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Ireland's Academy for the sciences and humanities

Current projections for Irish climate for the middle of the present century suggest the following:



Winters will be significantly warmer than at present with conditions currently being enjoyed along the south west coast spreading throughout most of the island. Mean temperatures are likely to be about 2°C warmer than in the last quarter of the 20th century.



Summers will be warmer by a similar amount with the greatest warming away from the coasts.



Rainfall changes are more uncertain to project. But winters are likely to be wetter in most parts, by up to 20% in the west, while summers are likely to be drier by a similar amount in eastern parts.



Costs

Costs will be involved for farmers as they seek to cope with climate change. Adaptations required will include earlier planting and harvesting dates, lower fertiliser application rates, and significant capital investment in irrigation equipment. In addition, currently relatively rare plant diseases may occur more frequently, such



as Rhizomania, and farm animals may suffer more from a range of tick-borne pathogens. Existing problems for cereals such as septoria nodorum and Brown Rust may be exacerbated.

Farmers will also need to be aware of opportunities which arise as a result of adverse changes in agriculture elsewhere in the EU. Adverse impacts of climate change on agricultural production elsewhere in the EU may create new market opportunities.

Climate Change and Irish Agriculture

Crop yield responses to climate change are closely related to the particular species and cultivar being considered. Although, in general, Irish agricultural crops will benefit directly from increased concentrations of carbon dioxide in the atmosphere, this will most likely be negated by moisture stress in the summer months should the projected rainfall reductions occur. Farmers will find the following threats and opportunities arising as Irish climate changes:



Though barley and wheat will continue to be viable to grow, and yields will increase, better returns will begin to appear from maize as warming proceeds. Forage maize will become a valuable alternative to silage and grain maize will begin to displace other cereals. The cereal harvest will occur up to a month earlier than at present.



Potatoes will become uneconomic to grow without irrigation in the late summer months. Increased rainfall in late autumn/early winters may cause problems for harvesting.



Soybean will show marked yield increases, though will remain a marginal crop for several more decades. Eventually it will displace maize in western Ireland later in the century.



Pasture will become difficult to maintain in the east during summer and some form of irrigation may also become necessary. Turnout dates for cattle will become earlier, though on wetter soils this may not always be realisable. Farmers may find competition for water supplies in summer increasingly common as domestic consumption continues to grow in more highly urbanised regions.



2nd Scientific Statement

Climate Change & Irish Agriculture

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