INTERNATIONAL COUNCIL OF SCIENTIFIC UNIONS

INTERNATIONAL BIOLOGICAL PROGRAMME

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SCIBP 66/67
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10 July 1967

To: Officers and members of SCIBP
copied to members of the Section Committees,
Chairmen of National Committees and
National Correspondents and ICSU Secretariat

From: Executive Secretary

IRELAND - DRAFT PROPOSED NATIONAL PROGRAMME

I have pleasure in sending you a copy of the above programme document with details of the Irish Committee for the IBP. To date Chairmen and members of section sub-committees have not been nominated. All correspondence should be addressed to the Secretary, Irish Committee for IBP, Royal Irish Academy, 2 Lawson Street, Dublin 2.

H.A.W. Southon

IRELAND

INTERNATIONAL BIOLOGICAL PROGRAMME

Draft of proposed National Programme

Section PT

(a) Soil Water cycles in natural and agricultural peatland communities, including effect of water table on a range of crops.

(b) Identification of chemical species in peat which retain or complex metals thus rendering them unavailable to plants.

(c) Breakdown and chemical changes occurring in peat under different manuring and cropping patterns.

(d) Studies in the use of peat for a range of glasshouse crops - as a substrate and a soil conditioner. (Peat as a substrate for tomatoes grown in polythene-lined trenches shows a remarkable potential.)

(e) Productivity of herbivores with special reference to peatlands.

Section PP

(a) Study of the toxicity of legume seeds towards nodule bacteria. Two toxins already have been isolated and identified and means of protection developed in the laboratory. Large scale testing now planned. Effect of these toxins on the quality of the nitrogen fixing bacterial population in the soil will also be studied.

(b) Nodulation of Legumes (*Lotus* spp., *Anthyllis vulneraria*) on peat soils.

(c) Investigation of the biochemical differences between nodules of different species to determine why certain species of nodule bacteria are associated with specific legumes (i.e. the cross-inoculation groups.) Similar studies are being conducted on effective and ineffective nodules from legume plants and also on the bacterial species concerned.

(d) Nodules are being examined at different stages of development to trace the appearance and relative importance of various enzyme systems. Studies of enzymes systems involved in the assimilation of ammonia in various *Rhizobium* species will be extended to nitrogen-fixing blue-green algae.

(e) Breeding experiments to produce clover with greater nitrogen-fixing potential.

(f) Primary productivity and nutrient cycling in undisturbed bog ecosystems. (Projected).

Section UM

(a) Investigation of microbiology resulting from agricultural and fertilising practices on cutover peatland. Physiology and pathogenicity of fungi occurring in peat.

(b) Examination of peat as a whole, or of some of its fractions as a nutrient factor for micro-organisms e.g. Torula yeast. The use of peat extracts as stimulants for microbial fermentations and their products, already commercially manufactured.

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IRELAND

Adhering Organisation

Royal Irish Academy
19 Dawson Street,
Dublin 2.

Chairman of National Committee

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An Foras Talúntais.

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