



Germ Reduction through FoodSafety-IRD

On the occasion of the ProFood Tech in Chicago, USA, KREYENBORG Plant Technology GmbH, Germany, will be presenting for the very first time a successful way to treat bulk foods such as tea, spices, dried herbs or vegetables, nuts, kernels and seeds with infrared light so that germs are drastically reduced and numerous harmful substances dissolved and volatilized. Proven technology from Germany – new on the US market. That is an absolute novelty in food technology. Moreover, this process offers a great variety of additional application options for innovative product ideas. What all these applications have in common is their extremely gentle treatment of foodstuffs.



OVER the past three years, KREYENBORG, in partnership with PS Perfect Solution, has developed a technology for germ reduction, drying, protective treatment of stocks, and roasting and toasting of foodstuffs. The two companies have combined competencies from 60 years of machine manufacturing and 30 years of food processing technology to develop the *FoodSafety-IRD*.

In light of the steadily increasing quality- and health standards in the European and American market, contrasting with the low standards for raw materials in the producing countries, uncertainty for European and American producers is on the rise. A germ-infected, and thus unsafe product brought to market can threaten a business's very existence.

Frequently, not only bacteria, yeasts and molds, but also pathogens can be found in raw materials. Pathogenic germs must be safely destroyed, and microbiological contamination reduced to a minimum.

In over 5,000 fully-documented disinfection analyses of well over 100 dried products (e.g. spices, nuts, mushrooms, chillies, teas, onions, products containing sugar, herbal mixtures, flowers, etc.), impressive results were achieved. Germ reduction using the *FoodSafety-IRD* was significantly above 10 log 5 and is thus best recommended for germ-reduction of heavily contaminated goods. Sensory damage could



scarcely be detected – in contrast to cases using traditional procedures. Many products seemed even more flavor- and color-intensive after treatment. Essential oils were only marginally affected.

The *FoodSafety-IRD* is a thermal method. Heat is fed to the raw materials by means of infrared light. The light can be precisely controlled in all zones throughout the drum. A special sensor ensures that the product reaches but doesn't exceed a pre-set temperature. The raw material is heated within minutes from the inside out. To protect the product, a light mist of water can be introduced. Additionally, aromas, colors, etc. can be added to the water. By rotating the drum, the raw material is constantly transported and thereby thoroughly blended. The formation of nests is thus avoided and a uniform light input is assured.

A further side-benefit: the product is automatically treated for stock-protection. If desired, drying, roasting or toasting can be done using the same machine. In certain cases, a reduction of contaminants (pesticides, ochratoxins, etc.) was also achievable.



Picture 1: *FoodSafety-IRD*



Picture 2: Technology center in Senden, Westphalia.



You can find more information at:

<http://www.kreyenborg.com/en/produkt-detail/foodsafety-ird/>

For further information, please contact:

Mr. Wilfried Binternagel

KREYENBORG Plant Technology GmbH & Co. KG

Messingweg 18

48308 Senden

Germany

Phone: +49 2597 93997-151

Fax: +49 2597 93997-60

Mail: w.binternagel@kreyenborg.com

