

**INTEROFFICE MEMO**

Asgrow Seed Company

DL-102095\_02

**Subject:** Designation of Radiation Safety Officer and Assignment of Responsibilities

**Date:** October 20, 1995

**From:** John C. Sorenson,  General Manager Worldwide Vegetable Business  
Asgrow Seed Company

**To:** MLB, KJC, JAC, RZD, PME, HTL, MSM, JRM, GJP, JFR, JTS, DMT,  
AEW

Mr. J. Russell McMaster is hereby designated as the Radiation Safety Officer for the Asgrow Seed Company (ASGROW) application for a Nuclear Regulatory Commission (NRC) Specific Byproduct Materials License under Title 10, Code of Federal Regulations, Part 30. Mr. McMaster has the responsibility for the ASGROW Radiation Safety Program. His responsibilities include:

1. The authority to terminate immediately a project that is found to be a threat to health, safety, or property.
2. General surveillance over all activities involving byproduct material, including routine monitoring, auditing, and special surveys in all areas in which byproduct material is used.
3. Determining compliance with rules and regulations and license conditions.
4. Ensuring equipment associated with the use, storage, or disposal of byproduct material are properly maintained.
5. Furnishing consulting services on all aspects of radiation safety to personnel at all levels of responsibility.
6. Purchasing, receiving and delivering all shipments of byproduct material arriving at the ASGROW Company.
7. Distribution and processing personnel monitoring equipment, and maintaining personnel exposure records.
8. Conducting, or contracting, training programs and instructing personnel in the proper procedures for the handling of byproduct material prior to use, at specific intervals (refresher training), and as required by changes in procedures, equipment, regulations, etc..

9. Supervising and coordinating the radioactive waste disposal program, including monitoring waste storage during decay and disposal records.
10. Storing all byproduct material not in current use.
11. Maintaining an inventory of all radioisotopes at ASGROW and limiting the quantity of radioisotopes at ASGROW to the amounts authorized by the license.
12. Maintaining all records of the storage, use and disposal of byproduct material.
13. Supervising and coordinating decontamination and recovery operations involving byproduct material.

# RADIATION CONTROL COMMITTEE THE UPJOHN COMPANY

This is to certify that

*J. Russell McMaster*

has satisfactorily completed the Upjohn

## RADIATION SAFETY TRAINING PROGRAM

held on June 24, 1991

Radiation and Radioactivity,  
Risks and Effects of Radiation Exposure,  
External Exposure Control, Internal Exposure Control,  
Contamination Control, Spill Response

Presented by Bruce P. Eide, Director Industrial Training  
General Physics Corporation, Pottstown, PA

*Wm. M. Bremer, Jr.*  
W. Michael Bremer, M.D., V.P.  
Chairman, Radiation Control Committee

*Carl M. DeJulius*  
Carl M. DeJulius  
Radiation Safety Officer

# ALL RADIOISOTOPE TRAINING AND EXPERIENCE



Name: J Russell McMaster

S.S. No: 223-74-7814 Lab No. 103

50

No of years at TUC: 4 1/2

1. *Formal Training Courses*

Fall 1986  
40 hr Radioisotope Training for ARLS

2. *Experience (List the Isotope used, amounts, type of procedures with each isotope, duration of use and where.)*

76P 4 mg/ml / experiment  
How to transfer isotope (concentrated) to  
be used in hybridization studies with  
specific nucleic acid probes. CIA  
University of Missouri, Fall 1986  
St. Louis, MO

\*\* Please return this form for all users to L.M. Swain (7022-126-6)

Appendix I (a)

Radioisotope Training and Experience of J. Russell McMaster  
9612 18 2

TRAINING

1. Have you had training in the principles and practices of radiation protection?

- Formal course work      Where? The Upjohn Co      Duration 40 hrs
- "On the job" training      Where? The Upjohn Co      Duration 8 mo
- None

2. Have you had training in radioactivity measurement, standardization, and monitoring techniques?

- Formal course work      Where? The Upjohn Co      Duration 40 hrs
- "On the job" training      Where? The Upjohn Co      Duration 6 mo
- None

3. Have you had training in mathematics and calculations basic to the use and measurement of radioactivity?

- Formal course work      Where? The Upjohn Co      Duration 40 hrs
- "On the job" training      Where? \_\_\_\_\_      Duration \_\_\_\_\_
- None

4. Have you had training in the biological effects of radiation?

- Formal course work      Where? The Upjohn Co      Duration 40 hrs
- "On the job" training      Where? \_\_\_\_\_      Duration \_\_\_\_\_
- None

EXPERIENCE

1. Isotopes and maximum amounts of each which you have possessed and used

<sup>32</sup>P possessed and use 50 mCi per week

2. Where experience was gained The Upjohn Co. Mich 9612

3. Duration of experience From Sept 15 to the present

4. Type of use nick translation and labeling with sequencing

5. Publications involving radioisotopes (list on back of sheet)

Signed J. Russell McMaster, B.S.  
(include your highest academic degree)

Date May 21, 1957

Upjohn

Russell McMaster

Basic Radioisotopes  
Techniques Course

NRC Specific License Application;

Asgrow Seed Company

MEMO

FROM C.M. DeJuliis

C. M. DeJuliis

May 18, 1987

COPIES TO

Congratulations!

CSorenson

Radiation Control is pleased to inform you that you successfully completed the 1987 Upjohn Basic Radioisotopes Techniques Course.

The Radiation Control Committee (RCC) will consider your eligibility for Approved Radioisotope Investigator (ARI) status if:

- A formal request to have you designated an ARI is submitted by your management to G.L. Neil, Chairman, RCC. management.
- The formal request is supported by:
  1. Completed Training and Experience form (See Appendix I(a) in the Radiation Control Manual).
  2. Completed Occupational Exposure History form (See Appendix I(b) in the Radiation Control Manual) with supporting evidence.
  3. A copy of this memo which indicates your passing grade was 89.5.

If you require further assistance or information, please contact me at Ext. 4-9364.

Once again, thank you for your interest in our course and congratulations on successful completion. A certificate will be mailed to you in the near future.

sk  
CMD#1

*GLN => CFC*



TO: G. L. Neil  
Chairman, RCC Management

SUBJECT: ARI Request

FROM: M. L. Boeslore *MLB*

DATE: May 20, 1987

G. L. NEIL
T _____
MAY 20 '87
FI   PF
CS   GR

**MEMO**

COPIES TO

R McMaster  
JCSorenson  
9612 Files

This memo is to request that J. Russell McMaster be designated an ARI, as required by the Radiation Control Committee.

Attached are the required documents supporting this request.

MLB-1/87:nw  
attachments

# RADIATION CONTROL COMMITTEE THE UPJOHN COMPANY

This is to certify that

*Maury L. Boeshore*

has satisfactorily completed the Upjohn

## RADIATION SAFETY TRAINING PROGRAM

held on June 24, 1991

Radiation and Radioactivity,  
Risks and Effects of Radiation Exposure,  
External Exposure Control, Internal Exposure Control,  
Contamination Control, Spill Response

Presented by Bruce P. Eide, Director Industrial Training  
General Physics Corporation, Pottstown, PA

*Wm M. Berman*  
W. Michael Berman, M.D., V.P.  
Chairman, Radiation Control Committee

*Carl M. DeJulius*  
Carl M. DeJulius  
Radiation Safety Officer

# ALL RADIOISOTOPE TRAINING AND EXPERIENCE



Name: Lawry L Boeshore

S.S. No: 172 - 46-5702 Lab No. SD-103

No. of years at TUC: 7 1/2

1. **Formal Training Courses**

- 1975 Radiotracers in Biology - undergrad course
- 1991 Radiation Safety Course - Univ of Virginia

2. **Experience (List the Isotope used, amounts, type of procedures with each isotope, duration of use and where.)**

- <sup>32</sup>P - used for labelling DNA for radiotracer work  
10 years: U.C and Univ of Virginia
- <sup>3</sup>H - used for labelling DNA 7 years: U.C.
- <sup>35</sup>S - used to ~~label~~ label proteins graduate  
Researcher at R11 1980: Vanderbilt Univ

\*\* Please return this form for all users to L.M. Swain (7022-126-6)

# RADIOISOTOPE TRAINING AND EXPERIENCE OF

MAURY L. BOESHORE

(Print)

- Have you had training in the principles and practices of radiation protection?

Formal course work      Where? Undergrad BA work Shippensburg Univ Duration 1 Semester

"On the job" training      Where? University of Virginia Duration Update courses

None      University of Virginia → See enclosed
- Have you had training in radioactivity measurement, standardization, and monitoring technique?

Formal course work      Where? Undergrad BA work Shippensburg Duration 1 Semester

"On the job" training      Where? University of Virginia Duration See enclosed

None
- Have you had training in mathematics and calculations basic to the use and measurement of radioactivity?

Formal course work      Where? Undergrad BA Shippensburg Univ Duration 1 Semester

On the job training      Where? University of Virginia Duration Post doc - See enclosed

None
- Have you had training in the biological effects of radiation?

Formal course work      Where? BA Undergrad course Shippensburg Univ Duration 1 Semester

On the job training      Where? University of Virginia Duration See enclosed

None

## EXPERIENCE

- Isotopes and maximum amounts of each which you have possessed and used \_\_\_\_\_

<sup>32</sup>P - lab maximum 5 mCi; <sup>35</sup>S - 1 mCi

<sup>3</sup>H - lab maximum 1 mCi; <sup>14</sup>C - 1 mCi
  - Where experience was gained Graduate PhD program - Vanderbilt Univ 1975-1979; Post doc program - Univ of Virginia 1980-1985
  - Duration of experience Johns Co 1983 - present      <sup>3</sup>H, <sup>35</sup>S, <sup>14</sup>C      1975-1979; <sup>32</sup>P
  - Type of use Used as radiotracer to label proteins and nucleic acids
  - Publications involving radioisotopes (list on back of sheet) - See back please
- Signed Maury L. Boeshore, Ph.D.      Date Sept 14 1985  
include your highest academic degree
- Managerial Approval [Signature]      Date 1985

## PUBLICATIONS

## Abstracts

- \* V.A. Klaassen, M.Boeshore, B.W. Falk, 1992. Molecular characterization of lettuce infectious yellows virus. American Phytopathological Society Meetings
- D.M. Tricoli, K.J. Carney, H.Quemada, P.F. Russell, J.R. McMaster, M.L. Boeshore, D.W. Groff, K. Hadden, J.P. Hubbard, 1992. Transgenic squash plants exhibit coat protein mediated protection under field conditions. Journal of Cellular Biochemistry 16F:22. Crop Improvement Via Biotechnology: An International Perspective. Keystone Symposia on Molecular and Cellular Biology.
- \* Maureen Hanson, Maury Boeshore, Ellen Clark, Shamay Izhar, Helen Nivison, Helen, Madge Rothenberg, and Ellora Young, 1985. Organelle segregation and recombination following protoplast fusion: analysis of sterile cytoplasms. Cornell Biotechnology Symposium, Ithaca, NY
- \* Madge Rothenberg, Christine Snyder, Maury L. Boeshore, and Maureen R. Hanson, 1985. Intergenomic recombination of mitochondrial genomes in a somatic hybrid plant. First International Congress of Plant Molecular Biology, Savannah, Georgia
- \* Maureen Hanson, Shamay Izhar, Maury Boeshore, Ellen Clark, Madge Rothenberg, Christine Snyder, Irit Lifshitz, and Helen Nivison, 1984. Organelle genomes in cytoplasmic male sterile and fertile somatic hybrid *Petunia* plants. EMBO Workshop, Plant Mitochondrial DNA Organization, Information Content-Expression, Melrose, Scotland
- \* Maureen R. Hanson, Maury L. Boeshore, M. Rothenberg, and H. Nivison, 1984. Organization and rearrangement of the plant mitochondrial genome. Journal of Cellular Biochemistry, Supplement 8B: 147
- \* Maury L. Boeshore, 1983. Mitochondrial genome variability in somatic hybrid plants. Plant Molecular Biology Newsletter, Conference Abstract Issue: p 14
- Maury L. Boeshore, Maureen R. Hanson, Irit Lifshitz, and Shamay Izhar, 1982. Restriction endonuclease analysis of mitochondrial DNA from *Petunia* male sterile and fertile somatic hybrids. NATO Advanced Studies Institute, Function and Structure of Plant Genomes
- \* Maury L. Boeshore and Lee H. Pratt, 1980. The relationship between phytochrome pelletability and changes in its molecular properties. American Society for Photobiology, Program and Abstracts 8: 119

**Upjohn Company Technical Reports**

\* M.L. Boeshore, J.R. McMaster, and R.Z. Deng, 1991. Insertion of multiple virus coat protein expression cassettes into a binary plasmid: utility for melon transformation. Technical Report. The Upjohn Company.

\* M.L. Boeshore, J.R. McMaster, and C.P. Benner, 1990. Evaluation of subtractive cDNA cloning for isolating a soybean disease resistance gene. Technical Report. The Upjohn Company.

\* M.L. Boeshore and J.R. McMaster, 1988. Construction and screening of selected cDNA libraries using *Phytophthora* resistant and susceptible soybean isolines. Technical Report. The Upjohn Company.

\* C.P. Benner and M.L. Boeshore, 1988. An *in vitro*-translated polypeptide which is more abundant in a *Phytophthora*-resistant soybean isolate than in a corresponding susceptible isolate is apparently unrelated to *Phytophthora* resistance. Technical Report. The Upjohn Company.

\* M.L. Boeshore and D.J. Bevis, 1985. Selective cloning of differentially expressed plant genes. Technical Report. The Upjohn Company.

Maury L. Boeshore and Lee H. Pratt, 1978. Evidence testing whether a post translational modification of phytochrome occurs in vivo. Plant Physiol 61S, 63

Maury L. Boeshore and Lee H. Pratt, 1977. Is phytochrome changed as a result of association with a particulate subcellular fraction? Plant Physiol 59S, 554

### Papers

Maureen R. Hanson, Madge Rothenberg, Maury L. Boeshore, Helen T. Nivison, 1985. Organelle segregation and recombination following protoplast fusion; analysis of sterile cytoplasm. Biotechnology and Plant Science: Relevance to Agriculture in the 1980's, Cornell University, June 23-27.

Maureen R. Hanson, Maury L. Boeshore, Phillip E. McClean, Mary A. O'Connell, and Helen T. Nivison, 1985. The isolation of mitochondria and mitochondrial DNA. Methods in Enzymology 118:437-453.

Madge Rothenberg, Maury L. Boeshore, Maureen R. Hanson, and Shamay Izhar, 1985. Intergenomic recombination of mitochondrial genomes in a somatic hybrid plants. Current Genetics 9:615-618.

Maury L. Boeshore, Maureen R. Hanson, and Shamay Izhar, 1985. A variant mitochondrial DNA arrangement specific to *Petunia* stable sterile somatic hybrids. Plant Molecular Biology 4: 125-132

Maury L. Boeshore, Irit Lifshitz, Maureen R. Hanson, and Shamay Izhar, 1983. Novel composition of mitochondrial genomes in *Petunia* somatic hybrids derived from cytoplasmic male sterile and fertile plants. Molecular and General Genetics 190: 459-467

Maury L. Boeshore and Lee H. Pratt, 1981. Characterization of a molecular modification of phytochrome that is associated with its conversion to the far-red-absorbing form. Plant Physiol 68: 789-797

Maury L. Boeshore and Lee H. Pratt, 1980. Phytochrome modification and light-enhanced, in vivo-induced phytochrome pelletability. Plant Physiol 66: 500-504

George Kidd, Robert E. Hunt, Maury L. Boeshore, and Lee H. Pratt, 1978. Asymmetry in the primary structure of undegraded phytochrome. Nature 276: 733-735

Maury L. Boeshore and Lee H. Pratt, 1978. Relationship between in vivo-induced pelletability of phytochrome and its molecular properties. Plant Growth and Light Perception, B. Deutch, ed., University of Aarhus, Denmark, 117-136