Alternative processes for low moisture food: Versatility and challenge

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Conventional production of low moisture food (spices, herbs, blends, ingredients) implicates a number of hygienic problems, which can pose tremendous risks for farmers, producers and consumers. Furthermore, food quality may also be adversely affected. Only few technologies exist for the sanitation of spices, however, some applications such as fumigation or irradiation with ethylene oxide are restricted or even banded by law in the European Union (EU). As consequence, it is imperative to develop innovative technologies for the production of high quality spices (less VO loss, moisture and color changing). Since the use of the ethylene oxide has been banned and the consumers do not accept irradiation, steam treatment is extensively used not only in the EU nations, but also worldwide. This last technique can be in batch or continuous way and involves steam at various temperature levels for whole spices, before grinding, or ground spices, after grinding. In our days the producer is actually looking for versatile technologies, which will allow the production of spices with various characteristics (microbiological safe, taste, color, texture), but also with multifunctional applications such as disinfestation or mycotoxins reduction without any risk assessment. That is why discovering this type of technologies became a challenge for the companies working in this field.