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NO. 43

Global environmental change is likely to affect the many facets of crop production and protection and if it occurs to the extent at which it is predicted, there will be major changes in European agriculture which will inevitably affect all sectors of the community. As well as the direct effects of climate change on the crops growing in Europe, there will be larger economic and political influences brought about by more severe effects on cropping in other parts of the world.

Overall, the European agricultural industry may need to re-evaluate crop nutritional requirements carefully and is likely to face new problems from weeds, pests, diseases and environmental stresses. It is incumbent on the industry to discover techniques that are safer and more environmentally-acceptable under these new conditions and on the researcher to ensure that new strategies are identified to the industry.

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Aspects of Applied Biology 51

Changes in grass-weed seedbanks in relation to crops and rotations

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Summary

Forage, chickpea, medics, wheat, oilseed rape, and sunflower were cultivated during four years as part of ten different types of rotation which always included wheat. Chemical weed control differed among and within crops. Grass-weed seedbanks were evaluated annually before seeding, their variation being used to assess the effectiveness of crops and rotations in grass-weed seedbank control. Grass-weed seedbanks were reduced whenever oilseed rape and sunflower were cultivated, increasing in all other crops. Rotations including these two species and wheat were the most effective in reducing grass-weed seedbanks. The single most important reason for the control of grass-weed seedbanks or its failure seems to be the effectiveness of above-ground grass-weed control.

Key words: Grass-weed seedbank, weed control, crops, rotations, herbicides

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