

## The grower's world

The challenge of achieving long-term food security rests ultimately with farmers.

The complexity of meeting that challenge has risen with the awareness of the issues involved. This means that the farmer is faced with a series of dilemmas, including the need to combine:

- productivity with sustainability
- cost efficiency with quality
- demand growth with resource constraint

We intend to help resolve these dilemmas.

## Global financial instability

While crop prices have remained attractive for growers, their continuing volatility makes decisions on acreage and which crops to plant more difficult. Crop price volatility has in part reflected sharp movements in currencies, notably the US dollar, which also have a bearing on the relative competitiveness of agriculture in different regions of the world.

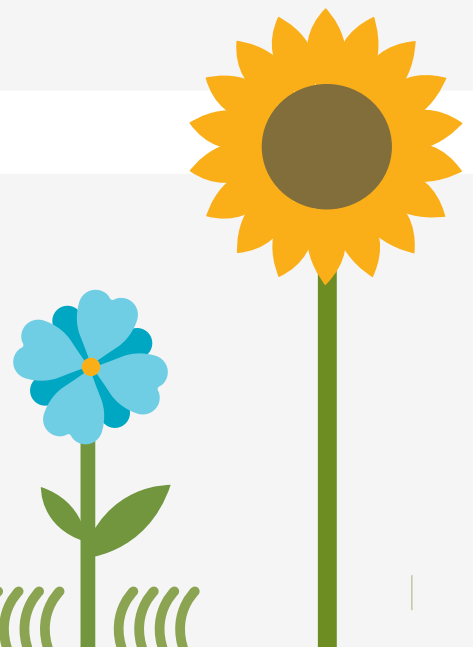
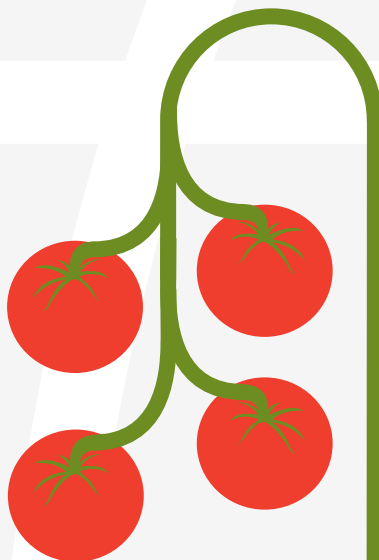
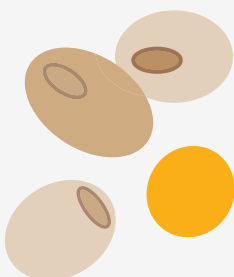
## Value chain

The direct customers of growers include grain traders, vegetable processors and ethanol mills. These customers not only determine access to market, but also frequently have a direct influence on the way crops are grown.

Retailer requirements simultaneously reflect consumer preferences and the need for profit maximization. Fresh produce, for example, needs to combine attractive appearance with long shelf life. Retailers also influence the way crops are grown by imposing rigorous standards on chemical residues.

Consumer priorities differ from region to region. In developed markets, the focus is on cost, quality and choice. In some emerging markets, sufficiency is the primary concern, with food shortages and rising prices a cause of political instability.

Syngenta's role includes helping growers to reconcile differing value chain requirements through tailored offers and agronomic expertise.



## Governments and regulators

Governments and regulators are charged with ensuring food safety. In developed markets, food regulation in general is highly developed and compliance requires strict grower attention. At the same time, emerging markets are becoming more aware of food safety, with a view to both protecting the domestic food supply and realizing export potential, and are stepping up their own regulatory regimes. Changes in regulation are not synchronized or harmonized internationally, which further increases complexity.

## Environmental pressures

Growers must contend with external environmental impacts: climate change, weather volatility and water scarcity. While striving to increase their productivity despite these challenges, they face growing pressure to minimize their own environmental impacts and play a full part in sustaining ecosystem services and biodiversity. We can help through our modern technology which is designed to preserve the environment, and through our education and stewardship activities.

## Societal pressures

In developed economies, health awareness among consumers and governments is leading to increased government intervention in food consumption patterns. In 2011, Denmark introduced the world's first tax on saturated fats. Food producers are also responding, with Pepsico for example launching a range of potato chips which it claims has 50 percent less fat than existing products. So alongside the regulation of technology, there is the need to expand the scope of technology to further cater for end-user requirements.

## Input costs

Raising farm productivity often means higher input costs: farmers need to invest upfront in better seed and more sophisticated crop protection. The return on investment is rapidly visible and easily monitored.

Local manufacturing makes our products affordable to smallholders and pack sizes are adapted to local needs. Timely advice matters, too – so that farmers do not spray more often than is necessary, for example. In markets such as China, where chemical overuse is a particular problem, better education and more modern products can save farmers money while reducing environmental impacts.

