

K-7

**Item No. 6.2: Field Studies**

Stine-Haskell Research Center  
P.O. Box 30, Elkton Road (Rt. 2)  
Newark, Delaware 19714

07-13441-02

030-20681

Byproduct materials (radiolabeled agriculture chemicals) will be used in small field plots for studies of metabolism, stability, and environmental fate of agricultural chemicals and associated products. No single test plot will use an amount in excess of 10 millicurie of byproduct material. Maximum amount of radioactivity in use at Stine Farm test area at any one time will not exceed 70 millicuries of carbon -14 and 5 millicuries of hydrogen-3.

Crops or soil will be sprayed or treated at various times during the growing season using a small hand applicator and protective clothing. The treated plots will be surrounded by a wire fence and adequately labeled with appropriate NRC radiation symbols and wording. All plant material on test plots will be harvested for additional studies or disposal at the DuPont Experimental Station.

All users will be approved in advance by a Crop Protection representative of the Site Radiation Safety Committee. A record will be maintained of the action taken in approving each use. In addition, this activity will be provided oversight by the Stine Radiation Safety Officer during the annual management audit of the radioisotope program.

Plots used for field studies will be documented to background levels at the conclusion of each field study. At the conclusion of each field study, the procedures provided in Field Plot Test Procedures will be used for decontamination and survey. (See page 8)

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NMSS/RGNI MATERIALS-002

SPLIT OUT FROM 130368

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Stine-Haskell Research Center, Newark, Delaware  
License 07-13441-02 Renewal Application  
September, 2001

REC'D IN LAT

MAR 13 2002

### **Item No. 6.3: Field Plot Test Procedure**

The following has been added to DuPont Crop Protection Standard Operating Procedure titled "SOP for Stine Farm C-14 Field Studies":

#### **6.0 PLOT TESTING FOLLOWING EXPERIMENT TERMINATION**

6.1 Prior to considering the part of the plot in question to be decommissioned, all caution signage designating the area will remain in place and the following will be done:

6.1.1 All vegetation (if any) will be removed and sent to the Experimental Station for incineration as radioactive waste.

#### **6.1.2 Soil Testing**

6.1.2.1 Six to eight soil core samples will be taken to a depth of approximately 18 inches. Cores will be divided into smaller segments. Corresponding segments from each core will be pooled, thoroughly mixed, and analyzed for carbon-14 by combustion and liquid scintillation counting (LSC).

6.1.2.2 Background will be defined by combustion analysis of soil samples taken outside of the plot area. Recovery of carbon-14 from the soil will be determined by analyzing soil from outside the plot area spiked in the lab with a known quantity of carbon-14. Comparison of these results will be made with LSC analysis of vials spiked with the same quantity of carbon-14.

6.1.2.3 Soil will be removed from the plot to the level where soil radioactivity is at background.

6.1.2.4 If soil contains radioactivity in the deepest segment, deeper cores will be taken for analysis, and further soil removed if needed.

6.1.2.5 Removed soil will be sent to the Experimental Station for incineration.

6.1.2.6 Soil removed from the plot will be replaced with soil from outside the plot area.

: (FOR LFMS USE)  
: INFORMATION FROM LTS  
: -----  
:  
:  
: Program Code: 03610  
: Status Code: 2  
: Fee Category: 3L  
: Exp. Date: 20011031  
: Fee Comments: \_\_\_\_\_  
: Decom Fin Assur Reqd: Y  
: ::

BETWEEN:  
  
License Fee Management Branch, ARM  
and  
Regional Licensing Sections

LICENSE FEE TRANSMITTAL

A. REGION I

1. APPLICATION ATTACHED  
Applicant/Licensee: E. I. DU PONT DE NEMOURS & CO., INC  
Received Date: 20020313  
Docket No: 3020681  
Control No.: 131176  
License No.: 07-13441-02  
Action Type: Amendment

2. FEE ATTACHED  
Amount: \_\_\_\_\_  
Check No.: \_\_\_\_\_

3. COMMENTS  
*SPLIT OUT OF*  
*RENEWAL CONTRACT 130368.* Signed *M. A. Perkins*  
Date *3/13/2002*

B. LICENSE FEE MANAGEMENT BRANCH (Check when milestone 03 is entered /\_/)

- 1. Fee Category and Amount: \_\_\_\_\_
- 2. Correct Fee Paid. Application may be processed for:  
Amendment \_\_\_\_\_  
Renewal \_\_\_\_\_  
License \_\_\_\_\_
- 3. OTHER \_\_\_\_\_  
\_\_\_\_\_

Signed \_\_\_\_\_  
Date \_\_\_\_\_