

MONTHLY MARKET REPORT: NOVEMBER 2024

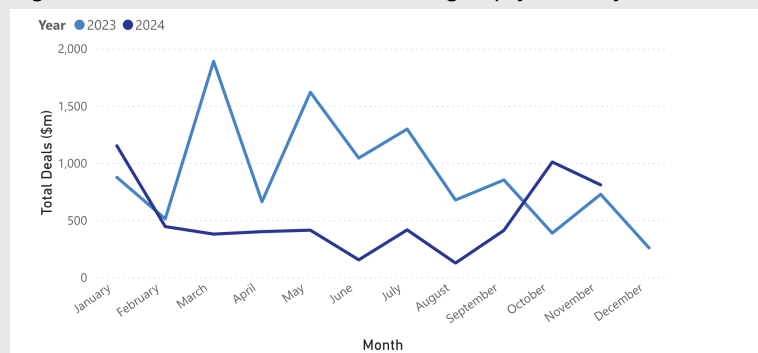
WELCOME!

Welcome to the New Food Finance Monthly Market Report! At New Food Finance, we aim to bring transparency and clarity to a green transition in food and ag, reporting on deals and prices involving tech and other companies reducing the environmental impact of food production. We cover sectors of the economy from alternative protein to precision ag, and technologies including biotech, computer vision and AI.

Regarding privately owned companies, our biggest fund-raising of the month was a \$400 million debt-raising by U.S.-based fruit producer, Agrovision, which has adopted organic practices in some markets, and uses different precision ag technologies. After Agrovision, the standout fund-raisers were from our “sustainable crop inputs” sector, such as Cradle, Elicit Plant and Tebrio. In total, private company-level fund-raising in November were up year on year, but down slightly from October, at \$808 million (see Fig. 1).

Regarding public companies, the NFF Precision Ag Index soared 12% last month. This was due to strong performance by index leaders like Valmont, a telco and irrigation infrastructure company betting on investment in climate resilience, and Planet Labs. Planet Labs stock rose 73% last month, especially buoyed by a “six-figure deal” to help the NGO Global Fishing Watch monitor fishing vessels globally. Planet Labs is the perfect example of a New Food Finance “green transition” company, and shows the opportunity from positioning for this transition.

Figure 1. November 2024 fund-raising up year on year



Source: New Food Finance

REGULATORY NEWS ROUND-UP

Company-level regulatory news in November:

- Imagindairy gained regulatory approval to market animal-free dairy proteins in Israel
- Vow, an Australian cultivated meat startup, became the first to be authorised in Hong Kong. It will be able to sell its foie gras made through cellular agriculture.
- Finnish startup Enifer has filed for novel food approval in the EU for its Pekilo mycoprotein, and is planning applications in Singapore, the US, and the UK, months after closing a Series B funding round

MARKET INDICES

At New Food Finance, we have generated indices tracking an agri-food green transition among listed companies, to add colour and data to the picture we have from privately owned tech startups.

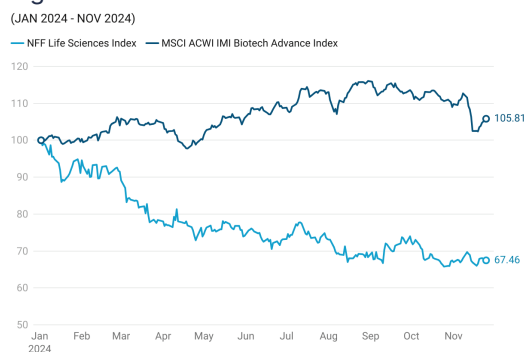
This month, we launched the NFF Life Sciences Index (Figure 2), to track publicly listed companies that operate primarily in the agri-food biotech sector, and that promote environmental sustainability. The Index has 17 constituents, including Anpario, Eden Research, Bioceres Crop Solutions, and Ginkgo Bioworks, which we compare with the MSCI Biotech Advance Index benchmark, whose constituents include companies such as Johnson & Johnson and Merck & Co.

In 2024 to date, the NFF Life Sciences Index has under-performed its benchmark, which we attribute to poor performance of index leaders such as Anpario.

Meanwhile, the NFF Precision Ag Index continued significantly to outperform its MSCI benchmark (see Fig. 3), which we attribute to continued high demand for agtech solutions that increase yields, cut costs or leverage advances in AI and digitalisation.

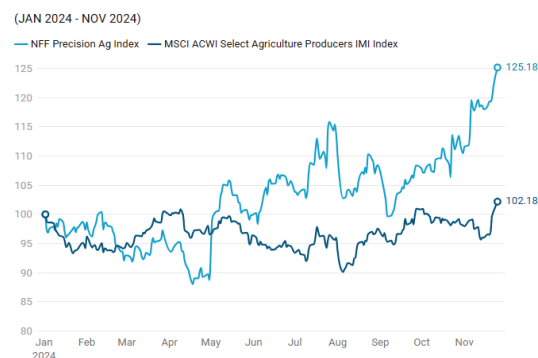
The NFF Alternative Protein Index continues to lose value compared with its MSCI benchmark (see Fig. 4), which we attribute to continued doubts around consumer uptake. However, we note that Beyond Meat – one of the index constituents - posted quarterly revenue growth for the first time in two years this month, buoyed by higher prices and a strong performance in Germany.

Figure 2. NFF Life Science Index



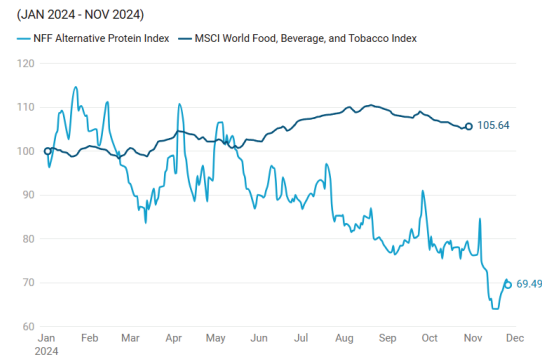
Source: New Food Finance, Yahoo Finance, MSCI

Figure 3. NFF Precision Ag Index



Source: New Food Finance, Yahoo Finance, MSCI

Figure 4. NFF Alternative Protein Index



Source: New Food Finance, Yahoo Finance, MSCI

MARKET PRICES

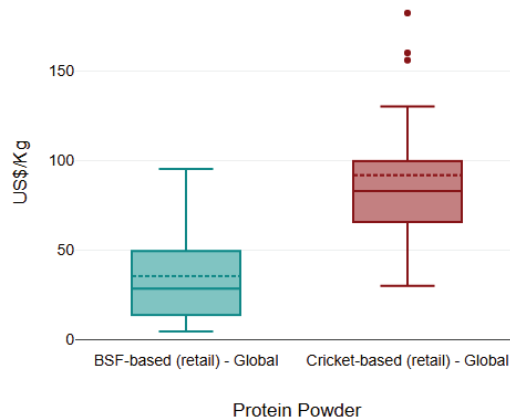
At New Food Finance, we track underlying prices, and especially for products where price transparency is low. As such, our initial focus is prices for novel proteins, and biological pesticides.

Our insect-based protein price coverage (see Fig. 5) follows retail market prices for cricket powder (*Acheta domesticus*) and black soldier flies (BSF). We source publicly available prices from manufacturers and resellers of pure protein powder. Crickets are available for human consumption. BSF at present are only available as animal feed, and for fertiliser applications. A sample size of 22 cricket and 19 BSF powder retail prices is used to calculate medians and price ranges.

Our cultivated meat prices (see Fig. 6) are taken from the menus of a sample of five restaurants serving cultivated chicken, in the United States, Singapore and China. In the absence of cost or price data of cultivated meat per pound or kilo, we track the prices of meals, and compare these with conventional meal prices in corresponding venues. We find that for these high-end experiences, cultivated meat prices carry only a small premium to conventional meat, but have a greater range. As more countries approve cultivated, meat products, more data will become available allowing for more accurate comparisons of the costs.

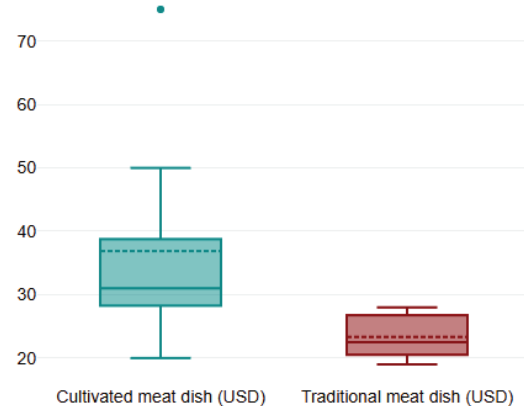
Finally, our biological pesticide prices (see Fig. 7) are taken from Brazil and India, and focus on four active ingredients: *Bacillus thuringiensis* (a bacteria-based insecticide); *Bacillus amyloliquefaciens* (a bacteria-based pesticide and biostimulant); *Trichoderma spp* (a fungi-based fungicide); and *Pseudomonas fluorescens* (a bacteria-based pesticide).

Figure 5. Insect-Based Protein Price, \$/kg



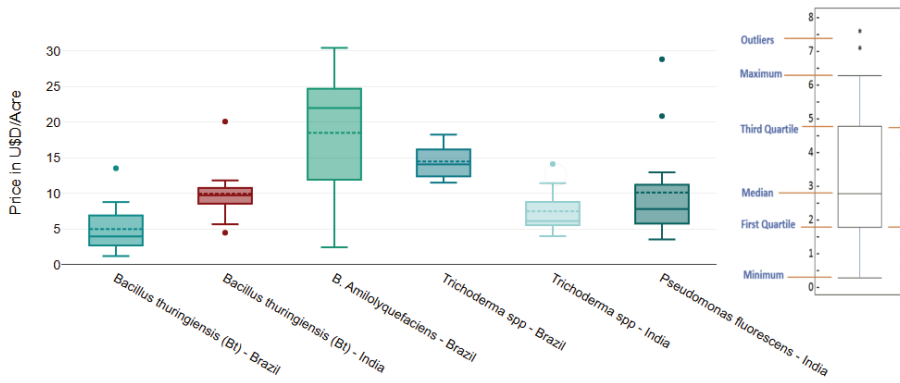
Source: New Food Finance

Figure 6. Prices for Restaurant Meals: Cultivated vs Conventional, \$/meal



Source: New Food Finance

Figure 7. Biological pesticide prices, \$/acre

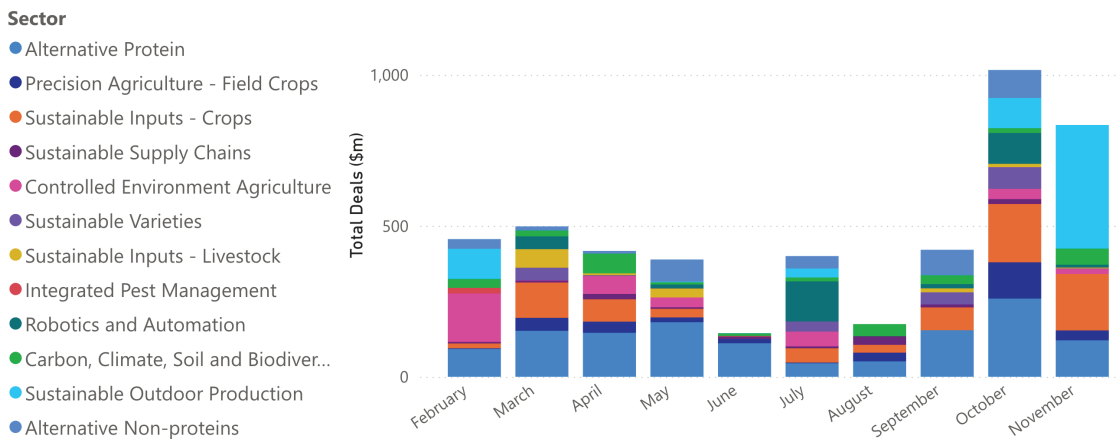


Source: New Food Finance

FUND-RAISING ROUND-UP

Total private company-level fund-raising in November 2024 reached \$808 million, up year on year. Drilling into individual sectors, Fig. 8 shows that sustainable producers, alternative proteins and sustainable crop inputs led last month.

Figure 8. Fund-raisings by sector and month, 2024 (\$m)



Source: New Food Finance

MARKET PRICES SUMMARY

COMMODITY	DATE	UNIT	LOW	HIGH	MEDIAN	COUNT	NOTES
Carbon credit: Soil carbon	Oct-24	USD/ tCO2	20	38.53	29.68	8	Global
Protein powder: Cricket-based	Nov-24	USD/ kg	29.66	160.18	83.09	22	Global
Protein powder: BSF-based	Nov-24	USD/ kg	4.61	93.91	28.56	19	Global
Cultivated meat meals	Nov-24	USD/meal	20	75	32	9	Global
Biological pesticide: B. thuringiensis	Nov-24	USD/ acre	1.19	13.33	3.91	12	Brazil
Biological pesticide: B. thuringiensis	Oct-24	USD/ acre	4.5	20.2	9.81	14	India
Biological pesticide: B. amilolyquefaciens	Nov-24	USD/ acre	9.00	29.98	21.66	6	Brazil
Biological pesticide: Trichoderma spp	Nov-24	USD/ acre	11.33	17.98	13.87	6	Brazil
Biological pesticide: Trichoderma spp	Oct-24	USD/ acre	4.00	14.20	6.16	11	India
Biological pesticide: P. fluorescens	Oct-24	USD/ acre	3.6	21	7.86	13	India