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 Mr. Smith
 Mr. Anderson
 Dr. Bunyan
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 Dr. Crussett
 Dr. Shannon
 Mr. ...

Mr. Major
 Dr. White
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The Rt Hon John Major MP
 Chief Secretary to the Treasury
 HM Treasury
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9 September 1988

PES 1988: AGRICULTURE, FISHERIES AND FOOD

Thank you for your letter of 26 July proposing an agenda for our bilateral meeting on 28 September. Officials will be in touch, as you suggest, to make sure that we have the latest agreed figuring in front of us when we meet. There is however one item not covered in my letter of 25 May which we shall need to discuss.

We shall be discussing in the bilateral the figures to be included in the PES for savings on near market R&D pending the decisions to be taken by E(ST). It was agreed in May that savings made available from departmental programmes could be redirected towards a selective strengthening of basic scientific research. As you know, I strongly support our policy objective of working towards a more responsive science base and of giving new selective support for key areas of science. I believe the Agricultural Departments have an important part to play through their support for strategic science. There are a number of relevant subjects in my area which should be considered. I have noted that the Secretary of State and ACOST have identified as appropriate for further work areas of environmental science and biotechnology which are of direct concern to the Agriculture Departments and I have taken these into account in framing my proposals.

The areas where there is a pressing need to strengthen our research programmes are described in the attached note. I propose that the following additions should be taken into account in deciding on the figures to be included in the PES programmes for the Agriculture Departments:

£m	1989/90	1990/91	1991/92
	1	5	10
			250

My officials will be ready to discuss the details with your

/officials ...

officials if you wish.

I am sending copies of this letter to the Prime Minister, and to the Secretaries of State for Wales, Scotland and Northern Ireland.

JOHN MacGREGOR

STRATEGIC R&D REQUIREMENTS

Environmental Science

1. There is acute public concern about pollution and damage to the environment. We face two major problems in tackling these issues: we do not know enough about the seriousness of the hazards; and we do not understand well enough how they are caused and how they might be remedied. We are commonly dealing not with a simple cause and effect but with a complex chain of causation. While accepting the "polluter pays" principle, it is not always easy to judge who are the polluters or what they should be expected to pay. What we need to find is the most effective solution. It is therefore essential that we first carry out the research to underpin the necessary policy decisions.

2. As farming systems and techniques change, new problems arise. Some examples of the new work we need to undertake are:

- reduction of pollution and minimisation of human health hazards due to chemicals and farm wastes leaching into aquifers. Recent work on microbial degradation of herbicides and pesticides could, if extended, result in a reduction of residues in the soil: further studies of absorbents and silo design could greatly reduce the pollution of farm watercourses by silage effluent: and there are new developments in relation to the effect of acid rain on crops and nitrate retention in new pastures which need to be further exploited.

- reduction in chemical usage through new methods of biological control. Further work is needed to develop alternatives to existing herbicides and pesticides by improvement of disease resistance in crops through gene incorporation: development of natural predators in field margins: and development of pheromones - semiochemicals which enhance control of pests. These approaches encourage rather than destroy beneficial fauna and flora.

cost of the public good elements of disease control can be reduced);

- development of food preservative microorganisms and novel organisms or enzymes which will enhance maturity, extend the adaptability of UK raw materials in food manufacture and fish processing and provide food with a longer shelf-life;

- extending the range of products that we can economically produce in the UK by breeding improved varieties of crops which are not in surplus (eg linseed, navy beans, lupins) and through livestock improvements such as better fibre quality and adaptability to UK conditions of non-indigenous animals such as llamoids; this work is an important element of our efforts to find alternative uses for agricultural land and so to reduce surpluses.

Pollution of the North Sea

5. North Sea pollution is sensitive both here in the UK and abroad. There is a strong feeling internationally that the UK pays less attention than other countries to the environmental implications of waste disposal. This has strengthened following the North Sea Conference and recent tightening of international standards for exposure to radiation, and we now face demands for more rigorous demonstration that our marine disposal practices for industrial and nuclear wastes are acceptable. These pressures can be met only by strengthening the scientific foundations for our position. Extra resources are thus needed for research and monitoring. Failure could deny the UK access to highly cost effective disposal options.

Fish Stock Assessment and Management

6. Intensification of fishing effort internationally has increased pressure on fish stocks which are of economic importance to the UK. There are clear gaps in our knowledge of the complex of environmental and biological factors which influence recruitment

- the development of means whereby grasses and cereals make more efficient use of nitrogen in the soil; and further work on methods of fixing nitrogen from the air. Both are designed to reduce the amount of nitrogenous fertiliser that has to be applied.

3. We have introduced new policies which aim to encourage environmentally friendly farming practices and to take some UK farmland out of agricultural production altogether, so reducing surpluses and cutting the cost of the CAP. These policies must be properly targeted to ensure they remain fully effective. For example, the pollution implications of autumn applications of farmyard manure in organic systems could not have been predicted accurately from existing studies related to intensive systems. This underlines the need for adequate research to establish the necessary basis for policy.

Exploitation of Biotechnology

4. It is generally recognised that biotechnology is currently one of the most promising areas for basic scientific work. The need here is to develop recent advances in molecular biology into a technological base which can then be exploited by our industries to improve quality and competitiveness. We also have to fulfil government's obligations by making sure that the products of biotechnology coming onto the market have been properly tested and are safe from the public's point of view. Some examples of the work envisaged are:

- use of transgenic techniques to improve product quality and the nutritional value of food and to produce animals which can generate pharmaceutical products eg the fat content and composition of milk (important for human health) and human blood clotting factors;

- use of genetic engineering to improve disease resistance in plants and animals, design more efficient vaccines and improve diagnostic procedures (again, economically beneficial if

and there is a high year-to-year variation which makes stock forecasting difficult. Our modelling of these population processes needs to be improved, but this requires more data from strategic marine and environmental surveys than we have at present. There is thus an urgent need for further strategic work if stocks are to be managed adequately in a way which sustains their economic viability. Such research would also strengthen our position in CFP negotiations which govern access to important stocks.

Animal, fish and plant health

7. New disease problems require urgent attention. A current and very worrying example is bovine spongiform encephalopathy (BSE). Because of concern that it might be transmissible to man, independent outside advisers and the Chief Medical Officer at the Department of Health have recommended a substantial research programme. Results are needed urgently as a foundation for disease control measures (the present slaughter policy with 50% compensation is being operated as a holding measure until some of the gaps in our knowledge are filled). The measures taken to deal with plant diseases (eg rhizomania, newly discovered here last year) and fish and shellfish diseases similarly require a sound base. The move towards 1992 will lead to close scrutiny of all measures involving frontier controls.