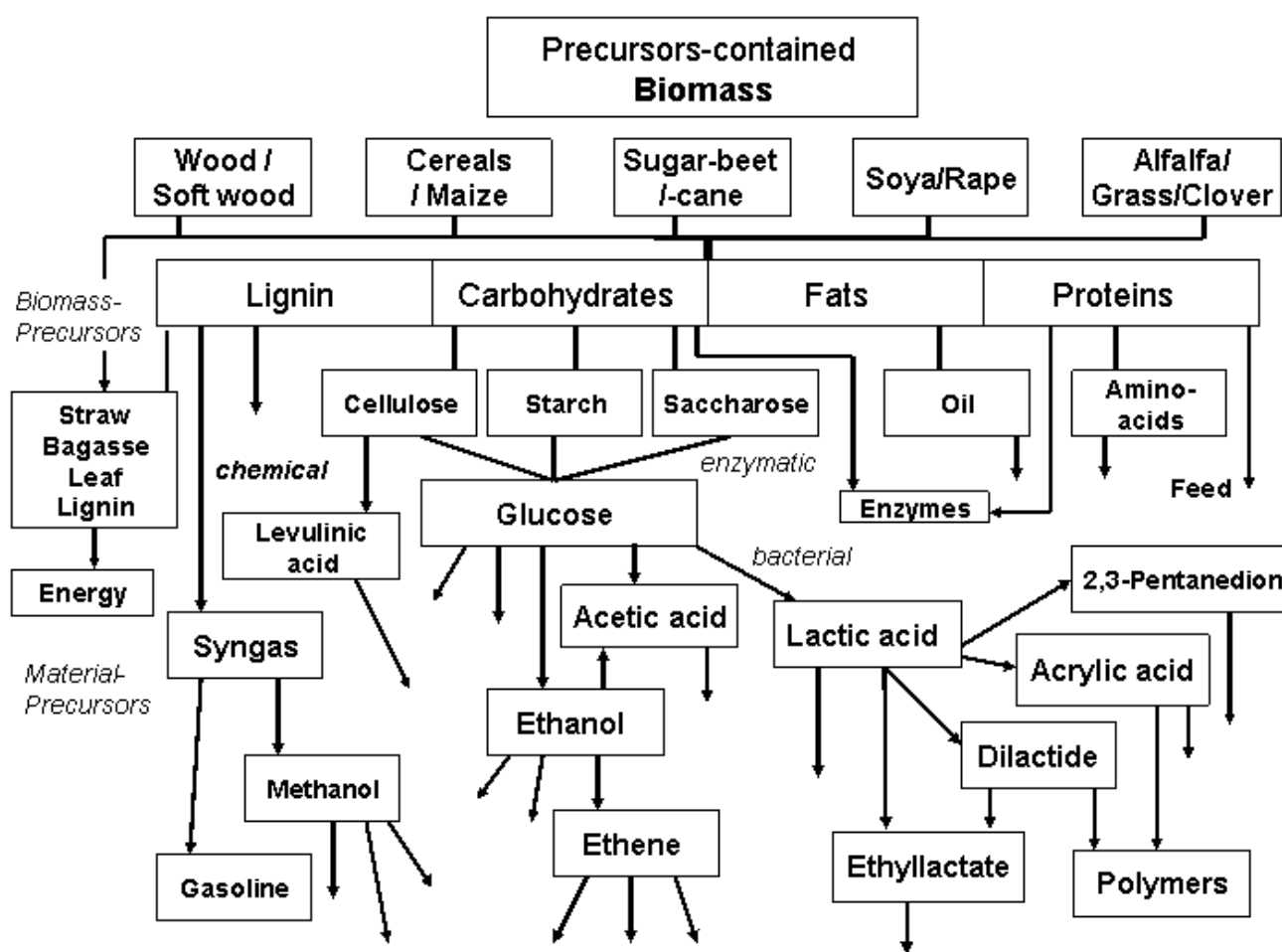


Abb.: Biorefinery-scheme for precursors -containing biomasses with preference of carbohydrate line

Biorefineries combine necessary technologies between biological raw material and the industrial intermediates and final products. In the lecture have been presented biorefinery-systems, with focus on precursors-containing biomasses with preference of carbohydrate line and in particular on bulk chemicals lactic acid and their sequence products, e.g. polylactide, ethyl lactate, acrylic acid [2, 3].

[1] National Research Council (NRC, USA); Biobased Industrial Products: Priorities for Research and

Commercialization [National Academic Press, Washington D.C., **2000**]

[2] **Kamm, B.; Kamm, M.; Richter, K.**; Biobased industrial products. Heterocyclic aminium lactates. New fermentation products and feedstocks for multiple use, *Agro-Food-Industry Hi- Tech*, 12 (3), **2001**, 15-19

[3] **Kamm, B., Kamm, M.**; Biorefinery-Systems, Chem. Biochem. Eng. Q. (accepted)

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