

FMC – molasses feed strategy for baker's yeast production

Exact dosage of molasses, which means a dosage according to the requirements, plays a very important role in baker's yeast fermentation.

According to the growth of the yeast a theoretical molasses feed curve is given (Fig.1). If molasses feed is based on this curve, in all probability the supply with nutrients is either too high or too low, because fluctuations in molasses quality as well as physiological alterations of the yeasts are not considered.

Molasses feed curve of commercial yeast (Bronn 1974)

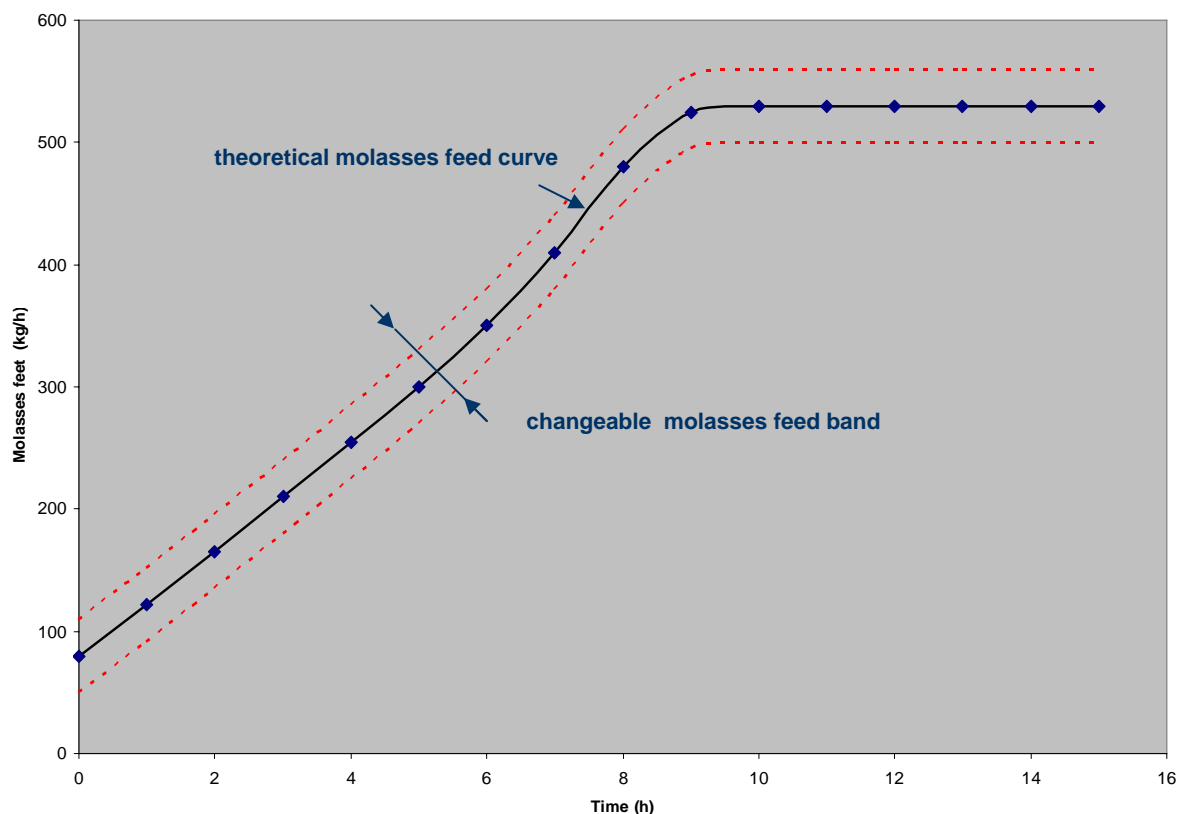


Fig.: 1

In case of a surplus of sugar, yeasts produce alcohol, which is assimilated again in case of sugar deficiency. Therefore measuring of alcohol concentration in the fermenter can be used for control of molasses feed.

Biotechnologie-Kempe GmbH has developed further the method of molasses feed. The strategy used is shown in Fig. 2. Here the molasses feed curve for the respective fermentation is preset in the FMC system by the technologist. The deviation from the pre-set alcohol value corrects automatically the molasses feed curve within a changeable band (see Fig.1).

By use of this feed strategy the dosage of molasses can be automatically adjusted very exactly to the requirements of the yeast. The result is a constant yeast quality and a saving of molasses (since normally exceeded feed).

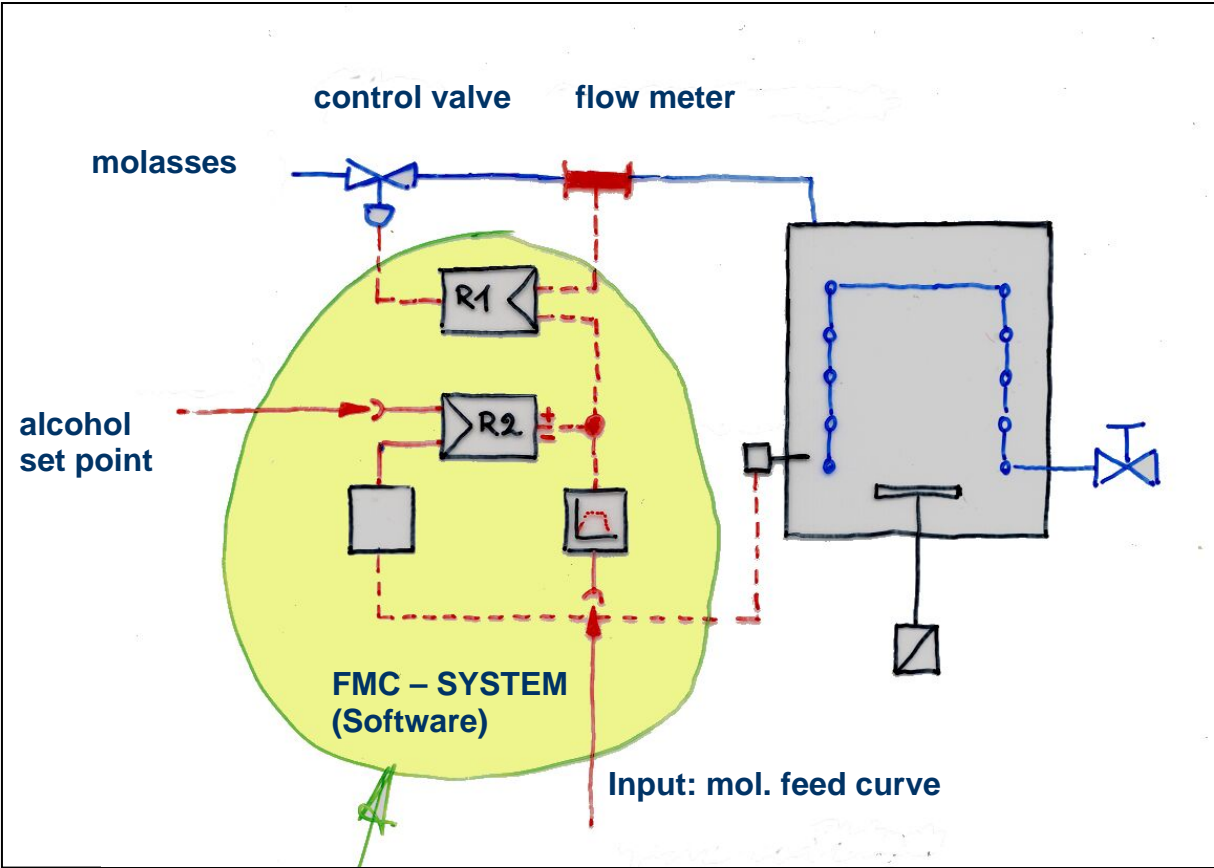


Fig.: 2