

# BioPharm

OCTOBER 2009

The Science &amp; Business of Biopharmaceuticals

[www.biopharminternational.com](http://www.biopharminternational.com)
**MANUFACTURING ECONOMICS**

## Implementing Toyota's LEAN Systems in Bioprocessing

*special series*

A step-by-step approach is essential for successful implementation

36

**AUTOMATION**

## A New Technique to Solve Capacity and Quality Concerns

Automated in-line dilution can produce highly accurate solution concentrations

52

**PRODUCT APPROVALS**

## Biopharmaceutical Approval Trends

60% of the products approved in 2008 were expressed in *E. coli*

68

**FROM THE EDITOR**

What healthcare reform will mean for the pharma industry

12

**REGULATORY BEAT**

FDA leaders promise stiffer enforcement of quality standards

16

**OUTSOURCING INSIGHTS**

Are we on the verge of a major consolidation of CMOs?

24

**BURRILL ON BIOTECH**

Biotech builds momentum, but will recent market gains translate into financing?

32

AN ADVANSTAR PUBLICATION

