Post-Harvest Innovation Programme

Funding Guidelines

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2018 Post-Harvest Innovation Programme Funding Guidelines

Definitions

For the purposes of the Post-Harvest Innovation Programme, the following definitions will apply:

R&D

R&D encompasses creative investigation conducted on a systematic basis in order to gain new knowledge; and the use of this and/or existing knowledge to develop improved products, services or processes.

Innovation

The generation of new knowledge and/or ideas, often but not necessarily unconventional, or conversion of existing knowledge and/or ideas that potentially lead to a commercial benefit i.e., new or improved products, processes or services.

Postharvest

The period of crop development that commences with the determination of harvest maturity, and all subsequent processes including picking, grading, packing, cooling, storage, transport and distribution within the market up to the point of consumption.

1.   Introduction

This Funding Guidelines document is a guide for applicants and potential grantholders on the procedures and conditions for participation in the Post-Harvest Innovation (PHI) Programme.

The document provides a brief overview of the Programme, including the application process and requirements.

2.   Post-Harvest Innovation Programme

2.1   Overview

The Post-Harvest Innovation Programme (PHI), initiated in 2007, is a public-private partnership between the Fresh Produce Exporters' Forum (FPEF) and the Department of Science and Technology (DST). Its purpose is to support research, development and innovation (RDI) aimed at enhancing the global competitiveness of participating South African fresh horticultural industries.

The Programme focuses its efforts on post-harvest RDI in high-priority areas that impact on the development and sustainability of the post-harvest component of the fresh horticultural industry. In addition to providing a platform for RDI, it also aims to build critical mass and institutional capacity to support innovation in the fresh horticultural industry.

The Programme embraces a government-industry partnership model, while focusing on a broadened participation of formalised horticultural industry associations.

The Programme is administered by the FPEF and governed by a Steering Committee, which represents industry associations, the FPEF and the DST. The Steering Committee provides strategic guidance to the Programme and performs an oversight role.

2.2   Mission and Strategic Objectives

The mission of the Programme is to engender a culture of innovation by providing funding opportunities to deserving applicants who seek innovative solutions to address identified technology challenges in the fresh horticultural value chain.

The strategic objectives of the Programme are to:
- Provide a platform for facilitating and supporting RDI in postharvest technology in high priority areas, building critical mass and institutional capacity to support innovation in the targeted fresh horticultural subsectors.
- Provide a system of capacity building and skills development to support the growth of the horticultural industry.
- Contribute to the global competitiveness of the South African horticultural export industry.

3.   Qualifying Fresh Horticultural Industries and Commodities

The FPEF partners with various formalised industry associations to identify and co-fund R&D projects that address specific postharvest challenges relevant to their respective commodities. The contributing industry partners that will participate in the Programme during the next funding phase (2019 – 2021) are:

- Citrus Research International (citrus)
- HORTGRO Science (pome and stone fruit)
- Subtropical Growers' Association (avocado, mango, litchi)
- Tomato Producers' Organisation (tomatoes)
- Pomegranate Association of South Africa (pomegranates)
- Cape Flora SA (indigenous fynbos and proteas)
- South African Berry Producers' Association (blue berries)
- Almond Board of South Africa (almonds)

4.   Industry Association Co-Funding

The PHI Programme only considers R&D project funding proposals that are co-funded (50%) by the industry associations listed above. Applications submitted to the PHI Programme will be pre-reviewed by the relevant industry associations for their endorsement and co-funding commitment.

5.   Priority Technology Challenges

All proposals submitted to the PHI Programme must aim to address one of the Technology Challenges described in Table 1. These are the main technology challenges currently faced by the fresh horticultural industry and which threaten its global competitiveness.

The PHI Programme recognises that RDI associated with the technology areas in Table 1 is not limited to conventional scientific disciplines. Researchers in engineering-related disciplines are therefore also encouraged to submit proposals that address RDI specifically related to postharvest challenges in these priority areas. These also apply to cross-cutting projects which benefit more than one horticultural subsector.

Table 1: List of industry-specific priority Technology Areas

Industry Association	Priority Technology Areas/Projects
Citrus Research International (citrus)	• Improving postharvest disease and pest control in citrus • Reducing chilling injury and other postharvest rind condition problems in citrus • Reducing cold treatment failures and rejections caused by poor air circulation, pallet and carton construction, and fungal degradation of pallets
HORTGRO Science (pome and stone fruit)	• Harvest maturity, cold storage and cold chain management to the retailer • Fruit quality management in the handling chain for the prevention of physiological defects • Develop of environmentally friendly technologies for the management of fungal decay • Develop environmentally friendly packaging technologies • Overcome phytosanitary hurdles/requirements of importing countries through the use of various technologies • Upscale and customise ethyl formate fumigation from shipping container to cold room capacity for the control of key phytosanitary pests
Subtropical Growers' Association (avocado, mango, litchi)	• Controlled and modified atmosphere packaging • Storage and export protocols for new cultivars • Alternatives to current postharvest treatments • Indicators of maturity and ripening • The effects of physiological and/or pathological disorders on maturity and ripening
Tomato Producers' Organisation (tomatoes)	• Reduction of wastage during postharvest processes • Improvement of shelf life and fruit quality • Soft handling of fruit during the supply chain • Supply chain traceability • Alternatives to plastic packaging • Post-harvest sanitation • Influence of climatic factors on tomato picking times and post-harvest shelf life
Pomegranate Producers Association of South Africa (pomegranates)	• Store-ability of pomegranates at lower temperatures, with a view to possibly including a "Cold-sterri light" into our FCM protocol. (Extension of the Experico trial) • FCM mortality rates in pomegranates when stored at the above lower temperatures, including the effect of CO_2 in the process • The development of a Phytosanitary Information Package for pomegranates, to enable further market access applications • The effectiveness of overhead netting to combat sunburn and wind damage, and its possible effect on fertility
Cape Flora SA (indigenous fynbos and proteas)	• Reducing chilling injury in Proteaceae cut flowers stems through pre- and postharvest management strategies • Control of leaf blackening in Protea as a postharvest disorder • Increasing market access through the use of CATTS technology for control of phytosanitary pests
South African Berry Producers' Association (Blue Berries)	Ensuring that phytosanitary pests *Bactrocera Dorsalis* and *Mediterranean fruit fly* are properly eradicated during cold-steri and that blueberry quality remains intact
Almond Board of South Africa (ALBSA) (Almonds)	Trialing and Optimizing EMC (Equilibrium Moisture Control) to obtain curing / dehydration / drying of almonds in-hull, in-shell and shelled to acceptable moisture content percentages and associated food safety requirements

6. PHI Funding Criteria

To qualify for funding, RDI project proposals must demonstrate the following:

- **Market-driven**: The rationale and objectives must demonstrate that the project aims to address a real market need for the enhancement of the competitiveness of the fresh horticultural industry.

- **Innovation**: Demonstrate, with respect to one or more of the identified technology challenges/projects, the ability to create new knowledge, functional designs, products, processes or systems. The latter includes systems that enhance production, quality, logistics, energy efficiency and market intelligence; or,

  Demonstrate a significant improvement in functionality, performance, reliability or quality of existing functional designs, products, processes or systems.

- **Feasibility**: Demonstrate the capacity to meet the proposed deliverables in terms of human capacity and research infrastructure/facilities, the prudent use of funds, sound methodologies that support the research processes, and a clear project delivery schedule with timelines.

- **Transformation**: Demonstrate that the project will contribute to the development of human capacity within marginalised groups (students and researchers; and/or collaboration with researchers based at historically disadvantaged universities). The Programme as a whole must ensure that the following prescribed transformation deliverables are met:

  a. At least 80% of postgraduate students must be Historically Disadvantaged Individuals (HDIs).
  b. At least 30% of researchers (either principal investigator or researchers who are part of research team) must be HDIs.

7. Funding Duration

All approved funding proposal projects must be completed by 30 June 2021. The final report of the proposed research must therefore be submitted to the relevant industry association by latest 30 July 2021 to allow sufficient time for final payment processes.

8. Non-Qualifying Costs

The following activities will not qualify for funding:

- Infrastructure development.
- Unless part of an R&D process, activities that involve routine testing and analysis are not classified as R&D, and will therefore not be funded.
- Projects that are evaluated as a duplication of previous R&D will not be funded, unless the outcomes of such previous R&D is protected and proven to be inaccessible.
- Software development, unless part of an R&D project. This includes the development of database systems and other computer-based information systems based on established techniques and analysis.

- Training that is not directly related to the R&D project.
- Local and International Conference Attendance.
- Costs incurred before submission of the funding proposal.

9. Categories of Support

When completing the project budget, applicants need to consider all costs that could impact on undertaking the research, including the direct and indirect (overheads) costs. A realistic planning of the budget is required and **all line items must be clearly motivated.**

9.1 Human Capacity Development (Grantholder-linked Student & Postdoctoral Fellowship Support and Interns)

The Programme supports the advancement of individuals to masters, doctoral and postdoctoral levels in all scientific fields, on condition that the research is addressing a post-harvest challenge. Grantholder-linked postgraduate bursaries are available to students who are supervised or co-supervised by the grantholder and who work on his/her PHI and Industry-supported project. South African citizens will receive preference in the allocation of grantholder-linked bursary support.

Bursary costs must be included in the overall project budget, of which industry associations will contribute 50% of the overall project budget.

Student support is available in the following categories:
- Postgraduate grantholder-linked bursaries: Masters and Doctoral students with a research component of more than 50%.
- Postdoctoral Fellowships: For candidates who have completed their Doctoral degree no more than five years ago.

The award of bursaries is restricted to the following total per level:

Level	Value of Support (per annum)	Maximum Period of Support (consecutive years)
Masters full-time	R 90 000	2 years
Doctoral full-time	R120 000	3 years
Postdoc full-time	R255 000	2 years

The PHI Programme is an industry and Government-supported initiative, which must ensure that the proportion of Masters, Doctoral student and Postdoc fellowship support contributes to achieving Government's transformation targets. In this respect, based on the Industry-Government co-funding partnership, the following criteria will be targeted, <u>as measured across the programme as a whole</u>:

At least:
- 80% South African citizens and permanent residents
- 80% Black (African, Coloured and Indian)

The grantholder is expected to provide mentoring and supervision to all PHI-supported postgraduate students **linked** to his/her project.

Bursary recipients may not hold more than one government-funded bursary simultaneously. Therefore, a recipient of an NRF bursary would not qualify for PHI co-funding on the bursary component of the project.

The following categories of **Interns** can be considered towards human capacity building:
1. Students who require practical experience in order to complete a qualification.
2. Students who need work exposure prior to permanent employment.

9.2   Research and Technical Assistance

Postgraduate and postdoctoral students involved in the project may be deployed as research or technical assistants. Working hours must be clearly motivated and proportional payment will be considered accordingly. **A postdoctoral student who holds a bursary / fellowship will not be regarded as a research or technical assistant as well for the same project**. *Greater participation of South African citizens is encouraged.*

A detailed cost breakdown, e.g. research or technical assistant works for three hours per day for a total period of three months, at a given hourly rate, is required.

9.3   Research Materials and Supplies

These items must be directly related to the project and directly consumed in the normal course of operation of the proposed research, such as chemicals and disposable items.

Eligibility

1. Only direct costs are covered.
2. Every type of purchase must be clearly identified individually and be well-motivated in the budget.
3. Applicants are required to submit a detailed itemised list, e.g. description of the consumable.

Funding not allowed

- Basic office equipment.
- General stationary, photocopying and printing costs.
- Journal publications, journal subscription costs and textbooks.
- Telephone, fax and Internet costs.
- Personal laptops, computer hardware, software and purchase or renewal of software licenses.
- Any funding line that is listed as: 'miscellaneous, 'other' or 'etc.'

9.4   Research Equipment

To provide support to applicants for the purchase of equipment, service or upgrade costs for equipment that is directly related to the envisaged outputs.

<u>Eligibility</u>

- Details of laboratory equipment to be purchased, e.g. balance, water bath, autoclave, water purification system, gel dryer, micro pipettes.
- Equipment should be purchased following the institutional procurement policies.
- Specialised software or processing equipment may be considered, provided that it is well motivated. Ownership of such specialised software and equipment will vest in the beneficiary organisation.

<u>Funding not allowed</u>
- Capital equipment
- License fees or renewal of licenses of non-specialised software (e.g. MS Office).
- Personal laptops, net books, hand-held notebooks, and personal digital assistant (PDA) devices.

9.5   Study/Training Visits (Local / International)

Applications can be made for a funding contribution (travel and accommodation) towards a study / training visit by the grantholder. This funding category will be particularly favourable for postharvest researchers at historically disadvantaged universities.

The purpose of this funding category is to support an applicant who plans to undertake a study visit or training visit for research in a well-developed research environment, to advance and complete the research project and / or equip the applicant with specific and special skills required to add value to the research project. The study visit must contribute to the advancement and the completion of the research project. The training visit must equip the applicant with specific and special skills required to add value to the research project.

In all cases, a detailed motivation, including an itemised budget, should be submitted.

Study Visit: Applies where the applicant's home institution does not have well-developed infrastructure or facilities to fully accommodate the research to be undertaken.

Training Visit: Applies where the applicant requires specific skills in order to contribute to the advancement and completion of the research project and beyond the life of the project.

For training visits, explain why the employing institution of the applicant cannot accommodate the training.

Applicants are required to submit:

- A detailed work plan or programme for the study or training visit, including its duration.
- A detailed cost breakdown, with all the costs related to the visit.
- Letter of confirmation from the hosting institution.
- Letter of approval by the Head of Department of the applicant.
- Letter of motivation why the selected hosting institution was chosen for this visit.
- Indication of other institution(s) having been contacted for the visit, listing at a minimum that they agreed to accommodate the applicant; or they cannot accommodate the applicant.

The combined duration of all visits in this category is not to exceed six weeks.

Successful applicants are required to submit a detailed technical report on the visit within four weeks of return.

9.6   Travel and Accommodation

Only well-motivated domestic travel and accommodation, where directly applicable to the envisaged outputs, will be considered.

9.7   Research Personnel

University research personnel costs for time spent on projects will not be paid, as this is deemed to be part of their normal research workload allocation.

For science councils and private industry research institutions, the cost of research personnel who are directly involved in the research project may be recovered. This includes research personnel seconded to universities by industry associations. These costs must be calculated in terms of cost to company multiplied by the percentage time allocated to the project.

Research 'chairs' at universities, funded by industry associations are excluded.

9.8   Indirect Costs

These costs are only applicable to institutions that charge an overhead levy. Levies will not exceed the rates prescribed by an institution.

10.   Application Process

How to apply:

 10.1   Download the **application form** and the **PHI Funding Guidelines** from
          http://postharvestinnovation.org.za/call-for-proposals/

> Completed application forms must be emailed to Ms Junette Davids at junette@fpef.co.za with the following email subject line: **PHI Funding Application – Name of Industry Association**
>
> The due date for applications is **30 November 2018.** Applications received after this date will not be considered.

10.2   If the applicant's institution is a VAT vendor, all amounts reflected in the application will be VAT exclusive.
10.3   If the applicant's institution is not a VAT vendor, all amounts reflected in the application must include the VAT expense.
10.4   The application form must be completed in sufficient detail to allow comprehensive review and evaluation.
10.5   An applicant may be requested to submit additional information or documentation to support an application.
10.6   Applicants are required to submit complete CVs, including the research profile and research outputs of the researchers included in the project proposals.
10.7   Incomplete and late applications will not be considered.

Applicants will be informed of the outcome of their funding applications by **31 January 2019.**

11. Screening and Review Processes

11.1 Proposals submitted to FPEF will be forwarded to the respective industry for scientific and technical review by the Industry Review Committee(s).

11.2 The Industry Review Committee(s) will make recommendations to the PHI Steering Committee regarding the scientific and technical merits of the proposals.

11.3 The PHI Steering Committee will review recommended proposals collectively, to address the transformation requirements of the DST as stipulated above, as well as to ensure that all budget items comply with the eligibility criteria set out above.

11.4 The relevant industry association needs to formally endorse the support of the proposals submitted to the PHI Steering Committee.

12. Application Feedback

Once the review and assessment processes have been completed and the PHI Steering Committee has approved the recommended funding decisions, the FPEF will notifiy the applicants in writing of the outcome of their applications. The decisions of the PHI Steering Committee are final, and no further representation will be considered.