Submit by 13 January 2006

DARWIN INITIATIVE APPLICATION FOR GRANT ROUND 14 COMPETITION:STAGE 2

Please read the Guidance Notes before completing this form. Applications will be considered on the basis of information submitted on this form and you should give a full answer to each question. Please do not cross-refer to information in separate documents except where invited on this form. The space provided indicates the level of detail required. Please do not reduce the font size below 11pt or alter the paragraph spacing. Keep within word limits.

1. Name and address of organisation

Name:	**Address:**
CABI Bioscience	Bakeham Lane, Egham, Surrey TW20 9TY

2. Project title (not exceeding 10 words)

Conserving and using entomopathogenic fungi and nematodes within Chile

3. Project dates, duration and total Darwin Initiative Grant requested

Proposed start date: May 2006		**Duration of project:** 3 years		**End date:** May 2009	
Darwin funding requested	**Total** £299,372	**2006/07** £125,254	**2007/08** £89,232	**2008/09** £84,886	**2009/2010 £**

4. Define the purpose of the project in line with the logical framework

To protect and enhance conservation and sustainable use of the entomopathogenic fungal (epf) and nematode (epn) biodiversity of Chile, through better understanding of their ecological characteristics and increased capacity in collection, curation and characterisation.

5. Principals in project. Please provide a one page CV for each of these named individuals

Details	**Project Leader**	**Other UK personnel (working more than 50% of their time on project)**	**Main project partner or co-ordinator in host country**
Surname	Moore		France
Forename (s)	Dave		Rene Andrés
Post held	Biopesticides Team Leader		Biological Control Team Leader
Institution	CABI Bioscience		INIA
Department	Environmental and Industrial Biology		Plant Protection

6. Has your organisation received funding under the Darwin Initiative before? If so, give details

Examples include: Microbial genetic resource programme (Indonesia); Sustainable management of alien invasive weeds (China); Biodiversity management around a Ramsar site (Turks and Caicos); Recovering Ukraine's lost steppe (Ukraine); Biodiversity and Colombian coffee farmers (Colombia).

7. IF YOU ANSWERED NO TO QUESTION 6 describe briefly the aims, activities and achievements of your organisation. (Large institutions please note that this should describe your unit or department)

Aims (50 words)

Activities (50 words)

Achievements (50 words)

8. Please list the UK (where there are partners in addition to the applicant organisation) and host country partners that will be involved in their project and explain their roles and responsibilities in the project. Describe the extent of their involvement at all stages, including project development. What steps have been taken to ensure the benefits of the project will continue despite any staff changes in these organisations? Please provide written evidence of partnerships.

INSTITUTO DE INVESTIGACIONES AGROPECUARIAS (INIA), Quilamapu, Chile:
Dr. Andrés France is the project co-ordinator in Chile and will oversee all surveys, isolate characterisation and the later transfer into a phase of biopesticide development within Chile. INIA has Centres in all but two of Chile's thirteen Regions. Each Centre will be the base for survey work in their respective Region, all have sufficient laboratory and incubation facilities to assist in the processing and short term storage of epf and epn samples. INIA Quilamapu hosted initial discussions with CABI scientists during trips to Chile in 2002 and 2004 where project ideas were discussed. During a visit in 2004 they coordinated meetings between CABI and the Universities of Chile and Austral to discuss collaboration.
Dr Marcos Gerding will be involved, as an entomologist, in the surveying and collection of isolates from insect cadavers and soil samples. He has been involved with all stages of project development
Mrs Viviana Becerra participated in planning meetings in 2002 and 2004 and will work on biochemical and molecular characterisation of isolates.

UNIVERSITY OF CHILE, Santiago, Chile:
Professor Javier Simonetti (Department of Ecological Science) is the Chair of the Chilean Comite de Biodiversidad and has agreed to coordinate a team of scientists to characterise the ecosystems surveyed. Professor Simonetti was involved in pre-proposal discussions during a trip to Chile in 2004. He will not be directly funded from the project, but will provide significant support at scientific and political levels.
Professor Margarita Caru (Department of Ecological Science) will collaborate in the molecular characterisation of selected isolates from Chile. Professor Caru has been involved in the project planning (through Andrés France) since October 2004.
Professor Fernando Santibáñez (Department of Ecological Science) is a specialist in climate change, ecophysiology and bioclimatic characterisation. He will be involved in bioclimatic characterisation of selected isolates from Chile. Professor Santibanez has been involved in the planning process (through Andrés France) since October 2004.

UNIVERSITY OF AUSTRAL, Valdivia, Chile:
Professor Roberto Carrillo (Institute of Plant Defence) will assist in collecting biological information on epf and epn and provide the necessary facilities to help with surveys in Region 10 of Chile. Professor Carrillo participated in pre-proposal discussions with CABI in October 2004.

All the above organisations have been established for many years and have a range of expertise and support. The continued interest of these organisations can be anticipated as the project activities match with Chilean Government policies. There are also sufficiently large scientific communities within Chile to ensure that individual scientists could be replaced with others of equal calibre.

9. What other consultation or co-operation will take place or has taken place already with other stakeholders such as local communities? Please include details of any contact with the government not already provided.

Commercial biotechnology companies: In 2005, following successful field trials in Chile using microbials, two companies BioAgro and Agrolimpio signed commercial agreements with INIA to produce and distribute epf and epn for limited activities in bramble fruits and vineyards. The project will aim to strengthen ties with both companies with regards to future biopesticide commercialisation. Further outlets will also be sought.

Servicio Agrícola y Gandero (SAG): The Chilean agency in charge of phytosanitary protection is currently modifying the legislation to facilitate the registration and control of biopesticides in agriculture. During this process SAG has consulted with farmers, biological producers, INIA and Universities, and the new legislation is expected during 2006.

Chilean Comite de Biodiversidad: There have been detailed project discussions between INIA and the Chilean Comite de Biodiversidad via Professor Javier Simonetti, who chairs the Committee. This Committee has the responsibility of interdisciplinary studies in biodiversity in Chile, with emphasis on research and staff training. The purpose of involving the Committee in the project is to help focus the research program and to promote the relationship with society, including how to transfer the knowledge to different social groups (the goals and activities of the Committee can be seen at www.biodiversidad.uchile.cl).

The British Embassy in Chile: There will be contact to confirm that Scientists from CABI will have no problems regarding visas and accessibility whilst in Chile. At present there are no difficulties.

PROJECT DETAILS

10. Is this a new initiative or a development of existing work (funded through any source)? Are you aware of any other individuals/organisations carrying out similar work, or of any completed or existing Darwin Initiative projects relevant to your work? If so, please give details explaining similarities and differences and showing how results of your work will be additional to any similar work and what attempts have/will be made to co-operate with and learn lessons from such work for mutual benefits.

As far as this Initiative is aware there are no past or present Darwin Projects specifically on this theme. This will be a study on the epf and epn biodiversity of Chile. The aim is to survey a range of habitats, to profile those epf and epn obtained, identify characteristics that link the isolates to their habitats and ultimately to use this information in developing microbial-based biopesticides as alternatives to chemical pesticides.

Although epf and epn are ubiquitous within Chile this will be the first systematic study of their biodiversity. Chile's ecological conditions cover the extremes from near Antarctic in the South through to desert in the North. Consequently, ecological differences occur over the 5000 kilometres of the country through marked climatic differences. The project will profile locally obtained epf and epn and examine their respective ecological habitats to identify links between entomopathogen and habitat. A move from a program of successful microbial research into a phase of successful biopesticide development will subsequently rely on this information to help select the most suitable isolate for the environment in which it will be used. The project will result in a systematic and comprehensive exploration of epf and epn biodiversity in Chile, enabling a more rational selection and use of the organisms. Rational selection is presently lacking in respect of exploitation of resources (worldwide) as most previous epf and epn work has been limited in geographical and environmental scope.

Chile has a wealth of expertise available in insect pathology and the project will build on this capacity, converting this expertise to the practical use of epf and epn as biopesticides. Over the last decade Chile has developed action plans with the aim of exploiting local microbials as biopesticides. The Insect Pathology Program (IPP) at INIA was founded 8 years ago and is the lead biopesticide research program in Chile. They have demonstrated the potential for epf and epn control of a number of serious pests in Chile, including Black vine weevil *(Otiorhynchus sulcatus*), Pear slug (*Caliroa cerasi*) and Yellow jackets (*Vespula germanica*). In 2002, INIA/IPP initiated their first set of large-scale biopesticide field trials, treating 260 ha for a serious pest of bramble fruits. The trials were scaled up to 520, 1020 and finally 2040 ha, and culminated in the signing of agreements with two companies to commercially produce epf and epn (as

described no. 9). The collaboration between CABI and INIA will enable the project to build on this expertise and the infrastructure already in place. It is likely that epn would be aimed at high value protected crops, while epf would be more suitable for broad-acre crops. These, including viniculture and soft fruit production are very important for Chile's export earnings.

11. How will the project assist the host country in its implementation of the Convention on Biological Diversity? Please make reference to the relevant article(s) of the CBD thematic programmes and/or cross-cutting themes (see Annex C for list and worked example) and rank the relevance of the project to these by indicating percentages. Is any liaison proposed with the CBD national focal point in the host country? Further information about the CBD can be found on the Darwin website or CBD website.

As an intergovernmental organisation, most of whose Member Governments (which includes Chile) are signatories to the Convention on Biological Diversity, CABI complies with the spirit and provisions of the CBD. CABI is involved in many activities related to the conservation of biodiversity and makes every reasonable effort to operate within the CBD. CABI maintains its position at the forefront of developments, is a partner to initiatives defining policies and procedures, and currently participates in the development of model procedures for access to genetic resources within the requirements of the CBD (further information on CABIs position with respect to the CBD can be found at www.cabi-bioscience.org/positionstatements.asp).

The project will generate knowledge and increase awareness on the indigenous epf and epn resources in Chile. Exploiting the resources to find local biological crop-protection organisms would alleviate the pressures being placed on intensive agricultural systems and the surrounding environment by reducing chemical pesticide use. The project covers a number of CBD objectives, including the promotion of sustainable development, greater food security and a cleaner and healthier environment. There is full support of the Governments' implementation of articles (in declining emphasis) 12 (15%), 10 (15%), 19 (10%), 8 (5%), 6 (5%), 13 (5%) of the CBD, with particular emphasis on the themes of Agricultural Biodiversity (20%), Sustainable Use and Biodiversity (15%) and Economics, Trade and Incentives (10%).

12. How does this project meet a clearly identifiable biodiversity need or priority defined by the host country? Please indicate how this work will fit in with National Biodiversity Strategies or Environmental Action Plans, if applicable.

The National Commission for the Environment (CONAMA) in Chile is a Government institution with the goal of preserving a balance between national development and environmental sustainability. Their basic principles are the conservation of biological diversity, the sustainable use of its components and ensuring equal rights to benefits from the use of the resources (see www.conama.cl). The objectives of the Darwin project cover each of these principles.
CONAMA recognises that environmental efforts are hampered by limited baseline information on local biodiversity. To combat this Chile has established the National Plan of Action for the Preservation of Biodiversity. Within this Plan there are three main interventions 1) improving environmental management through capacity building, 2) assisting in inventorising biotic resources and developing a use plan and 3) broadening scientific knowledge through scientific assessment and national programmes examining and developing indigenous genetic resources. The project will meet these interventions through the creation of a national database of epf and epn and building the expertise required to curate and profile them. A use plan will subsequently focus on exploiting these natural microbial resources as alternatives to chemical pesticides.

13. If relevant, please explain how the work will contribute to sustainable livelihoods in the host country.

A longer-term objective of surveying and characterisation of epf and epn is to develop biopesticides. Chile is no exception in an international push to reduce the use of chemical pesticides on agricultural systems. Biopesticides are based on microbial organisms including epf and epn and can form core components of integrated pest management (IPM) programmes, that, whilst not eliminating chemical control, look to incorporate biological and cultural control techniques for pests and diseases. A reliance on chemical pesticides can often mean a reliance on expensive imported products, compounded by the need to re-apply regularly due to target resistance. The establishment of a biopesticide industry will a) offer the chance of reducing chemical pesticide use in Chile by providing alternatives, b) enable farmers to protect their crops and Chile to protect export earnings, c) provide employment and d) reduce the national costs of importing chemical pesticides. A successful exploitation of microbial isolates could greatly increase an appreciation of

the financial value of biodiversity, extending interest far beyond epf and epn. Replacement of chemicals will reduce the harmful environmental impact of such products and contribute towards environmental sustainability. The project should directly enhance the standard of living of the local and national communities and hence alleviate hardship in a sustainable manner. The interest of commercial biotech. companies is encouraging, but the success rate of such biocontrol projects is not great. This is at least in part due to inadequate isolates being used and a lack of understanding of the ecology of pest/pathogen/environmental issues. Generating this knowledge as well as maintaining the quality control of microbial material are significant parts of the project.

14. What will be the impact of the work, and how will this be achieved? Please include details of how the results of the project will be disseminated and put into effect to achieve this impact.

As above, the project will promote and increase sustainable crop protection in Chile through increased scientific capabilities and knowledge. This will be achieved by scientific collaboration, finding local entomopathogenic microbial isolates, generating knowledge on their biology and ecology and identifying links with the environment from which they originated. This information can then be used to select isolates with the potential for biopesticide development. Effective curation of the isolates will furnish the active ingredients of the biopesticides. The isolation and profiling of microbials and the development of biopesticides will function as complementary activities, running side by side. This will provide a clear link between economic benefits and sustainable exploitation (and hence protection) of biodiversity.

Dissemination will be through scientific papers, reports and presentations. Chile has some impressive scientific journals, but the attempt will be made to reach international journals. Close communication with CONAMA will ensure that the results will be taken up at senior government level, increasing the chances of the work being supported to fully achieve the potential impact.

15. How will the work leave a lasting legacy in the host country or region?

The knowledge generated by the project will provide a rich database of information on the epf and epn biodiversity in Chile. There will be established culture collections, with enthused scientists from INIA who are trained and have the capacity to train others in techniques of epf and epn isolation, curation and profiling. The capability and organisation within Chile for using this knowledge to successfully develop biopesticides will be significantly increased.

CAB International has developed one commercial biopesticide (Green Muscle) and assisted Trinidad in the development of a commercial scale product effective against the sugar-cane froghopper. CABI has had a successful stewardship role in the production and use of Green Muscle, has been prominent in quality control aspects of biopesticide production in a number of countries around the world and has produced significant outputs in this area. The project will, on an on-going basis through the three years, allow this expertise to be exploited by Chile, optimising the chances of successful development of a biopesticide industry. Additional value will come from the IPR and ABS workshop to be conducted by Dr David Smith. Every intermediary in an improvement or development process is entitled to a share of the IPR. This may for example, include the collector of an entomopathogen, the landowner from where the isolate originated and/or those involved in its identification and curation. CABI recognises that it is critical that clear procedures on access, mutually agreed terms on fair and equitable sharing of benefits, and sound material transfer agreements are in place to protect the interested parties, and has developed appropriate protocols to ensure this (see www.cabi-bioscience.org/positionstatements.asp).

The nature of the biopesticide commercialisation will depend on the nature of the agents identified and the prioritisation of targets within Chile. Successful models range from very small scale (employing 1-2 people) who produce for a local niche market, SMEs, through to large scale production, producing sufficient material to treat many thousands of hectares. CABI has experience in production at all levels and of challenges related to the production of particular isolates of epf; it also has considerable experience in mass production of epn. It would be possible for INIA to establish small model facilities, to optimise production that would then be scaled up by, probably, private enterprise. Employment benefits would probably be greater from many small production facilities, but if a biopesticide was required for a broad-acre crop, for example vineyards, a factory scale production would be more effective. Examples of successful biopesticide producers are found in, for example, Brazil, India, Vietnam and USA, showing the complete range of production scale; in Cuba there are many production units, centrally controlled.

The project will enhance the public's awareness regarding the value of biodiversity and highlight its role in sustainable development. Local and National dissemination of information through the correct pathways (e.g. publicity campaigns, workshops) will aim to increase public participation in developing an action plan for the conservation of national biodiversity. Information will also be disseminated to target groups (e.g. growers, extension services, cooperatives and the scientific community), providing a tool to influence decision/policy making. The collection and maintenance of the isolates and the greater understanding of the characteristics of isolates, related to the environment of origin and how this information could be used will demonstrate to the public the benefits of conserving national biodiversity.

16. Please give details of a clear exit strategy and state what steps have been taken to identify and address potential problems in achieving impact and legacy.

The project will prepare a framework for biodiversity conservation in Chile with the emphasis on providing sustainable agricultural pest management through biopesticides based on locally obtained microbials. The Government of Chile has offered its full support for the project, with commitments to build upon the outputs to ensure that long lasting benefits are achieved. The Government of Chile is committed to conserving their national biodiversity, they also appreciate how biopesticides can offer effective and environmentally safer alternatives to chemical pesticides.

Many technical problems associated with biopesticide development have been solved and, in Europe, bureaucratic difficulties over registration are the main problems. Chile has indicated its approval of the use of biopesticides, consequently, it is likely that full development would be encouraged.

17. How will the project be advertised as a Darwin project and in what ways will the Darwin name and logo be used?

The project will be advertised as a Darwin Project by the following (all with due consideration to budget):

- CABI and INIA Web-sites will incorporate a Darwin link.
- Local dissemination of project information will use the Darwin logo and all training courses and workshops will be described as Darwin Courses.
- The Darwin logo will be used on the survey vehicle (this will be an INIA vehicle, not purchased with Darwin money).
- Full acknowledgements to the Darwin Initiative will appear in all publications.
- Business cards and letter headings will display the Darwin logo.

18. Will the project include training and development? Please indicate who the trainees will be and criteria for selection and that the level and content of training will be. How many will be involved, and from which countries? How will you measure the effectiveness of the training and will those trained then be able to train others? Where appropriate give the length and dates (if known) of any training course. How will trainee outcomes be monitored after the end of the training?

There will be two training courses involving CABI and INIA:

A course on culture collections will be run at CABI UKC for staff from INIA. CABI UKC has a culture collection containing over half a million specimens of microbials, including large numbers of epf and epn and they possess considerable expertise in the curation and preservation of microbial material. Several members of CABI staff, involved with the collection have agreed to provide support and training during the course. They include the President of the World Federation for Culture Collections (Dr. David Smith) and Dr. Matt Ryan who is assistant curator. Those eligible for the course will be senior technical staff who can use the training to educate others at their respective Institute.

Dr David Smith will conduct a course in Chile on Intellectual Property Rights (IPR) and Access and Benefit Sharing (ABS) in relation to the utilisation of microbial diversity. He will draw on his involvement in the UK Stakeholder group on ABS and work on the European DG XII project, MOSAICS - Micro-organisms

Sustainable use and Access management Integrated Conveyance System. This will cover different mechanisms to allow stakeholder and country of origin benefits and cover both monetary and non-monetary benefits. The course will cover ownership issues, means of protecting intellectual property, material transfer agreements and compliance with legislation impacting on the handling, distribution and exploitation of microbial genetic resources. The course will be open to all INIA staff, SAG, local Universities and biopesticide companies.

LOGICAL FRAMEWORK

19. Please enter the details of your project onto the matrix using the note at Annex B of the Guidance Note. This should not have substantially changed from the Logical Framework submitted with your Stage 1 application. Please highlight any changes.

Project summary	Measurable Indicators	Means of verification	Important Assumptions
Goal: **To draw on expertise relevant to biodiversity from within the United Kingdom to work with local partners in countries rich in biodiversity but poor in resources to achieve** • **the conservation of biological diversity,** • **the sustainable use of its components, and** • **the fair and equitable sharing of benefits arising out of the utilisation of genetic resources**			
Purpose To enhance conservation and sustainable use of epf and epn in Chile through increased capacity in collection, curation & characterisation.	Isolate collections established by Yr 1 with additions until Yr 3. Isolate characterisation databased by Yr 3 Protocols on conservation and IPR/ABS drafted by Yr 1 and finalised Yr 3	INIA and CABI reports.	Governments maintain support for biodiversity and for collaborating Institutions.
Outputs 1. Isolates of epf and epn obtained from Chile by collaborators.	1. At least 300 isolates of epf and 100 of epn from Chile, distributed across all ecosystems.	1. Field survey reports, species inventories, scientific publications.	**For all:** trained staff will remain in Institute and Universities and have positions to use skills acquired.
2. Biological and molecular studies of isolates achieved.	2. Biological profiles established, e.g. temperature, RH and UV tolerance. Molecular and biochemical data generated for epf and epn isolates.	2. Study reports, scientific publications.	
3. Institutional capacity increased in Chile.	3. INIA staff trained in a) epf and epn characteristics and culture curation and b) IPR/ABS of microbial biodiversity.	3. Training programme records.	
4. Culture collection of epf and epn established.	4. Presence of viable epf and epn collections in Chile.	4. Collection records.	

5. Simple isolate collection, curation and characterisation protocols developed.	5. Protocols published.	5. Copies sent to Darwin.	
6. Information dissemination and conservation plans.	6. Scientific papers for international journals by Yr 3. Extension literature Yr 1-3. Report from Comite de Biodiversidad by Yr 3. Project data CD Yr 3. Radio & TV as appropriate.	6. Copies of all sent to Darwin.	6. Information reaches stakeholders and is put to positive use.
Activities	**Activity Milestones**		**Assumptions**
Work plan.	Yr 1: Survey-sites, methodologies and procedures for each ecosystem (months 1 – 4).		**For all:** trained staff will remain in Institute and Universities and have positions to use skills acquired and Government provides continuing support for activities and biodiversity.
Protocols standardised.	Yr 1: Molecular and biological characterisation methodologies agreed (CABI / INIA).		
Surveys.	Yr 1 - 3: Chile, regular surveys, 2 – 3 with CABI (2 wk).		
Characterisation.	Yr 1 – 3: Characterisation. Chile, biochemical, temperature, growth, nutritional (NB. Bioassays will be carried out as part of INIA's biopesticide work). UK, UV-tolerance studies.		
Capacity Building.	Yr 2: INIA, training in culture collection in UK. Yr 2: INIA, training in IPR/ABS.		
Culture Collection Established.	Yr 1: Protocols confirmed. Yr 1 onwards: Epf and epn collections maintained in Chile.		
Protocols for Characterisation.	Yr 3: Collation of data and production of protocol. This will be prepared as a journal paper, manual and/or for internet as appropriate.		
Dissemination.	Annual reports supplied to Darwin (and placed on web-sites). INIA extension literature Journal papers prepared end Yr 2 and Yr 3 (via CABI Publishing to access wider audience), radio or TV presentations as appropriate. Review paper for Biocontrol News and information (Yr 3).		Outputs reach stakeholders.

20. Provide a project implementation timetable that shows the key milestones in project activities.

Project implementation timetable		
Date	**Financial year**	**Key milestones**
	Apr-Mar 2006/7 Apr-Mar 2007/8 Apr-Mar 2008/9 Apr-Mar 2009/2010	
June 2006	2006/7	Work plan and protocols agreed.
Nov 2006	2006/7	Molecular and biological characterisation methods agreed and tested.
May 2007	2006/7	Chile surveys 1 and 2 completed.
March 2007	2007/8	Culture collection training at CABI UKC.
Dec 2007	2007/8	IPR and ABS training/workshop completed
May 2006/7/8/9	2006/78/9	Culture collections established and maintained in Chile.
May 2008	2007/8/9	Chile surveys 3 & 4 (NB ongoing 'local' surveys in Chile throughout Project) completed.
May 2008	2007/8/9	On going characterisation work.
May 2009	2008/9	Collections and characterisations databased.
May 2007/8/9	2006/8/9	Characterisation protocols disseminated externally (as appropriate).
May 2007/9/9	2007/8/9	Annual reports to Darwin (and on web sites if appropriate).
May 2009	2007/8/9	Protocols on conservation and utilisation of biodiversity complete.
May 2007/8/9	2008-09	Journal papers prepared and submitted. Radio, TV, conference presentations as appropriate.
May 2009	2008-09	Review paper for Biocontrol News and Information

21. Set out the project's measurable outputs using the separate list of output measures.

PROJECT OUTPUTS		
Year/Month	**Standard output number (see standard output list)**	**Description (include numbers of people involved, publications produced, days/weeks etc.)**
2006/June		Work plan agreed (people: 2 CABI, 4 Chile)
2006/Nov	10:2	Molecular and biological characterisation methods tested, protocols agreed. (2 CABI, 4 INIA)
2006,7,8,9/May	13A:2	Culture collections established in Chile and maintained (ongoing)
2007/March	6A:6, 6B:2	Culture collection training at CABI UKC. 2 weeks (2 CABI)
2007/May	8:6	Chile surveys 1 and 2 completed. 6 scientists @ 6 weeks (2 CABI, 4 INIA)
2007/Dec	6A:6, 6B:1	IPR and ABS workshop (1 CABI)
2008/May	8:6	Chile surveys 3 & 4 (NB ongoing 'local' surveys in Chile throughout Project) completed. 6 scientists @ 6 weeks (2 CABI, 4 INIA).
2009/May		On going characterisation work completed.

2009/May	12A:2	Collections and characterisations databased.
2009/May	9:2	Characterisation protocols disseminated externally (as appropriate).
2007,8,9/May		Annual reports to Darwin (and on web sites if appropriate). D. Moore, A. France.
2009/May	10A+B:4	Protocols on conservation and utilisation of biodiversity complete. D. Moore, A. France.
2007,8,9/May	11A+11B:8	Journal papers prepared and submitted. All scientists as appropriate.
2008,9/May	15A+15B:4, 18A+18C:2, 19A+19C:4	Radio, TV, conference presentations. All as appropriate.
2009/March	11A+11B:1	Review paper for Biocontrol News and Information. Project leaders

PROJECT BASED MONITORING AND EVALUATION

22. Describe, referring to the Indicators in the Logical Framework, how the progress of the project will be monitored and evaluated, including towards delivery of its outputs and in terms of achieving its overall purpose. This should be during the lifetime of the project and at its conclusion. Please include information on how host country partners will be included in the monitoring and evaluation.

There will be both ongoing and periodical monitoring of the project. There will be reports of all survey trips, provisional isolate information and then on-going scientific data produced from these. A database will be built up in the culture collections established (a standard procedure with CABI Culture Collection). Annual reports will be produced by A. France (Chile) and D. Moore (Project Leader, UK), both of whom are experienced at project management and will, together, evaluate the progress of the project in relation to the Log-Frame. In Chile, Professor Simonetti has agreed to maintain regular input as an external evaluator and this will also facilitate continuation after the end of the Darwin Project. Final project reports will be produced. Peer scrutiny will be occurring with the papers prepared and submitted from the project work. Again, the project leaders are well experienced in these aspects. At all stages the host country partners will be equally involved with monitoring and evaluation, although D. Moore is ultimately responsible for this.