CLARIANT

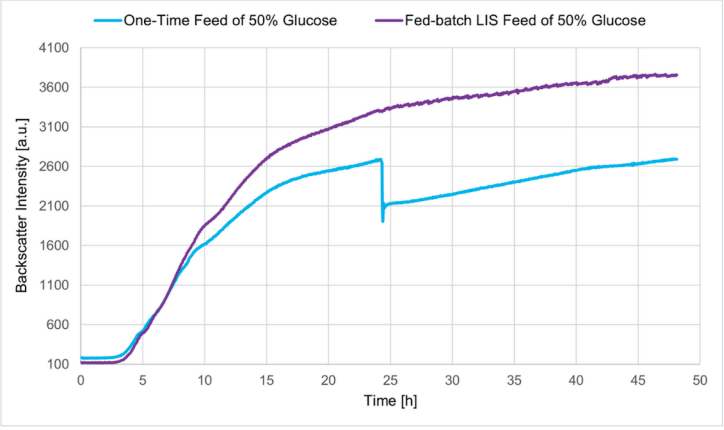
Clariant Uses the Liquid Injection System (LIS) to Improve Strain Development Experiments in Shake Flasks

Drawbacks of Testing Production Strains in Batch Cultivations

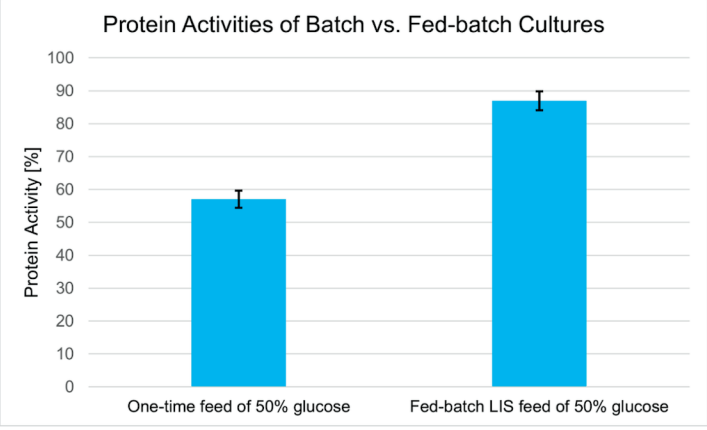
Clariant found that batch cultivations of Bacillus strains lead to alterations in the cell's metabolism and cell lysis, interfering with a reliable production strain characterization in shake flasks. Due to the large impact on the cell's metabolism that the batch condition imposed, the strains' characteristic biomass and protein production behaviors were overshadowed.

- **Production of unwanted by-products**
- **Acidification of the medium**
- **Altered cell physiology and cell lysis**
- **Physiological changes impede the analysis of production behavior**

The Big Picture



Using the LIS on shake flasks enabled fed-batch cultivations in small scales, improving strain development experiments in shake flasks.



When compared with the culture with a one-time feed, the fed-batch feeding of glucose to the medium augmented the final protein yield by approximately 30%.

sbi SCIENTIFIC BIOPROCESSING
scientificbio.com

SBI North America
201 Penn Center Blvd
Pittsburgh PA, 15235
412-230-8463

SBI Europe
aquila biolabs GmbH, Arnold-Sommerfeld-Ring 2
52499 Baesweiler, Germany
+49 2401 8049708