

**INSTITUTO UNIVERSITÁRIO DE TRÁS-OS-MONTES E ALTO DOURO**

MONTHLY REPORT, PURDUE - AID - IUTAD PROJECT
October, 1931; J. L. Anrichs

October 2 I visited J. Quehla do Santos, Professor of Soil Fertility of the Instituto Superior de Agronomia in Lisbon, about soil fertility work in Portugal. He provided me with a collection of his research works and general publications on fertility problems. While in Lisbon I also visited AID and also got Fulbright scholar exchange information to help a local secondary school English teacher arrange a study leave.

I have edited and revised a number of forms and letters for young faculty attempting to obtain fellowships or entrance into short courses and academic programs in the USA and Britain.

Isabel Martins and I collected additional literature and clays for our proposed work on wine clarification. Afonso Martins and I began our collection of soil monoliths for teaching by collecting the first three and fixing them. We got three distinctly different soils and the system worked efficiently even on difficult soils so we have asked for 30 trays to be made for more monoliths.

I have stimulated the interest of Ester Portela in nitrification inhibitors and we are now collecting literature as well as tracing down some of the commercial product, N-Serve, which is in Europe but not yet in Portugal. We hope to use it this winter and spring. With our rainy winters and springs as well as our porous soils should show real benefit in both reduced leaching loss and reduced denitrification loss if top-dressed nitrogen on rye, triticale and wheat could be prevented from nitrifying.

Professor Lechtenberg of Purdue provided me with the literature from Purdues' work on NH_3 treatment of straws and hays for increasing digestability and nitrogen content of these roughages. I passed this on to our IUTAD animal nutrition group which already had considerable experience with NaOH treatment of straw to increase its digestability. I am pleased that they have now included their first batch of roughage for similar studies on utilization of ammoniated roughage.

Joao Coutinho, Afonso Martins and I collected the first 300 kg batches of soils for a planned experiment on lime requirement tests and liming needs for Tras-Os-Montes soils.

Ana Luisa Pires and I have analyzed the soils from her survey study of Tras-Os-Montes corn fields. Tissue analysis was held up by instrument problems which have just been solved. She is completing set up of her first pot experiment on Ca-Mg problems in forages. More forage field sampling will be done in the spring.

We put in eight top-dressing plots on the Quinta pasture to help determine if more response can be gotten from additional lime and phosphorus. The soil fertility group has put out N and P response studies on rye and triticale at Montelegre and on triticale at Vila Real. Both locations also include a lime study on triticale. Two additional field studies at Mirandela resulted from our discussions with Prof. Ryhkerd. One is a continuous wheat experiment with various interseeded annual legumes to provide nitrogen and protect the soil from erosion and thus permit possible continuous culture of wheat. The second is a banded lime experiment comparison with broadcast lime to determine whether lower rates on lime in seeding bands will enable

us to get the benefits of lime on seedling crops from lower expenditure for lime.

I attended the Triticle Conference in Lisbon for one day to hear the research papers including ones on fertility by Eng. Almeida Alves, Prof. Quelhas do Santos and by our IUTAD group.

We helped with the visit of Ambassador Bloomfield and the AID directors to the Institute. The visit was a good experience. We hosted Prof. Paul Farris and John Sanders for the day they spent at IUTAD. Prof. Sanders visited with our Fitotecnia staff on research priorities. He expressed the idea that in the long run cereals would be less important and that pastures and horticulture would increase in importance in this region.

I was pleased to receive Professor Janicks' excellent report on his visit to Portugal. Closing reports are needed from all of our short term advisors. His report supports our suggestion of Blueberries as a horticultural crop which could be introduced with possible great potential for our acid soils. He suggests adaptation studies on this species as a good thesis problem. He also supports Alberto Santos' interest in nut crops for the region. He also commented on the poor state of the corn production technology. As he is editor of several scientific journals, his suggestion of the need for one strong agricultural journal for all aspects of Portuguese plant and soil agriculture is worthy of serious consideration.

Our first returnee from a short term visit to the USA is Artur Cristavao in extension and economics. His six weeks in Indiana and one week in Wisconsin seem to have been helpful to him. He is back teaching one course in extension and one in economics.

The first of the items from the Procalfer program for the soil testing lab have begun to arrive and the first of the number of changes this will enable is being initiated in the lab on Monday.

I have discussed with Eng. Aguiar de Macedo of Documentation the need for a simple weekly notice or publication of an informal nature to announce all activities for the week, visitors expected, conferences or seminars planned, employment opportunities, and general exchange of information between faculty and of administration with faculty with one copy for distribution to each faculty or staff person.

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