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By Michael Barker

Tuesday 14th May 2019, 12:31 GMT

AMT works to reduce citrus waste

Tesco supplier has teamed up with AgriGrub to take its waste-reduction efforts to the next level



AMT Fruit is highlighting the work it has done to address the problem of wastage in the fresh produce supply chain.

According to WRAP, some two to four million people could be fed their 5 A Day on fruit and veg that is currently rejected for cosmetic reasons such as colour, shape and size.

The issue is set to be discussed at the Agri-Tech East event 'Closing the Loop on the Circular Economy' on 5 June, where AMT's head of technical and CSR Naomi Pendleton will be speaking.

AMT works with over 250 growers to supply Tesco with 11 million boxes of citrus each year. "We have been focusing on reducing food waste in our global operations for a number of years, and through our efforts to date we have reduced overall operational waste by 30 per cent from 2015 to 2018, the majority of which (81 per cent) is citrus fruit waste," Pendleton said.

"This has been achieved in a number of ways, including revising and broadening product specifications; expanding our sourcing countries; introducing new product lines; and developing partnerships with food charities, which have seen the donation of one million portions of fruit."

AMT has conducted consumer research to gauge attitudes and explained that it has worked with Tesco to accept an increased amount of 'scruffy' fruit and to introduce a new giant line of over-sized fruit. This resulted in Spanish growers supplying an extra 10 per cent of their crop to Tesco, while further improvements to the delivery strategies have extended the shelf life of citrus fruits by 40 million days.

However despite these efforts the organisation still has in excess of 2,000 tonnes of waste each year from the UK operation.

"Our citrus waste is too wet and acidic

and full of rots and moulds which makes it unpalatable for animal feed," Pendleton added. "We were having to send all our waste to AD plants. At the start of 2018 we were introduced to Joe Halstead from AgriGrub, who was looking for locally sourced viable waste products on which to grow his black soldier fly larvae."

AgriGrub feeds waste vegetables and fruit to the larvae of Black Soldier Flies and when they are an optimum size they sell the larvae – branded as Calci worms – to pet food distributors and retailers as a form of live feed for reptiles. Their virtuous by-product is called frass, and is a sustainable source of nutrients for plants, and a novel bio-repellent for crop protection.

Positive signs from frass

There is already a significant body of evidence on the efficacy of chitosan (the active component in frass) as a biopesticide, AMT continues. However

<http://www.fruitnet.com/americafruit/article/1474/parts-of-san-diego-quarantined-as-psyllid-count-mounts>

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for many years the cost of extracting the chitosan was considered too great, as the process involved boiling crustacean shells in sulphuric acid. Frass from insects, however, needs little processing and represents an economically viable source of chitosan for agriculture.

Halstead explained: "We are focusing our attention at the moment on higher-margin crops which have few treatment

options for pests and diseases as this is likely to give us the best return in the least time. However longer term I hope and expect frass to have broadacre application, especially where neonicotinoids are being phased out. Our first frass trials, on brassicas, showed a 94 per cent reduction in aphid numbers on frass treated plants versus controls.

"It is in the field where

routine synthetic pesticide usage is most damaging to our environment, so ideally we'd like to see frass and its bio-repellent qualities used in the field to repel insects rather than killing them. This spares non-pest species and allows beneficial insects to persist in the local environment."