

Technology Release Submission Guideline

1. Background

As per Section 4.1.4 of the Agriculture Research Strategy (2018–2028) of the Department of Agriculture (DoA), Agriculture Research and Development Centres (ARDCs) and Central Programs are mandated to generate innovative and efficient agricultural technologies to support sustainable agricultural development. To ensure the technologies being developed are aligned to field needs, the Technology Release Committee (TRC) acts as a formal mechanism to screen agriculture technologies, other than crop varieties, prior to release. This guideline is developed in line with the mandates of the TRC to assess the suitability of technologies proposed by government institutions, public entities, private sector organisations and individual innovators, ensuring that only technologies that have undergone appropriate institutional vetting and meet minimum standards of relevance and readiness are recommended for release.

Technologies shall not be recognised unless they have been formally reviewed and approved by the TRC Secretariat in accordance with this Guideline. The DoA shall not assume institutional responsibility, endorsement or liability for technologies that have not obtained approval through the prescribed TRC process and implementation, promotion or dissemination of such technologies shall be undertaken at the discretion and risk of the proponent.

The TRC is composed of the following members:

1. Director, Department of Agriculture (Chairperson)
2. The Advisor, Department of Agriculture
3. Chief Agriculture Officer, Agriculture Production Division (APD)
4. Program Director, ARDCs (one PD representing ARDCs)
5. Program Director, Central Programs (one PD representing Central Programs)
6. Relevant Subject Matter Specialist
7. Chief Agriculture Officer, Agriculture Research and Innovation Division - Secretariat

2. Purpose of the Guideline

The guideline provides clear procedural instructions to institutions, organizations and individuals intending to submit technologies for consideration by the TRC.

The guideline aims to:

- Clarify eligibility and submission requirements
- Ensure all technologies undergo appropriate institutional vetting prior to TRC review
- Promote consistency, quality and transparency in the technology release process

3. Scope and Applicability

This Guideline applies to:

- ARDCs and Central Programs under the DoA
- Corporations, State Owned Enterprises (SOEs), and Civil Society Organizations (CSOs)
- Private companies and startups
- Individual innovators

The Guideline covers non-varietal agriculture technologies proposed for release under the purview of the DoA.

4. Submission Requirements

All submissions to the TRC must:

- Complete the prescribed Technology Release Proposal Checklist
- Complete the prescribed Technology Release Proposal Form
- Be complete in all sections
- Include all mandatory technical recommendations from the Research Management Committee (RMC)/internal technical committee and its Chair, where relevant
- Be submitted through the designated institutional channel

5. Mandatory Technical Recommendations

All submissions to the TRC must meet the prescribed technical recommendation requirements.

5.1. Agencies under the DoA

Proposals from ARDCs and Central Programs must be reviewed and issued a technical recommendation by the RMC of the respective ARDC or Central Program, duly signed by the chairperson.

5.2. Corporations, SOEs, CSOs, and Startups with Internal Review Capacity

Organizations with an internal technical review mechanism must obtain recommendation from its internal technical committee (or equivalent body), duly signed by the chairperson.

5.3. Institutions and Individuals without the Capacity to Constitute RMC

Institutions and individual innovators that do not have a RMC, or lack the capacity to constitute one, shall not submit proposals directly to the TRC. Such proponents shall route their proposals through the appropriate ARDC or Central Program, selected based on alignment with the

technology's operational focus. The receiving institution shall conduct a technical review and, where appropriate, issue a technical recommendation for submission to the TRC.

Only proposals that have obtained a technical recommendation through this prescribed pathway may be forwarded to the TRC for consideration. Proposals submitted without adherence to this shall be rejected without review.

For the purpose of routing the proposals, proponents shall refer to the institutional responsibilities and operational focus of the ARDCs and Central Programs outlined below and identify the most appropriate institution for submission. Where a technology spans multiple mandates, the proponent shall identify a primary routing institution. The receiving institution may seek inputs from other relevant agencies or redirect the proposal where appropriate.

- ARDC Bajo:
 - Core mandate: National coordination of field crops research and citrus research and development
 - Region of operation: West-Central Region, covering Gasa, Punakha, Wangduephodrang, Tsirang, and Dagana
 - Applicable technologies: Field crops, citrus, temperate cropping systems and related agronomic innovations
- ARDC Wengkhari:
 - Core mandate: Research and development of fruits and nuts of warm temperate regions and cereal commodities including maize and quinoa
 - Region of operation: Eastern and central regions, covering Mongar, Trashigang, Trashiyangtse, Bumthang, Lhuentse, and Pemagatshel
 - Applicable technologies: Warm temperate fruits and nuts, maize, quinoa, cereal systems, and orchard-related technologies
- ARDC Samtenling:
 - Core mandate: Research and development of subtropical fruit crops, plantation crops, and spices
 - Region of operation: Southern and central regions, covering Samdrupjongkhar, Trongsa, Sarpang, Samtse, and Zhemgang
 - Applicable technologies: Subtropical horticulture, plantation crops, spices, and related production systems
- National Centre for Organic Agriculture (NCOA):
 - Core mandate: National coordination of organic agriculture research and development, including regulation and certification under the Bhutan Organic Guarantee System and Local Organic Assurance System

- Additional mandates: Coordination of potato research and development, medicinal and aromatic plants (MAPs) and high-altitude temperate crops and fruits
- Region of operation: National mandate with operational focus in high-altitude temperate regions, including Thimphu, Paro, Chukha, and Haa
- Applicable technologies: Organic production systems, organic inputs, certification systems, potato, MAPs, and high-altitude crops
- Agriculture Machinery and Technology Centre (AMTC):
 - Core mandate: Generation, testing and validation of agricultural machinery and technologies
 - Applicable technologies: Farm machinery, tools, implements, mechanisation systems, and machinery standards
- National Plant Protection Centre (NPPC):
 - Core mandate: National coordination of plant protection services, including pest diagnostics, surveillance, research and development and regulatory functions.
 - Applicable technologies: Pest and disease diagnostics, integrated pest management, plant protection inputs and pest monitoring systems
- National Soil Service Centre (NSSC):
 - Core mandate: Coordination of soil and land management research within the RNR sector
 - Applicable technologies: Soil health, soil testing and diagnostics, nutrient management and land conservation technologies
- National Seed Centre (NSC):
 - Core mandate: Functioning as the National Seed Grid to ensure availability of quality certified seeds and planting materials of released and recommended varieties
 - Applicable technologies: Seed systems, planting materials, varietal technologies and seed quality assurance mechanisms
- National Mushroom Centre (NMC):
 - Core mandate: Promotion of mushroom production to enhance food and nutrition security, employment, income, and livelihoods
 - Applicable technologies: Cultivated mushroom production, mushroom processing and sustainable management of wild mushrooms

6. Intellectual Property (IP) and Ownership

6.1. Technologies Developed under the DoA

For technologies developed by ARDCs and Central Programs, IP rights shall remain with the originating institution, with overall custodianship under the DoA.

6.2. Technologies Submitted by External Proponents

For technologies submitted by individual innovators and organizations outside the DoA, responsibility for intellectual property protection, including patenting or other forms of IP registration, shall rest with the proponent. Where appropriate, the DoA may facilitate guidance or coordination related to IP processes, without implying ownership or transfer of rights.

Submission to the TRC does not constitute transfer of ownership or confer any IP rights.

7. Review and Decision Process

Upon receipt of a submission, the TRC Secretariat will verify compliance with this Guideline. Proposals found to be compliant shall be tabled for review whereby the TRC may decide to:

- Approve the technology for release
- Defer the proposal and request additional information/improvement
- Reject the proposal

To safeguard the confidentiality of sensitive information, TRC members shall be required to sign a Non-Disclosure Agreement (NDA) prior to reviewing proposals.

The decision of the TRC shall be communicated through official channels.

8. Grounds for Immediate Rejection

A proposal shall be rejected under any of the following circumstances:

- Failure to adhere to the provisions of this guideline
- Required technical recommendations are missing or incomplete
- The proposal is submitted directly to the TRC without appropriate institutional routing, or is routed through an ARDC or Central Program whose designated mandate does not correspond to the technology concerned
- The proposal does not comply with the prescribed TRC templates