# Meatly cuts bioreactor costs by 95%, advancing scalable cultivated meat production



A significant milestone in the cultivated meat sector is unfolding with Meatly's announcement regarding breakthroughs in both bioreactor technology and cost-efficient cell culture media. The company, founded in 2022, has successfully completed the commissioning and first cell growth run using its newly developed 320-litre bioreactor. This innovative design, crafted by Meatly's research and development team, is set to replace traditional and prohibitively expensive biopharma bioreactors that have posed substantial barriers to production scalability for many firms in this emerging industry.

The introduction of the 320-litre equipment, priced at an economical £12,500, marks a staggering 95% reduction compared to conventional biopharma reactors, which can exceed £250,000 in cost. This leap in affordability is critical, as the industry seeks to reduce production costs and increase scalability. At full industrial scale, Meatly plans to utilise multiple 20,000-litre bioreactors, with the new equipment demonstrating the capabilities needed to ensure successful cell culture for such extensive operations.

Complementing this manufacturing breakthrough, Meatly has achieved another remarkable feat: a protein-free culture medium priced at just £0.22 per litre. This medium has been engineered to support cell growth for over 175 doublings, showcasing a significant advancement over previous formulations. It is devoid of antibiotics, steroids, hormones, and growth factors, positioning Meatly's cultivated chicken products competitively within market pricing for conventional chicken, particularly in the EU. As highlighted by industry expert and Meatly’s chief scientific officer Helder Cruz, the company’s innovative approach has turned sceptics into believers, affirming the potential for a kinder, more sustainable food source.

Meatly's recent developments follow the company’s regulatory approval received in July 2024, allowing for the launch of its pioneering product, ‘Chick Bites’—the world's first cultivated pet food—now available through selected retailers. This recent progress reflects the company’s strategic investment of £5 million, which is notably lower than the capital expenditures reported by other cultivated meat enterprises, underscoring an agile and cost-effective pathway to scalability.

As global demand for more sustainable food options increases, Meatly’s efforts highlight critical trends in the cultivated meat sector. Industry stakeholders are increasingly recognising the value of securing sustainable supply chains while maintaining cost stability. Jim Mellon, executive chairman and co-founder of Agronomics, emphasised the significance of Meatly's innovations in driving a transformation within the food landscape.

In contrast, while Meatly's achievements are commendable, challenges remain widespread across the cultivated meat industry. A recent techno-economic analysis indicates that achieving price parity with conventional meat requires not only reduced media costs and improved biomass yields but also optimised bioprocessing and large-scale production capabilities. This holistic approach is considered essential for ensuring cultivated meat can compete on both ecological and economic fronts.

As fundraising efforts are initiated to establish a low-cost production facility, all eyes will remain on Meatly. The company's advancements not only point towards a potential shift in food production paradigms but also encapsulate a growing commitment to making cultivated meats a viable choice for consumers and brands alike, aligning with broader objectives of sustainability and ethical consumption in the food industry.

## Reference Map:

* Paragraph 1 – [[1]](https://industrialnews.co.uk/meatly-reduces-bioreactor-costs-by-95/?utm_source=rss&utm_medium=rss&utm_campaign=meatly-reduces-bioreactor-costs-by-95), [[2]](https://www.petfoodindustry.com/ingredient-issues/proteins/news/15670691/meatly-achieves-cultivated-meat-milestone-sees-further-production-cost-reduction)
* Paragraph 2 – [[1]](https://industrialnews.co.uk/meatly-reduces-bioreactor-costs-by-95/?utm_source=rss&utm_medium=rss&utm_campaign=meatly-reduces-bioreactor-costs-by-95), [[3]](https://www.foodmanufacture.co.uk/Article/2024/05/07/Meatly-unveils-culture-medium-costing-1-per-litre-to-create), [[4]](https://www.greenqueen.com.hk/meatly-cell-culture-media-cultivated-meat-cost-omni/)
* Paragraph 3 – [[1]](https://industrialnews.co.uk/meatly-reduces-bioreactor-costs-by-95/?utm_source=rss&utm_medium=rss&utm_campaign=meatly-reduces-bioreactor-costs-by-95), [[5]](https://www.digitaljournal.com/tech-science/new-bioreactor-helps-bring-cultivate-meat-production-up-to-scale/article)
* Paragraph 4 – [[1]](https://industrialnews.co.uk/meatly-reduces-bioreactor-costs-by-95/?utm_source=rss&utm_medium=rss&utm_campaign=meatly-reduces-bioreactor-costs-by-95), [[6]](https://www.proteinproductiontechnology.com/innovation-insights/cultivated-meats-path-to-parity-a-techno-economic-analysis)
* Paragraph 5 – [[1]](https://industrialnews.co.uk/meatly-reduces-bioreactor-costs-by-95/?utm_source=rss&utm_medium=rss&utm_campaign=meatly-reduces-bioreactor-costs-by-95), [[7]](https://scitechdaily.com/unprecedented-efficiency-new-manufacturing-method-could-make-cultivated-meat-cheaper-than-organic-chicken/)

Source: [Noah Wire Services](https://www.noahwire.com)

## Bibliography

1. <https://industrialnews.co.uk/meatly-reduces-bioreactor-costs-by-95/?utm_source=rss&utm_medium=rss&utm_campaign=meatly-reduces-bioreactor-costs-by-95> - Please view link - unable to able to access data
2. <https://www.petfoodindustry.com/ingredient-issues/proteins/news/15670691/meatly-achieves-cultivated-meat-milestone-sees-further-production-cost-reduction> - Meatly, a UK-based cultivated meat company, has achieved a significant milestone by developing a protein-free culture medium costing £1 per litre. This medium, free from animal-derived components, steroids, hormones, growth factors, and antibiotics, is used in their suspension culture bioreactors without microcarriers. The innovation aims to reduce production costs, addressing a major challenge in the cultivated meat industry. Meatly's cultivated chicken protein is featured in Omni's sustainable cat food formula, marking a step towards commercialising lab-grown meat products.
3. <https://www.foodmanufacture.co.uk/Article/2024/05/07/Meatly-unveils-culture-medium-costing-1-per-litre-to-create> - Meatly, a cultivated meat company founded in 2022, has unveiled a protein-free culture medium priced at £1 per litre. This medium contains no serum, animal-derived components, steroids, hormones, growth factors, or antibiotics and is used in their suspension culture bioreactors without micro-carriers. The company aims to enable animal-free, cost-effective cultivated meat production. Meatly plans to sell its products in the UK this year, becoming the first company to sell cultivated meat in Europe.
4. <https://www.greenqueen.com.hk/meatly-cell-culture-media-cultivated-meat-cost-omni/> - Meatly, a British cultivated meat company, has developed a protein-free culture medium that significantly reduces the cost of producing cultivated meat. The medium, priced at £1 per litre, eliminates expensive components like proteins, growth factors, and microcarriers. It is used in suspension culture bioreactors without microcarriers, enhancing efficiency and scalability. This innovation addresses a major bottleneck in the industry, aiming to make cultivated meat more cost-competitive with conventional meat products.
5. <https://www.digitaljournal.com/tech-science/new-bioreactor-helps-bring-cultivate-meat-production-up-to-scale/article> - Ever After Foods has developed a disruptive technology enabling significantly higher cultivated meat production capacity with a 35-litre bioreactor. This approach addresses the scalability and cost-effectiveness challenges faced by current cultivated meat companies, which require large bioreactors exceeding 10,000 litres to achieve cost parity. The new technology allows for more than 10 kilograms of cultivated meat mass to be produced with a smaller bioreactor, offering a proven path to scale and reach price parity.
6. <https://www.proteinproductiontechnology.com/innovation-insights/cultivated-meats-path-to-parity-a-techno-economic-analysis> - A techno-economic analysis outlines four key strategies for achieving price parity between cultivated and conventional meat: reducing the cost of media, improving biomass yields, optimizing the bioprocess, and reducing capital expenditure, particularly through larger bioreactors. Media costs are identified as the most significant cost driver, and the analysis suggests that increasing bioreactor scale can lead to substantial cost reductions per pound of production. The study emphasizes the importance of innovation in these areas to make cultivated meat more competitive.
7. <https://scitechdaily.com/unprecedented-efficiency-new-manufacturing-method-could-make-cultivated-meat-cheaper-than-organic-chicken/> - A study published in Nature Food demonstrates the use of tangential flow filtration (TFF) for continuous manufacturing of cultivated meat, achieving yields of 43% weight per volume. The process introduces an animal component-free culture medium, priced at $0.63 per litre, supporting long-term, high-density culture of chicken cells. This method significantly reduces the cost and complexity of cultivated meat production, potentially making it more accessible to consumers and competitive with conventional meat products.