

Sheffield's Hydrolyzed Proteins may eliminate the variability in your fermentation.



Switching to Sheffield's hydrolyzed protein as the primary nutrient in your fermentation media is a good move?

That's right. I should get more product *consistently* using Sheffield Hydrolyzed Proteins. In fact, the proteins are so consistent that the variations in yield that I used to get with the other nutrient sources, should not happen.

That's impressive.

Particularly so considering that Sheffield tailored their proteins to work well with our existing processes and to our specifications.

What about any increase in yields?

The high nutritive qualities of Sheffield's Hydrolyzed Proteins should increase our yields over the bulk media we were using in this particular fermentation.

Well, I can't risk extending my product's fermentation time hoping for possible higher yields.

Sheffield's product could *cut* my lag times, so time isn't wasted. And faster cycle times equals more batches.

And your yields increase enough to justify higher material costs?

I wouldn't switch if it wasn't profitable. We should use much less hydrolyzed proteins than bulk material, so material costs will be about the same. Plus our separation and purification costs should go down because there's less waste material per batch. The low viscosity requires less energy for aeration and mixing. We should win all the way around.

Sounds like lab/pilot run results.

Close to it. Basically, we're mixing our own lab-grade media in large quantities using Sheffield's Hydrolyzed Proteins. Many of the seed culture advantages carry over when we scale up.

Still, changing is a big step ...

We started by using Sheffield's products as nutrient boosters. The results were so good that we're making the total switch.

Hydrolyzed proteins, eh? Sounds like a good idea.

Talk to Sheffield. Their Hydrolyzed Proteins did a lot for me.

The above is a dramatization based on data obtained by Sheffield Products.

For detailed application assistance or product samples, contact the Sheffield Technical Services Department.

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INDUSTRY OUTLOOK

BLACK INK?

WASHINGTON, D.C.—The biotechnology industry may break even this year, according to financial analyst Linda I. Miller, who follows its commercial developments for PaineWebber (New York, NY). Still volatile, the industry nonetheless is gaining in credibility as more products are approved and introduced. She presented a financial overview during a February seminar sponsored by The Brookings Institution.

According to Miller, the 50–60 publicly held biotech companies now have an overall value of between \$9 and \$10 billion, based on aggregate stock prices. Last year, she says, investors pumped \$800 million into publicly held companies, and additional private placements pushed the 1986 total for private-sector investment over \$1 billion. Although most of the money is concentrated in relatively few companies, altogether the industry has accumulated about \$1.5 billion in cash.

Most of the new funds, of course, are pouring into companies whose promises for products and profits are largely still to be realized. Nonetheless, total product sales reached almost \$500 million in 1986, and that figure could double this year, Miller says. The industry still is reporting overall losses, but it may break even in 1987—particularly if several promising drugs, notably tissue plasminogen activator for treating heart attack victims, are approved for use in humans.

Although diagnostic devices receive only about 10 percent of the overall R&D investment in the biotechnology corporate world, they currently account for about 55 percent of all sales. Miller says that 65 percent of the private-sector biotechnology investment supports the development of products for human therapy, but these pharmaceuticals represent a much smaller fraction of sales because of their more complicated testing and approval process.

So far, Miller reports, biotech-based products have cost about half as much to develop as typical chemical drugs. She even argues the new industry has had relative good fortune with regulators, particularly in receiving expeditious review of applications by the Food and Drug Administration. Patent fights, state and local regulations, the effect of federal efforts to reduce hospital costs, and accounting rules changes could lead to difficulties.

—Jeffrey L. Fox