Will weight loss drugs impact the future of agriculture?

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Medications like GLP-1 receptor agonists, such as semaglutide (marketed as Ozempic, Wegovy, Zepbound etc.), have demonstrated startling efficacy in reducing body weight and are now at the forefront of obesity treatment. Since they work primarily by suppressing appetite, an obvious question is being considered across the entire food chain: will weight loss drugs significantly impact the future of agriculture?

More and more voices are answering “yes”. Not only are models showing a significant impact of these drugs over the medium- and long term, but the demand reduction triggered by weight loss drugs will hurt regions where population peak and shifting demand are already lowering the growth potential of certain segments of agriculture.

Changes are already seen in food consumption

Weight loss drugs like semaglutide work by mimicking the GLP-1 hormone, which regulates appetite and insulin secretion. By doing so, these medications reduce hunger and caloric intake, leading to weight loss. They also appear to reduce consumption of alcohol, tobacco, and junk food. While they have been around for more than a decade, they only recently started to be prescribed for the express purpose of weight loss. In the meantime, medical research is yielding increasingly better results at more affordable prices and with easier application, which will lead to much more widespread adoption around the world.

Currently, around 1.7% of the US population is officially prescribed such drugs, although it is hard to know how many people are actually taking this type of medication. Morgan Stanley expects the figure to grow to 7% within ten years – equivalent to well over 23 million people in the US alone. Even with this currently small percentage, retailers are claiming to see effects. Pepsi, Nestle and Walmart are among those

preparing to pivot in the face of expected losses.

As more individuals adopt these drugs for weight management, dietary patterns are expected to shift even more, impacting food demand at both individual and population levels. With a 25% reduction in caloric intake for a considerable slice of the world's over 1 billion obese people, not to mention overweight populations that might take these drugs off-label, the math speaks for itself.

Potential implications for agriculture

1. Crop Production Adjustments: Farmers might adjust crop production to align with changing consumer preferences. Increased demand for fruits, vegetables, and whole grains could lead to a shift in crop priorities, influencing agricultural planning and resource allocation.
2. Livestock Industry: A potential decrease in demand for high-fat meats and increase in demand for leaner meats could impact the livestock industry, leading to changes in breeding, feeding, and marketing strategies. Animal protein, however, remains much less impacted than industries supplying manufacturers of junk food, alcohol, and tobacco.

Changes in consumer demand will inevitably impact food prices and market dynamics, from the field to retail shelves. Increased demand for healthier food options might lead to industry shifts and higher prices initially, but as production scales up, prices could stabilize. This economic transition will require strategic adjustments across the supply chain.

Bonus problem: World population will peak and decline within two generations

To add insult to injury: United Nations demographic models suggest population growth will peak around 10.3 billion in the mid-2080s, then decline. Naturally, the distribution is unequal across the board, with some countries peaking this year and others growing at staggering speeds.

For instance, 63 countries and areas will already see population peaks in 2024 and are expected to decline by 14% over the next 30 years – including China, Russia, Germany, and Japan.

> "Angola, Central African Republic, the Democratic Republic of the Congo, Niger and Somalia are likely to grow exponentially, with populations doubling in size or more between 2024 and 2054. More than one fifth of the projected increase in the global population between 2024 and 2054 is expected to be concentrated in these nine countries. Due to this rapid growth, the ranking of the most populous countries in the world will likely change, with Pakistan and eventually Nigeria and the Democratic Republic of the Congo overtaking the United States of America in terms of population size, and the United Republic of Tanzania likely joining the list of the ten largest countries by the end of the century."
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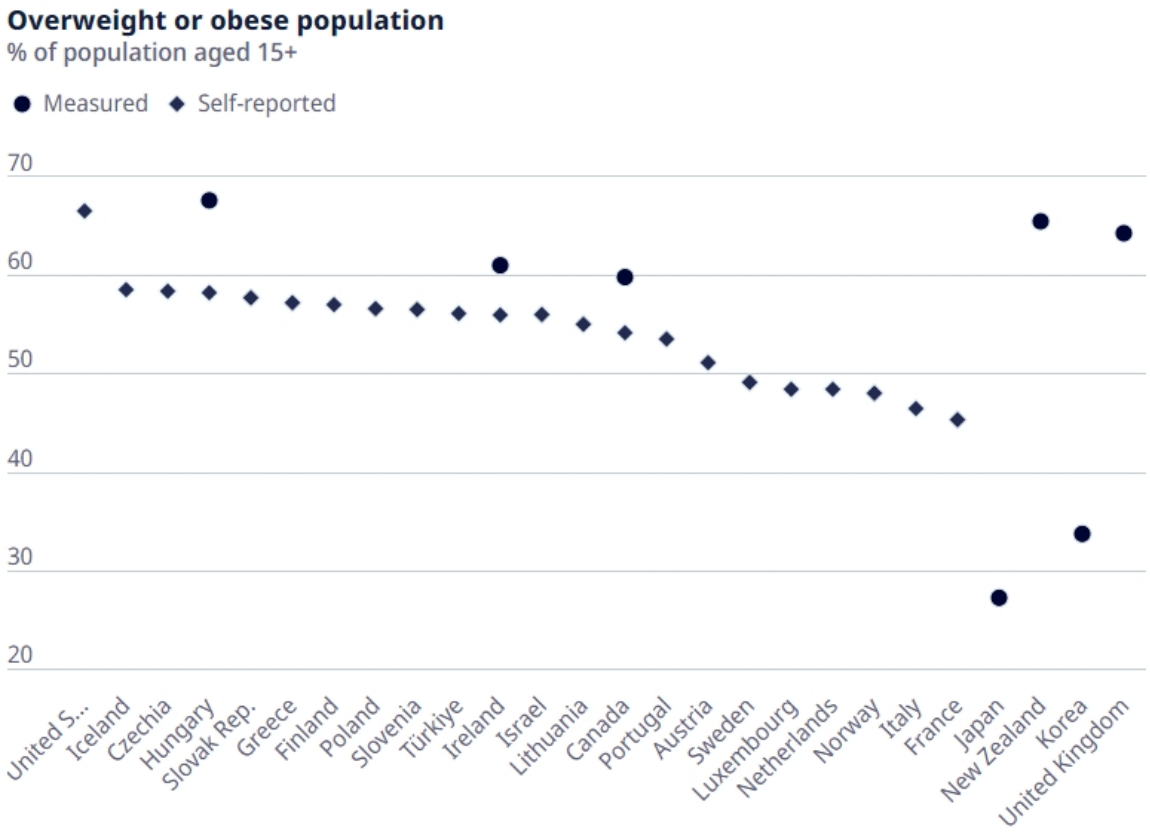
> *United Nations World Population Prospects 2024*

These new demographic models should already shape the long-term plans not just for companies, but for countries and alliances as well – and agriculture will represent a major point of impact. In its case, this map is consistent with FAO's analysis of growth areas and lends even more credence to the idea of major shifts already felt within a generation. Growth in protein demand will move to what are now seen as developing nations, while developed countries should expect shrinking demand. It is, however, in these developed countries where obesity drugs will hit first and most strongly, lowering demand that is already nearing its peak.



Obese Population OECD Countries

Still: It’s not all bad news!

The emergence of weight loss drugs like semaglutide has the potential to influence dietary patterns significantly, thereby impacting agricultural demand and production. While this is undeniably a challenge, there is a major opportunity here as well: The industries that will be most severely hit do not include healthy protein production. A reduced food intake will likely require a higher quality of nutrition in general, with reduced demand for “empty” calories and increased demand for vitamin-, fiber-, and especially protein-packed meals, tasty as well as nutritionally rich.

Further reading

Wilding, J.P.H., et al. (2021). “Once-Weekly Semaglutide in Adults with Overweight or Obesity.” *New England Journal of Medicine*, 384(11), 989-1002. https://www.nejm.org/doi/full/10.1056/NEJMoa2032183

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Garnett, T. (2011). “Where are the best opportunities for reducing greenhouse gas emissions in the food system (including the food chain)?” *Food Policy*, 36, S23-S32. https://www.sciencedirect.com/science/article/abs/pii/S0306919210001132