



# Zytex Laboratory Services :

**Developing Enzyme Recipe  
for Customized Dp profiles**

The starch sweetener industry in India has grown over the years with large jump in the number of products being offered. With entry of multinationals in the food sector, the end-user of the starch derivatives are now more demanding in terms of syrup sugar profiles and sometimes the requirement is very stringent, needing very narrow range of **Dp profiles**. This demands a very sharp and accurate control of the process and sometimes becomes very difficult to achieve.

**But do not let these complicated sugar profiles hamper your progress!**

Zytex, with its years of experience with enzyme applications is now offering its research and development support for development of enzyme recipes to obtain highly customized sugar profiles. With a whole range of enzymes in its kitty, availability of the latest analysis tools like HPLC and an in-depth understanding of how each enzyme works, makes it a whole lot faster and easier for the Zytex team to achieve that coveted sugar profile.

The added advantage with Zytex is that its engineers can come down to your plant to implement and achieve the same results in your plant. This development as well as scale-up support makes 'YOU' the customer, ready to meet any challenges the world may throw at you in terms of desired sugar profiles!



**Zytex**  
Better Technology.  
Better World.

# Enzyme Recipe for making acid converted Liquid Glucose...WITHOUT ACID!

Among the starch-based sweeteners in India, Liquid Glucose has the highest demand and therefore the largest starch derivative in terms of production volumes. Conventionally, Liquid Glucose or LG is made by hydrolysis with Hydrochloric acid at 140 deg C and pH of 2. In the last few years, this has given way to more comfortable enzymatic hydrolysis which does not involve this harsh process.

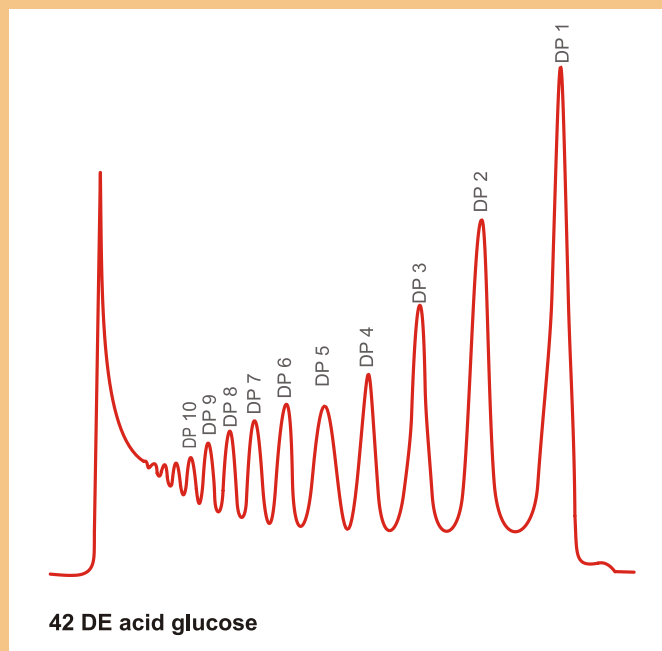
## DP Profile of Acid Converted LG

Dp1 : 16-20%  
 Dp2 : 10-14%  
 Dp3 : 12-14%  
 Dp4+ : 54-60%

Now, this same profile can be achieved in an all-enzyme process under mild conditions of pH and temperature.

The enzymes used for making the same are given below:-

Maltogenase : 0.05- 0.06kg/ton DS  
 Dextrozyme GA : 0.22 0.25 kg/ton DS  
 BAN 480L : 0.070 0.075 kg/ton DS



## Results

Sample	%Dp1	%Dp2	%Dp3	%Dp4+
Liquefied starch	0.4	2.2	4.5	92.8
1hour	5.0	4.9	8.0	82.1
2hours	9.2	6.6	9.7	74.5
3hours	13.8	8.3	11.0	66.9
4hours	17.6	10.0	12.1	60.4
5hours	21.2	11.5	12.8	54.5
6hours	25.5	13.3	12.9	48.4
<b>42 DE acid glucose</b>	<b>18.2</b>	<b>14.4</b>	<b>11.3</b>	<b>56.2</b>

Call up our engineers today to explain your requirements or simply email it to the below mentioned email id:

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