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How nanotechnology in the food industry could fight against Covid-19 ?

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Nanotechnology in the food industry could be used to fight against Covid-19 in three ways: 1. It can increase the immunological system because the process implemented herein concentrates vitamins, minerals, fiber, proteins, among others. 2. The products can be preserved for periods longer than 2 years without adding any chemicals. 3. The virus within the product will disappear because the molecular sieves are smaller than the virus (10^{-10} versus 10^{-9}), and during the dehydration process, if Covid-19 is present in the unprocessed product, during dehydration, the molecular sieves and biopolymers will allow the virus to attach to their surface, thereafter, it is destroyed in the regeneration process when the sieves and biopolymers are placed in an oven at temperatures higher than 250°C. The molecular sieves and biopolymers are used as filters inside a vacuum chamber; temperature and pressure changes tuning, by trial and error until the desired characteristics are obtained are required to fulfill the process. Other advantages include: the system does not use any contaminant substances during the drying process, colour and smells are preserved and concentrated; the discharge is only limited to water vapour. More than 1000 products had been tested over a 12 years' research. In addition, sub-products development could result from the recovery of wasted material such as toothpaste and calcium pills from egg shells, cosmetics from mangostine and shrimp peels, bromelain from pineapple stems, among others. Whenever sub-products' development is not possible, the waste could be used for soil improvement by means of composting.

Biography

Prof Palencia-Aguilar is an Engineer. She has completed 4 Masters degrees and 4 specializations in various engineering and management fields worldwide. She dedicated more than 10 years of research in France and other European countries. She is a PhD candidate at Lund University in Sweden. She has participated in exhibitions as well as speaker in various conferences and had published various papers in topics such as agriculture, remote sensing, modelling and land used optimization. She has been consultant for various companies in South America and at international level. She has also been widely involved in social work and sustainable development.