

Asian investors begin to bet on bugs as the future of food

Ventures back silkworms and crickets in the race to meet region's dietary needs

A TOKYO – An emerging group of Asian venture capitalists are exploring whether insects and lab-grown meat can help meet Asia's growing appetite for food.

5 For Shanghai-based accelerator Bits x Bites, the search for sustainable food has extended to silkworms. Last year, the company invested in Bugsolutely, a local start-up that is developing insect-based snacks.

10 Silkworms are grown to spin silk, with the worms usually disposed of when they are done producing. Bugsolutely, which made its name selling cricket-based pasta, noted that the waste was rich in protein, vitamins and minerals. This prompted the company

15 to infuse snacks with silkworm powder in popular flavours like salt and vinegar.

B 'After a lot of consumer research, we started to learn that the younger generation doesn't want to see whole insect pieces,' said Matilda Ho, managing

20 director of Bits x Bites, in a recent interview in Tokyo. 'Also, since no one can taste the insect flavour ... it's easy for people to adapt to the new concept. We are excited about how this product can bring traction to the market.'

25 Bits x Bites was launched in 2016 as China's first accelerator specialising in the food technology sector. Backed by local condiments company Shinho, it normally provides no more than \$500,000 in seed funding to promising ventures in exchange

30 for minority stakes. It also supports their growth through mentorship programs and connecting them to potential investors.

C As Asia's population expands, so will the challenges in meeting its dietary requirements.

35 China has already overtaken the USA in the number of obese people, according to a 2016 study by *The Lancet* medical journal. The country has also been plagued with numerous food safety issues.

40 'China represents 20 percent of the world population but less than 7 percent of its land is arable,' said Ho. 'How we feed the population for the next decade will have global implications.'

45 Snacks made from insects are only part of the equation. Bits x Bites has invested in ten start-ups ranging from Alesca Life, which sells mini farms that fit in shipping containers, to Inspecto, a developer of

portable devices that detect pesticides and other food contaminants. They are all tackling an industry that observers say has been slow to embrace cutting-edge

50 technology.

D 'More than half a century ago, the "green revolution" solved the food security issue with chemical fertilisers and pesticides that enabled mass production,' said Satoshi Koike, President of Tokyo-based farming technology start-up Vegetalia. 'Since

55 then, there has been no innovation in the way we produce food.'

Food-related start-ups have taken off in the USA, where preference for organic food has spread.

60 California-based Impossible Foods, which sells plant-based burger patties that taste like real meat, has raised more than \$380 million since its establishment in 2011. Tyson Foods, the largest meat packer in the USA, set up a \$150 million venture arm

65 in 2016 to invest in start-ups that develop alternative meat.

E The number of investors worldwide backing food and beverage start-ups doubled from 223 in 2015 to 459 in 2017, according to CB Insights. While some prominent Asian investors like Singapore sovereign wealth fund Temasek Holdings and Li Ka-shing, one of China's richest men, have invested in Impossible Foods, the region lags behind the USA, where large food companies have begun actively pursuing the

70 latest innovations.

It remains uncertain whether the funds can create homegrown champions that can compete against well-funded U.S. rivals, many of which are eyeing Asian markets. Impossible Foods recently entered

80 Hong Kong by tying up with local restaurants, marking its first overseas foray outside the USA.

F Regulation is another obstacle. Insects, for example, are generally not approved for consumption in most Asian markets, and regulations concerning lab-grown food are even less clear. Even the U.S. Food and Drug Administration recently announced that it will hold a meeting in July to share 'initial thinking' about how it will regulate food made from harvesting animal cells.

90 'I don't think we will be able to see everyone starting to eat organic in the next decade,' concedes Ho. 'It's going to be a long-term game.'