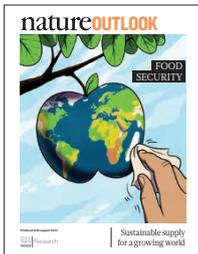


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FOOD SECURITY

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Adequate access to food is a universal right. Since the early 1990s, although concerns of overconsumption and a lack of vitamins and minerals have grown, undernourishment has fallen by around 27%. But eradicating malnutrition and achieving global food security is an ambitious goal. With the current rate of progress, the United Nations' sustainable development goal of ending global hunger by 2030 is likely to be missed (see page S6).

Improvements in crop yield are getting smaller each year. Photosynthesis is one of the few remaining unexploited processes; it is full of inefficiencies that biologists are seeking to improve (S11). Higher yields are no guarantee of nutritional content, however. Wild relatives of commercial crops embody a genetic bounty that could be key to boosting the quality and resilience of modern staples (S8). Farming practices may also be in line for an upgrade: advances in robotics have the potential to disrupt the central principles of agriculture (S21).

Increasing and safeguarding food production is just one step to ensure future food security. As John Ingram, food systems researcher at the University of Oxford, UK, says on page S17, demand must not merely be met, but also managed. In Egypt, for example, where land and water scarcity is an obstacle to food security, the population's needs may be better served by the promotion of waste reduction and a change in consumption patterns, rather than by costly land reclamation projects (S14).

Our appetite for meat is unsustainable, and demand is only set to increase with a growing global population. Switching to other sources of protein, including imitation and lab-grown alternatives, could allow us to reap the environmental benefits of reducing livestock production (S18).

We are pleased to acknowledge the financial support of Nestlé Research in producing this Outlook. As always, *Nature* has sole responsibility for all editorial content.

Richard Hodson
Supplements editor

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