



Andy Pearson

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Food, Glorious Food

BY ANDY PEARSON, PH.D., C.ENG., FELLOW ASHRAE

In December last year I attended a remarkably thought-provoking event. The World Cold Chain Summit to Reduce Food Waste was conceived and hosted by United Technologies and Carrier and it presented some incredible statistics based on their company-sponsored research.

Farming uses 38% of the ice-free land on earth and 70% of the fresh water. As a consequence it is responsible for 14% of the world's greenhouse gas emissions and about one-third of all food produced is either lost before it gets to the shops or is wasted once it has been purchased. As a result, the embodied carbon dioxide inherent in the food that has been wasted is about 3.3 billion tons. Often reiterated at the summit was that if food waste was a country it would be the third highest emitter of carbon dioxide in the world, only surpassed as a polluter by China and the United States. Yet the link between food loss and climate change has, up to now, not been featured in any of the international negotiations and this prime opportunity is being ignored.

Population growth is well documented. When I was born there were 3 billion other people in the world. By the turn of the century this had grown to 6 billion. I don't take full responsibility for this—only for three of them. Now the population is 7.3 billion and it is expected to be 9.5 billion by 2050. What's more, all the extra 2.2 billion people will live in cities. That's right. While the world population grows from 7.3 billion to 9.5 billion the urban population will grow from 3.9 billion to 6.4 billion. Feeding a city is much more complex than subsistence farming and it requires a sophisticated logistics chain. I was surprised to learn that two-thirds of food loss and waste occurs before the produce reaches the point of sale and only one-third happens once it is out of the custody of the controlled cold chain. There is a clear need to get smarter in the way that we ship food from farms and oceans to cities and towns. We need to learn how to feed more people, and growing and

transporting more food in the inefficient and wasteful way that is currently used is not an option. The math is simple; if we need to double the food supply to provide sufficient nutrition to the growing world, but we already use 70% of the fresh water and 38% of the land, then something has got to change.

The Summit also launched the book "Food Foolish—The Hidden Connection Between Food Waste, Hunger and Climate Change," by John Mandyck and Eric Schultz.

Mandyck and Schultz, senior executives with United Technologies, provide a thorough review of the issues surrounding what they call "the extraordinary social and environmental opportunities created by wasting less food." They show that up to 50% of the food grown and harvested in developing regions, where there is not an effective tem-

perature controlled distribution network, does not make it to market.

By introducing faster cooling of produce and more robust cooling systems, which give a reliable service, this level of waste could be reduced, in principle, to that of the developed economies; less than 2%. In addition to reduced climate impact, the result would be higher nutrition levels for those who need them most, economic growth, food price stability and more effective use of fresh water and other resources. The global climate trends already being experienced are likely to increase food loss unless action is taken. We cannot afford to let this happen. As Mandyck and Schultz conclude, "the low hanging fruit for climate protection is literally rotting." Now that is food for thought. ■

Andy Pearson, Ph.D., C.Eng., is group managing director at Star Refrigeration in Glasgow, UK.



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