



urban  
agriculture  
AUSTRALIA



## What is food integrity, and how can urban agriculture contribute?

### What is food integrity?

Health is our greatest individual resource; it empowers us to reach our full potential. Food integrity is a holistic framework for assessing whether our food system meets our health needs, both now and into the future.

### Why is food so important?

We are what we eat. From conception, the growth and health of every cell in our body is governed by:

- the energy and nutrients it receives, and
- the toxins it is exposed to.

It is not surprising then that studies with animals and humans suggest up to 90% of ill health is directly related to diet.

The industrial food system has brought about radical changes in our diet. Could this be a factor in the global 'pandemic' of heart disease, diabetes, cancer, chronic fatigue, allergy and autoimmune disease and mental illness? What is allowing antibiotic resistance and new viruses to emerge in vulnerable populations?

Health care costs are rising: Australia currently spends some \$135 billion on health care each year, more than 9% of GDP. We need safer and better preventative health alternatives.

Given the close links between diet and disease, it is imperative that we evaluate our food system.

### Food integrity

Food integrity considers all aspects of our food necessary for a secure and healthy future:

1. The **secure supply** of adequate amounts of food, accessible to all at affordable prices.
2. The **quality** of that food, in terms of its nutritional value and freedom from toxic effects.
3. The **viability** of the farmers who produce that food.
4. The **sustainability** of the food system, in terms of all its inputs and impacts.
5. The **autonomy** of the food system, so that it is not vulnerable to events in other parts of the world.

These food integrity values identify the minimum standards we must set for the systems that produce, process and distribute our food. These values become performance measures for evaluating and comparing food systems.

## How does urban agriculture compare with the industrial food system on Food Integrity values?

### *Secure supply*

World population is projected to rise to 10 billion by 2060. Over 8 billion will live in cities. There are major concerns about the capacity of industrial farming to supply food for all these people given declines in productivity; limitations to the supply of inputs (oil, fertilizer, water and land resources), and the effects of climate change.

In contrast to the input-hungry industrial system, highly productive urban garden systems can be sustained by the natural recycling of local organic wastes. Emergency responses during World War 2 and, more recently, in Cuba, clearly showed how urban agriculture can rapidly meet the food needs of communities in this way. While some grain and meat may need to be imported from wider rural areas, this can also be sustainable if nutrients from food wastes are returned to the land. Saving waste in many communities could double the food supply from existing resources.

### *Nutritional quality*

Industrial food production is highly dependent on large inputs of chemical fertilizers and pesticides to maintain yields. These chemicals have been shown to impair the microbial processes that govern the use of essential nutrients in bio-systems, including those within the human body.

As a result, industrial food contains both lower levels of essential nutrients and higher levels of toxins than the food we ate prior to World War 2.

### *Viability of producers*

Industrial farming has produced a sharp decline in the number and viability of farmers. Most food is now grown by a small number of big industrial farms, in large volumes at small margins. Traditional small farmers cannot compete in this system. This has led to significant losses in regional economic and social capital.

### *Sustainability*

The industrial food system has provided us with large quantities of cheap food by 'externalizing' many of the true costs of production. These include subsidized, mined inputs like fossil fuels and fertilizer; soil and water degradation; and adverse social and health effects. If subsidies were removed and costs were truly accounted for, the industry would collapse.

In the industrial system, 10 units of oil energy are required to produce each unit of food energy. In contrast, natural systems can produce 20 units of food energy per unit of energy input through efficient nutrient recycling. Urban agriculture is thus more sustainable, productive and resilient than the industrial alternative.

### *Autonomy*

The industrial food system is highly concentrated with few mass producers and globalized processing, distribution and retail networks. This makes it vulnerable to disruptions by physical, market and political factors. By contrast, the greater numbers of smaller and more local providers in urban agriculture systems can be more autonomous and resilient in meeting regional food needs.

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## Suggestions for further reading and viewing

**The Coming Famine**, by Julian Cribb (CSIRO, 2010)

**Food Shock**, by Dianne Loughnan (Exisle Publishing, 2012)

**Plan B 2.0: Rescuing a Planet Under Stress and a Civilisation in Trouble**, by Lester R. Brown

**Permaculture, a Designer's Manual**, by Bill Mollison (Tagari Publications, 1988)

**Food Inc**, documentary film directed by Robert Kenner (Magnolia Home Entertainment, 2009)

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