USDA

United States Department of Agriculture

Research, Education and Economics
Agricultural Research Service

May 16, 2006

Mr. Edward H. Hammond
The Sunshine Project
P.O. Box 41987
Austin, Texas 78704

Dear Mr. Hammond:

This is in response to your March 14, 2006, Freedom of Information Act (FOIA) request assigned FOIA No. 06-126 seeking "minutes of all meetings of the Beltsville Institutional Biosafety Committee (IBC) since May 1, 2003."

We determined if any records exist, the Chair, Beltsville Agricultural Research Center (BARC) IBC, would most likely maintain them. We contacted the BARC IBC regarding your request and to search for records. In searching the files, 22 pages were located responsive to your request. We are enclosing minutes of three IBC meetings held during the time you specified. Sensitive information has been withheld from the records and is exempt from disclosure pursuant to 5 U.S.C. 552(b)(2) of the FOIA. Exemption 2 protects sensitive critical infrastructure information related to security and safety.

You have a right to appeal the partial denial of the information requested by writing to the Administrator, ARS, USDA, Room 302-A, Whitten Building, 14th & Independence Avenue, SW, Washington, DC 20250, within 45 days of the date of this letter. The phrase "FOIA APPEAL" should appear in capital letters on the front of the envelope containing the appeal.

To reiterate, enclosed are 10 pages released in full and 12 pages released in part and withheld in part.

If you have any questions regarding our response, please feel free to contact us at 301-504-1640.

Sincerely,

Valerie Herberger
FOIA Officer

Enclosures

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December 15, 2003

SUBJECT: Minutes of the December 15, 2003 BARC Institutional Biosafety Committee (IBC) Meeting

TO: BARC Biosafety Committee

FROM: Rosemarie Hammond, Chair, BARC Biosafety Committee
Phone 301 504 5203 **FAX 301 504 5449**
e-mail: hammondr@ba.ars.usda.gov

In attendance at the IBC meeting were members R. Hammond, R.E. Davis, R. Faust, J. Peterson, D. Prevar, and J. Hammond. The meeting began at 1 PM. At this meeting, we welcomed new member Allen Smith to the committee (handout of new committee list), discussed a revised IBC form (handout) that contains sections on risk assessment, discussed hiring of a new BARC Biosafety Officer, discussed the draft BARC Emergency Response Plan for Unintentional Release of Genetically Modified Plants (Handout).

At the BARC IBC meeting of December, 2002, the committee concluded that it needs animal pathogen/recombinant DNA expertise. Dr. Allen Smith was nominated to be the new committee member, and the Director of BARC appointed him to the committee effective May, 2003.

Regarding the memo attached to the IBC form, a suggestion was made to add a sentence that if the experiment is contained in a greenhouse, APHIS may need to inspect prior to performing the experiment. In addition, the memo attached to the form should change 'animal' pathogens to 'zoonotics' so that it also includes human pathogens. In the risk assessment part of the form, question B. 1. should be changed from 'novel' hazards to 'potential"Regarding biosafety, spill plans should be required for all GMO's.

Eilyn Fabregas will be the new Biosafety Specialist and should be on board Jan 11, 2004. She will then be added to the IBC Committee.

Regarding the Draft BARC Emergency Response Plan for Unintentional Release of Genetically Modified Plants, suggestions were made that the PI has the legal requirement to notify APHIS in case of accidental release of GMO.

The meeting adjourned at 2:30 PM.

Xylella fastidiosa, a citrus variegated chlorosis virus

Project #205 Update

In project #205, the principal investigator, Dr. John Hartung (Fruit Laboratory, Plant Sciences Institute, BA) proposes to test bacteriolytic peptides against the [ b2 b2 ], using a plant virus-based vector, *Citrus tristeza virus* (CTV), a phloem-limited virus, to transiently express the peptides in whole plants.

Peptides include several animal antimicrobial peptides (varying in length from 18 – 43 aa) and a spinach antimicrobial peptide of 51 aa. A full list is available if you would like to see it.

The virus-based vector, *Citrus tristeza virus*, strain T36 was developed by Bill Dawson in Lake [ b6 ] and it will be engineered to express the peptides transiently during virus infection of the plant host. CTV is transmitted by the brown citrus aphid.

The recipient citrus plants are sweet orange trees infected with the [ b2 ] These trees are housed in the [ b2 ] under permit from APHIS.

The experiments will take place in Building [ b2 ] and in the [ b2 b2 ].

Assignment of Biosafety level and containment conditions:

Recombinant DNA experiments in *E. coli* K12 are exempt from the NIH Guidelines (Section III-F-6 and Appendix CII of the April 2002 Guidelines), however, Biosafety Level 1 (BL1) physical containment conditions are recommended.

Experiments using the full-length infectious plant virus in whole plants are covered in Section III-D-5 and, because of the exotic nature of the target organism, [ b2 ] (Section III-D-5-a) should be conducted BL3-P or BL2-P+ physical containment. Refer to Appendix P Sections I and II-C of the NIH Guidelines for more information on plant biosafety. Because of the quarantine nature of the exotic [ b2 ] the experiments will be performed under more stringent conditions that include high levels of physical security and zero tolerance for insect pests, as required by APHIS. All plant material is autoclaved prior to disposal. In addition, this greenhouse is located [b2] miles from any commercial citrus, increasing the biological containment of the GMO.

Project # 215

In project # 215, the principal investigator, Dr. Earl Harrison (Phytonutrient Laboratory, Beltsville Human Nutrition Research Center, BA) proposes to express, purify, and enzymatically characterize several enzymes involved in retinoid and carotenoid metabolism. The human carotenoid cleavage enzyme hCCE and the rat carboxylesterase ES10 genes will be expressed in *E. coli* BL21 Star cells (pET28b plasmid vector), TOP 10 E. coli (pCNA vector), SF9 insect cells using a baculovirus expression system, hamster ovary cells (CHO) and human adenocarcinoma cells (CACO-2) (pCMV-SPORT 6.1 vector). The experiments will take place in Building [ b2 ] Rooms [ b2 ].

Assignment of Biosafety level and containment conditions:

Recombinant DNA experiments in *E. coli* and tissue culture cells are exempt from the NIH Guidelines (Section III-F-6 and Appendix CII and CI, respectively, of the April 2002 Guidelines), however, Biosafety Level 1 (BL1) physical containment conditions are recommended. Refer to Appendix G Sections I though GII-A-4 of the NIH Guidelines for more information on Standard Practices and Physical Containment Levels concerning your experiment. Experiments using the baculovirus tissue culture expression system are covered in Section III-D-3-e and may be conducted at BL1 physical containment.

Project # 216

In project # 216, the investigator, Dr. Yanping Chen (Bee Research Laboratory, Plant Sciences Institute, BA) proposes preparing full-length cDNA copies of the genomes of single-stranded RNA honeybee viruses belonging to the virus family Dicistroviridae using pCR-XL-TOPO plasmids and *E. coli*. Dr. Chen will synthesize full-length, infectious RNA transcripts from these clones to study virus replication, virus gene expression, and the host immune response to virus infection.

For delivery, full-length transcripts of honey bee deformed wing virus (DWV) will be injected into bee pupae to examine the DWV infectivity in vivo. In brief, frames containing bee brood will be removed from the bee colonies and individual pupae will be taken out from brood cells by making an opening in the wax brood capping. After receiving the virus transcript inoculum, the pupae will be put back into the brood cells and the brood cells will be re-sealed after the pupae have been inserted. Frames with inoculated pupae will be inserted in an emergence cage to prevent emerging bees from escaping, and the cage will be kept in the insect growth chamber. After six to eight days of incubation, the inoculated bee pupae will be taken out from brood cells and ground up for virus purification. The procedures do not pose any risk of releasing infected bees into the environment, since bees in the pupae stage remain motionless. In addition, insect viruses are very target-specific and cause no harm to any other animals and plants.

The experiments will be conducted in Room ⊏ b2 ⊐.

Assignment of Biosafety level and containment conditions:

Recombinant DNA experiments in *E. coli* are exempt from the NIH Guidelines (Section III-F-6 and Appendix CII of the April 2002 Guidelines), however, Biosafety Level 1 (BL1) physical containment conditions are recommended. Experiments in which the full-length infectious recombinant virus is tested on whole animals must be conducted at BL2 with physical containment of bees directly in the laboratory, unless the virus is only vertically transmitted (Section D-III-4). There is evidence from other laboratories that a mite is an effective vector for this virus, therefore, BL2 containment conditions are recommended. The experimental protocol described by Dr. Chen is appropriate for containment of the recombinant DNA organisms. Refer to Appendix Q Sections I though QII-B-1 of the NIH Guidelines for more information on General Considerations and Physical and Biological Containment Levels concerning your experiment.

**B. Human Health and Safety**

1. **What, if any, are the unintended hazards to human safety (e.g., including the potential of added toxicity, allergenicity) posed by the GMO?**
   No unintended hazards to humans are anticipated. Bovine enteroviruses have never been shown to infect humans or recovered from them.
2. **Does the GMO pose a greater risk to safety than the non-modified equivalent?** No

**C. Containment and Control Measures**

**Provide details of containment and control measures to avoid accidental release of the GMO.**

Biosafety Level 2 protocols are implemented to prevent dissemination outside the laboratory.

In addition, the GMOs will be propagated separately both in terms of physical locations and time to avoid contamination of non-infected cell culture or other virus stocks.

BSL2N (animal) protocols are implemented to prevent dissemination outside the animal isolation facility. Introduction of fluorescent proteins and unique nucleotide sequence enables the infectious clone to be readily differentiable from the parental organism.

No animal inoculations will proceed until clones have been fully characterized in vitro, BSL-2N animal facilities are approved by the BARC biosafety office and APHIS approval for animal inoculation has been granted.

Assignment of Biosafety level and containment conditions:

In project # 218, you propose to develop an infectious cDNA clone of Bovine enterovirus (BEV) to use as an investigational tool to investigate the infectivity of BEV in its laboratory and natural host, to develop a delivery vehicle for small molecules to the enteric tract of cattle, and to evaluate the stability of the receptor binding site for picornaviruses using Predictive Alteration of Receptor Binding Site Specificity (PARBSS). The cDNA will be transcribed into full-length RNA *in vitro* for infection of Holstein calves, bovine (MDBK) cell cultures, and a mouse model. Incorporation of foreign genes at the cDNA stage, such as green fluorescent protein (GFP) will result in cells infected with the infectious clone to produce the foreign protein. Production of GFP by virus-infected cells can provide tools for subcellular trafficking or host cell tropism.

According to you, no formal assignment of BEV to a risk group could be found; BEV appears to be a risk group 2 animal pathogen as defined by the American Type Culture collection, requiring an APHIS permit for use in a BL-2 facility. You will be cloning the BEV 2 reference strain PS87 (PS87/GFP) to determine the ideal site for introducing a transgene. The PS87/GFP infectious clone will be used for in vitro and in vivo infectivity studies. The results of these studies will provide you with sites of BEV2 replication in a mouse model and ultimately in cattle.

You then propose to use the BEV infectious clone to construct chimeric viruses carrying immunogens (eg. Cryptosporidium attachment site binding genes, *Mycobacterium avium paratuberculosis* attachment protein genes) or other small therapeutic proteins (STM's) that might be used to reduce the colonization of zoonotic enteric pathogens, such as *Cryptosporidium* and *Mycobacterium avium paratuberculosis*. You have not defined

Project # 223

In project # 223, Dr. Yan Zhao (Molecular Plant Pathology Laboratory, Plant Sciences Institute, BA) proposes to transform cherry (*Prunus spp.*) and strawberry (*Fragaria ssp.*) for resistance to phytoplasma and virus diseases. Targeted gene expression of antimicrobial peptides (sn1 and pth1) and anti-apoptotic (bcl-2, bcl-xl, and ced-9) genes to the phloem will be performed using the Arabiodopsis sucrose H+ symporter promoter (AtSUC2 gene). The constructs will be introduced into cherry and strawberry in the *Agrobacterium* Ti-plasmid via *Agrobacterium*-mediated leaf explant transformation.

The antimicrobial peptides sn1 and pth1 are naturally occurring in potato. Sn1, snakin 1, from potato tubers, is active against bacterial and fungal pathogens from potato and other plant species. Pth1, pseudothionin 1, from potato, is also active against several plant pathogens. The source of the anti-apoptotic genes are human (*bcl-2* and *bcl-xl*) and nematode (*ced-9*).
The experiments will be performed in Building [ b2 ] and plants will grown in [ b2 ]

Assignment of Biosafety level and containment conditions:

*E. coli* experiments with the CaMV 35S promoter and antimicrobial peptide genes are classified in Section III-F of the April 2002 NIH Guidelines, and are exempt. BL-1 containment conditions, however, are recommended. Whole plant transformation experiments are classified in Section II-E-2 of the guidelines and BL1-P containment conditions are recommended. Refer to Appendix P-I through P-II-A-2-b(2) of the NIH April 2002 Guidelines for general plant Biosafety and physical containment for work involving whole plants- (http://www4.od.nih.gov/oba).

May 1, 2006

SUBJECT: Minutes of the January 27, 2006 Joint BARC Institutional Biosafety (IBC) and Biosafety (BABSC) Committees Meeting

TO: BARC IBC and BABSC

FROM: Rosemarie Hammond, Chair, BARC IBC
Phone 301 504 5203 **FAX 301 504 5449**
e-mail: hammondr@ba.ars.usda.gov

The meeting began at 10 AM. Attendees included : (IBC), R. Hammond, J. Hammond, R. Davis, D. Gundersen-Rindal, A. Smith, R. Wall, E. Fabregas, J. Peterson, R. Lawson, D. Prevar. (BABSC) J. Karns, R. Fayer, G. Samuels, B. Staples, J. McEvoy, B. Francis. J. Hammond took notes.

The agenda of the meeting was to:

1. Welcome new members to the IBC Committee. (Handout of revised membership list). Introduction of IBC and BABSC members (Handout of membership list).

Dr. Robert Faust retired from ARS, therefore, there was a vacancy on the committee in the area of Entomology. Dr. Johnson appointed Dr. Dawn Gundersen-Rindal of the Insect Biocontrol Laboratory in May, 2005. In addition, a new community member, Roger Lawson, was added to the committee in 2005.

With the new ARS policy that is being drafted, there needs to be more communication between the BARC IBC and BABSC committees. A joint meeting was called to discuss coordination of duties and project approvals.

Jeff Karns, chair of BABSC, said that the BABSC is drafting a manual of standard operating procedures (SOP's) for work with biohazards. Janet Peterson (University of Maryland) remarked that many institutions have Institution-specific SOP manuals and NIH-funding requires this manual.

Rose Hammond informed the IBC that it is registered and up-to-date until November, 8, 2006 with NIH (roster of committee and CV's).

2. Discuss Draft ARS policy on IBC's and Biosafety.

There was much discussion on the definition of a Biohazard. As it is currently written, it is too broad and restrictive. For humans 'organisms that do not consistently cause disease' are defined as non-pathogens even if they cause problems in immuno-

compromised individuals. For plant pathogens, a suggestion was made for a modification to reflect APHIS permit requirement. A question was raised as to whether the IBC or BABSC should decide what organisms to register as biohazards on a case-by-case basis initially, and then to establish general guidelines. Under the definition of a Biohazard, what defines a 'biological malfunction". "Malfunction" should be deleted as it is impractical.
Other comments are :
What details must reported/what defines an 'experiment'? What deviations from the original project need to be reported? It was suggested the microorganisms requiring registration or reporting (eg. by APHIS, CDC, toxins of NIH definitions) should be defined as biohazards. A reasonable requirement might be that all organisms cultured at BSL1 and above should be appropriately decontaminated.

There were numerous comments of the registration form, eg. since when have human cell lines(HeLa, Hep2, eg.) been equated with bloodborne pathogens – Considered by NIH even for established cell lines.

The comments were collated and discussed with J. Kozlovac and other members of the ARS IBC Policy writing team (conference call) by R. Hammond (a member of the writing team).

3. Discuss coordination IBC and BABSC functions in relation to IBC project registrations.

In relation of IBC project registrations, who will conduct laboratory inspections. At the University of Maryland, the Biosafety Officer initially talks to the PI, reviews lab safety practices, and inspects BSL-2 laboratories when a project is registered. There are frequent inspections for BSL-3 laboratories. At BARC, E. Fabregas inspects BSL-2 spaces for non-rDNA pathogens.

What committee will come first when project needs to be considered more than one committee and how will this be coordinated? The Animal Care and Use Committee (BAACUC) has a checklist on the final page for approvals from all of the other required committees. J. Peterson suggested that IBC, BABSC, and BAACUC should have representatives from each committee to improve coordination. D. Prevar suggested that subcommittees could be assigned to review protocols before the full meeting. A short, written review could be prepared and read to the IBC at its meeting. The PI could make changes addressed as necessary to the subcommittee. Another viewpoint was that the PI should be contacted by the IBC Chair and then provide the PI response to the subcommittee to see if the concerns have bee addressed.

With regards to the current FAX-based IBC review of projects, J. Peterson says that NIH OBA does not allow designated reviews-there must be a face-to-face meeting or conference call meeting that includes as least one community member. There must be an interactive discussion. Even notifications must be discussed at the next IBC

meeting, although they can be approved by the IBC chair prior to the meeting. Therefore, we will either hold committee meetings or conference calls to discuss projects in the future. It was suggested that we set a time for regular meetings well in advance and cancel meetings if no registrations need to be discussed.

4. Review SOP submitted by Joan Lunney for work with porcine viruses.

   Joan Lunney submitted an SOP (non-rDNA) for handling samples collected from porcine respiratory and reproductive syndrome virus (PRRSV0-infected pigs. Several concerns were voiced at the meeting including 1) blood samples may contain other infectious agents (eg. there are 14 porcine viruses that are known to also infect humans) so there are other biosafety issues. A concern is that they may infect the workers and also there is a concern that there is a potential for the pathogens to get into the pig population at BARC. They need to perform experiments in a vented hood to prevent escape of aerosols and work should be performed at BSL-2. The methods/reagents to be used for decontamination of surfaces need to be defined (A. Miller suggested use of Clidex, or Dicide). Throughout the document, the word should needs to replaced by shall. The workers should consider wearing disposable Tyvek booties and sleeves.

   These and other concerns were communicated to Joan. She sent a modified version of the SOP back to the IBC chair that incorporated the comments.

5. IBC discuss project registrations that were sent out for approval (attached).

Enclosed are three project proposals for consideration by the IBC. I have paraphrased from most of the project applications.

Please examine the enclosed material and we will discuss your agreement or disagreement with my response to the proposals at the end of the meeting on January 27, 2006. If I have failed to make the proper determination, please let me know. The current edition of the "NIH Guidelines for Research Involving Recombinant DNA Molecules" may be viewed at http://www4.od.nih.gov/oba.

The projects we are considering here are:

Project # 195 Update
Project # 227
Project # 228

**Project #195 Update**

In the update to project #195, the principal investigator, Dr. Tim Ramsey (Growth Biology Laboratory, ANRI, BA) proposes to construct fusion proteins consisting of peptides derived from secretory porcine leptin, a porcine endocrine peptide that regulates feeding behaviour, and glutathione-S-transferase (GST). A thrombin cleavage site will be introduced between GST and the leptin peptide (GST-thrombin-pleptin). The DNA constructs will be made in plasmid vector pGEX-2T. Fusion proteins will be purified from *E. coli* BL21 cells using affinity chromatography. Injections of purified proteins will be made into the muscles of the pigs hindquarters to immunize animals against their own leptin. Antibody titers to the leptin peptide will be determined. At slaughter, animal tissues will be collected to determine if autoimmunization results in a change in leptin expression. All tissue samples and carcasses will be incinerated following analysis.

In the previous version of the project, originally approved in 1999, plasmid DNAs containing leptin-GFP fusions were injected into young pigs.

The experiments will take place in Building [redacted] b2

Assignment of Biosafety level and containment conditions:

Recombinant DNA experiments in *E. coli* K12 are exempt from the NIH Guidelines (Section III-F-6 and Appendix CII of the April 2002 Guidelines), however, Biosafety Level 1 (BL1) physical containment conditions are recommended (Appendix G-II-A). Recombinant DNA experiments in *E. coli* BL21 are not exempt (Section III-E), and BL1 physical containment conditions are recommended. Refer to Appendix G Section I through GII-A-4 of the April 2002 NIH guidelines (http://www4.od.nih.gov/oba) for more information on Standard Practices and Physical Containment Levels concerning your experiment.

The NIH Guidelines do not regulate whole animal studies using recombinant proteins as long as recombinant DNA or RNA is not present.

Whole animal studies using recombinant proteins, however, should be reviewed by the Animal Care and Use Committee.

**Project #227**

In project #227, the principal investigator, Dr. Lev Nemchinov (Molecular Plant Pathology Laboratory, PSI, BA) proposes to design and engineer plant virus-based vectors for transient expression of therapeutic proteins and vaccine candidate sequences in plants. Foreign antigens include 1) synthetic peptide epitopes (8 or 17 amino acids) or complete proteins derived from Newcastle Disease virus F (fusion) and HN (hemagglutinin-neuraminidase) proteins and 2) short peptides (24 amino acids) of potential neutralizing epitopes of *Avian influenza virus A* strain H5N1. The epitopes will be produced as fusion proteins with the *Cucumber mosaic virus* coat protein gene. In addition, other foreign proteins will be expressed, including 1) a His-tagged partial sequence of the bovine CD14 (a high-affinity receptor for the complex of lipopolysaccharide (LPS) and LPS-binding protein) protein; 2) the bovine bactericidal permeability increasing protein (BPI), partial sequences of the bovine butrophilin (BTN) gene (a mammary-specific protein); 3) green fluorescent protein (GFP); and 4) the Ced-9 anti-apoptotic gene from the soil nematode, C. elegans, will be engineered into plant-viral based vectors for expression in plants. Recombinant protein purification will be performed by either differential centrifugation to retrieve plant virus particles or by affinity chromatography. Antigenicity or functional activity of recombinant proteins will be tested in experimental animals in collaboration with other ARS laboratories and University laboratories. Appropriate Animal Care and Use Committees will be notified. All laboratory procedures associated with the cloning and purification of recombinant proteins will be performed in Rooms⊏ b2
⊐

Plant virus-based vectors include Potato virus X potexvirus (PVX-pP2C2S), Tobacco mosaic tobamovirus (TMV, 30BRz), and Beet mosaic potyvirus (BtMV-made in-house). Complete viral cDNA clones, prepared in pUC-based vectors, are transcribed *in vitro* into infectious RNA using either SP6 or T7 RNA polymerase. In addition, partial cDNA clones of Beet mosaic and Bean mosaic potyviruses will be cloned into plasmid vectors. Beet, tobacco, tomato or potato plants are mechanically inoculated either in the laboratory or in the greenhouse and maintained in a contained, secured greenhouse section with vent screening and insect control measures in place. All laboratory and plant materials, soil, and pots are autoclaved prior to disposal or reuse (pots).

The virus-based vector, *Potato virus* X, was developed by David Baulcombe in the UK, and was acquired under an APHIS permit. The Tobacco mosaic virus-based vector was developed by Dawson in Lake Alfred, FL and was acquired under an APHIS permit. PVX and TMV are not vector-transmitted. BtMV is transmitted by aphids. Insect screening and control measures are in place in the greenhouse section in which the experiments will take place.

The experiments will take place in Building ⊏ b2
b2 ⊐

Assignment of Biosafety level and containment conditions:

Recombinant DNA experiments in *E. coli* K12 are exempt from the NIH Guidelines (Section III-F-6 and Appendix CII of the April 2002 Guidelines), however, Biosafety Level 1 (BL1) physical containment conditions are recommended (Appendix G-II-A).

Experiments using the full-length infectious plant virus in whole plants are covered in Section III-D-5 and, should be conducted at the BL2-P level of physical containment (Appendix G-II-B). Insect screening and control measures should be in place in the greenhouse section in which the experiments will take place. Yellow sticky traps should be used to monitor insect populations. Periodic insecticide applications or

biocontrol measures should be utilized as needed. All laboratory and plant materials, soil, and pots should be autoclaved prior to disposal or reuse (pots).

Refer to Appendix GII and Appendix P-II of the April 2002 NIH guidelines (http://www4.od.nih.gov/oba) for more information on Standard Practices and Physical Containment Levels concerning your experiment.

Be sure that appropriate APHIS permits are in place for use of plant viruses and virus-based vectors.

The NIH Guidelines do not regulate whole animal studies using recombinant proteins as long as recombinant DNA or RNA is not present. Whole animal studies using recombinant proteins, however, should be reviewed by the appropriate Animal Care and Use Committee.

**Project #228**

In project #228, the investigator, Dr. Jeffrey Buyer (Sustainable Agricultural Systems Laboratory, ANRI, BA) proposes a study of microbial community structure of the soil and rhizosphere. Community DNA will be extracted from soil and rhizosphere samples PCR will be performed using primers specific for the 16SrRNA gene. PCR products will be ligated into the pGEM-T plasmid vector and transformed into E. coli K12. Plasmids containing the PCR products will be sequenced. No expression of foreign genes other than those used for selection purposes will be performed.

The experiments will be conducted in Room [redacted] b2 [redacted].

Assignment of Biosafety level and containment conditions:

Recombinant DNA experiments in *E. coli* are exempt from the NIH Guidelines (Section III-F-6 and Appendix CII of the April 2002 Guidelines), however, Biosafety Level 1 (BL1) physical containment conditions are recommended (Appendix G-II-A). Refer to Appendix GII of the April 2002 NIH guidelines (http://www4.od.nih.gov/oba) for more information on Standard Practices and Physical Containment Levels concerning your experiment.

The meeting adjourned at 1 PM.