

The Future of Farming in Kent (Notes from NFU SE Region)

There have been a number of conferences and workshops in the past few years attempting to forecast the future pattern of farming in Kent and in the South East in general. The task is complicated by the effects of market demands and opportunities, which overlie the climate change drivers. Market forces have become more influential since the abolition of CAP production-based subsidies in January 2005, but some new markets can be slow to emerge and develop. These notes are therefore just one more attempt to make a reasoned prediction.

Climate change

The climate change factors expected to affect the south east are listed in Farming Futures (see www.farmingfutures.org.uk). They are:

- Increased temperatures across all seasons, leading to longer growing season
- Change in the level and timing of water availability due to a decline in summer rainfall but increase in autumn and winter totals
- Potential to grow different crop types such as grain maize, soya, navy beans, sunflowers
- Increased risk of summer drought particularly on thin arable soils
- Shift to autumn planting if soil is workable
- Increase in soil erosion
- Increased demand for water for irrigation
- Change in the timing and incidence of crop and livestock pests
- Warmer springs and summers affect livestock production and fertility, requiring greater ventilation of housing
- Summer drought is a concern for livestock farmers as it threatens carrying capacity of grass swards
- Heavy spring rainfall already causes severe erosion where silage maize is planted if it occurs before crops have grown sufficiently to provide some protection
- Drier conditions improve yield and quality of vining peas
- With warmer winter temperatures, more crop and livestock pests may overwinter. Similarly high summer temperatures and a longer growing season can increase the number of generations of insect pests such as red spider mite (a serious pest of soft fruit and hops)

Agriculture as part of the solution to climate change

- Adaptation is needed as we are already committed to some degree of climate change. UK farmers can continue to supply food and fuel for a growing global population whilst helping the environment and society to adjust to climate change
- Agriculture is also part of the solution to climate change. A 'green energy revolution' will be needed to meet the new Climate Change Bill targets

- However, it is important that action on climate change should complement, and not conflict with, with other environmental initiatives.

Farming methods and cropping decisions

There is a recurring aspiration among some commentators, including CPRE, for a move towards medium-sized, mixed farms using low-input, extensive (if not fully organic) production systems. While there may be environmental advantages to this aim, it cannot easily be reconciled with the need to produce more food (for a growing population), at an affordable price, on less land (reduced by development, managed realignment of flood defences, increased wilderness/public access/wildlife habitat creation and the removal of land from production to satisfy irrational calls for a replacement of set aside). From a worldwide viewpoint the outlook is similar, with populations increasing as climate change shrinks the productive land area. The current world population is about 6bn and projected to reach 9bn by 2050. Global food production will need to double by the middle of the century just to meet demand. Prof Phillip Lowe, head of the Rural Economy and Land Use (RELU) programme, recently called for a re-intensification of arable agriculture to meet the future challenges and suggested that this could be achieved by combining environmental and economic efficiency (*e.g.* through precision farming). The UK and other countries that are likely to remain productive for the foreseeable future may have an ethical responsibility to produce sufficient food for home consumption and export.

Rather than trying to persuade farmers to change their farming pattern, we should ask why we abandoned in the first place the medium-sized, mixed farm model that existed after the Second World War. The two main influences were CAP, aimed at achieving maximum production capacity, and the new food supply chain brought about by the growth of major national chain retailers. While the former has been abolished in the UK (but not universally among our EU competitors), the food chain remains firmly geared to production for sale to supermarkets; the combined market share of organics, direct sales, farm shops and farmers' markets remains small in comparison. So, any change in the pattern of farming must be brought about by changing the structure of the food chain, which will be difficult in the face of the market power of the supermarkets and the proven preferences of price-led consumers (although which drives which is debatable). Attempts to achieve change merely by appealing to farmers and consumers on sustainability grounds are unlikely to be effective.

Cropping patterns are likely to change incrementally as farmers detect reducing yields from traditional crops and experiment with new ones. We have already seen apricots grown commercially in Kent and almonds elsewhere in the south. Farming Futures indicate that sunflowers and other new crops may be on the way. Vineyards continue to flourish and French wine producers have started to look seriously at establishing parallel enterprises in southern England.

The shortage of water in the south east will affect Kent farmers and particularly growers in the horticulture sector. The water resources of the region are vulnerable to “back to back” droughts. This will be a concern for livestock farmers due to the effects of drought on grassland and for those farming on thin arable soils. A current Government review of competition and innovation in water markets (including abstraction licensing and charging) may improve matters by, among other measures, facilitating water license trading. The partial funding by SEEDA of water infrastructure projects will encourage rainwater harvesting and storage, although in practice this will be limited to growers who are able to provide the balance of investment funds required. There may be an increase in soil erosion due to more extreme events and higher winter rainfall. Meanwhile it is likely that Kent growers will continue to produce all types of fruit, increasingly using polytunnels to protect soft and stone fruit from adverse weather and to facilitate disease control using natural, biological methods with a minimum of chemical application. Plant/seed breeders and research institutions continue to develop drought and flood-resistant varieties to cope with predicted climate change.

For the horticulture industry and pig and poultry producers, heating costs will be reduced over winter. Demand for salad crops increases in warm weather. However, the need for ventilation will increase in summer and there are cost implications for packaging and distribution of the foodstuffs in order to maintain product shelf life if temperatures are higher. In addition, heat stress is likely to be a problem for crops and animals under high summer temperatures.

Local foods

The Strategy for Sustainable Farming and Food encourages the supply of locally produced foods. The regional delivery plan for the Strategy includes supplying the London market, and Kent is ideally placed with the other south east counties to fulfil this function. This specialist food chain is being developed and nurtured by regional food groups, SEEDA and relevant local authorities.

Renewable energy

Renewable energy is a key climate change mitigation measure that could provide fuel production opportunities for Kent farmers, both in the production of liquid biofuels for road transport use and in biomass for electricity generation. Once more, market forces will play a large part in determining when and to what extent these opportunities will arise. For example, despite many years of debate about biomass production for the co-firing of power stations, there is still not a guaranteed market. Fuel crops such as short rotation coppice and miscanthus require at least a 10-year commitment from the grower, and usable fuel does not come on stream until a couple of years into the cycle. The management of existing woodland to produce wood chip may not be commercially viable. Farmers are unlikely to commit to high levels of investment without a guaranteed market. Meanwhile, power generators may find that imported wood chip,

olive cake or palm kernel husks provide a cheaper and more readily available alternative fuel. Moves to use biomass combined with the biodegradable fraction of municipal waste to fire purpose-built power stations (one in Rochester) have been thwarted by a clash between renewable energy and waste management policies. The latter militates against the use of waste as fuel in case it might unbalance the 'waste hierarchy' by encouraging the production of waste rather than reducing it.

Anaerobic digestion is another way of producing renewable energy, and has the added benefit of dealing with the disposal of nitrogen-rich livestock manures that might otherwise release ammonia to the atmosphere and nitrates into water bodies. This option requires a high level of capital investment, and to work well requires biomass such as maize to be processed with the livestock manures. Food waste is also a potential feedstock. Owing to the investment element and the difficulty in encouraging farmer collaboration in such projects, county council-funded area-scale projects may be the best way forward.

Liquid biofuels (biodiesel from oilseed rape and bioethanol from wheat) are both produced in the UK to meet the Government's Road Transport Fuel Obligation, although ethanol processing plants are not well located for Kent producers. Whether or not this opportunity remains available to farmers depends largely on future Government policy and on what progress vehicle manufacturers make in the development of alternative, innovative fuel systems, such as hydrogen cells.

Protection of agricultural land

PPS7 encourages the protection of best and most versatile (BMV) agricultural land, but includes a proviso that development may be allowed if it is for the wider public good and there is no alternative site. This creates a dilemma when balancing the need for essential infrastructure with the increasingly evident importance of food security. The NFU has adopted a pragmatic position, not automatically objecting to development on BMV land but requiring planning authorities to demonstrate that they have taken due account of the PPS7 guidance before making their decision. The loss of BMV land to managed realignment is a different matter (nationally, 57% of Grade 1 land is below the 5m contour). Here we are not convinced that the economic loss involved is adequately assessed in cost-benefit analysis, or that food security is given its due importance compared with wildlife habitat creation and other perceived sustainability benefits. Kent's long coastline makes it susceptible to land loss from managed realignment and consequently to potential salt water intrusion into crucial borehole water supplies. While a degree of land loss is inevitable owing to climate change and sea level rise, the strategic importance of food security could conceivably change the criteria used to determine the definition of economically sustainable flood defences.
