ON-FARM EFFICIENCY PROGRAM
FUNDING LIST

Program Purpose: The intent of the On-Farm Efficiency Program (the "**Program**") is to support producers in achieving environmental benefits by improving the efficient use of agricultural inputs. The Program funds primary producers to carry out projects that optimize the use of inputs such as fertilizer, pesticides, and energy. When inputs reach their targets with precision, it is a win-win for producers and the environment: producers save money, fewer inputs are applied off-target, and fewer emissions are released to the atmosphere.

The Program aims to support the adoption of innovative technology that optimizes farm efficiency, minimizes agricultural waste, advances the digitalization of an operation, and/or gathers information that will help the producer knowledgably enhance their operation. New technologies that are progressive, commercially available, and that have been successful in Alberta are most likely to be successful in applications.

Program Support: Under this Program, "**Eligible Item**" refers to a technology or system, as listed in this Funding List, that optimizes farm efficiency, minimizes agricultural waste and advances the digitalization of an operation, or that improves farm security. See the Program Terms and Conditions for more information about expenses that are eligible and ineligible. Eligible Items are organized into the following "**Streams**":

- Smart Farm Technology
- Energy Efficiency
- Farm Security
- Efficient Grain Handling

An applicant is eligible to receive a grant towards the cost to buy a tool or system that is a listed Eligible Item, or that the Minister approves as being substantially similar to an Eligible Item and in line with that Eligible Item's Stream. An applicant may propose purchases under more than one Stream in its application.

Funding Levels: The Program funding maximum per Applicant is **$150,000** over the duration of the Program**.** The maximum funding per Stream over the duration of the Program is: $50,000 for Smart Farm Technology, $50,000 for Energy Efficiency, $2,000 for Farm Security, and $100,000 for Efficient Grain Handling. For some Eligible Items, there is a maximum grant stated in this Funding List. Eligible expenses are funded at a cost-share rate of 50%. The minimum funding per application is $500.

PLEASE NOTE: Expenditures made before the application date may be eligible. However, **expenditures made before April 1, 2023 are ineligible**. The complete Program requirements are in the Program Terms and Conditions. Applications will be assessed based on the eligibility requirements and subject to Program funding constraints. All application information and supporting documents must be included to facilitate assessment (e.g., quotations, specification sheets).

Stream: Smart Farm Technology		
Sub-streams and Descriptions	Eligible Item No. – Item Description	Ineligible Expenses
Agronomic Decision-Making Tools Smart technology that allows farmers to make more informed decisions to increase production and the efficient use of farm products and energy. Increasing accuracy and precision for implementation of best practices on-farm help to increase sustainability and increase farm profits.	**1.** Electronic or solar powered soil sensors, for example: o Moisture, salinity, organic matter, organic carbon, pH o Macronutrients and micronutrients (N, P, K, S, etc.) o Soil compaction sensors **2.** Farm equipment-mounted sensors and cables, for example: o Vegetative index data o Grain protein, oil, starch content data o Yield sensors **3.** Introductory subscriptions to farm management software (first year only) **4.** Universal Terminals and Task controllers o Display, link modem, cables, and hardware (e.g. ISOBUS) **5.** Agricultural drones - including drone-mounted agriculture specific sensors & lenses (e.g. thermal imaging, multispectral imaging). **6.** Internet boosters – **MAXIMUM $2,000 GRANT per applicant over the term of the Program.**	• Analog soil sensors (e.g., sensors with dial read-outs; sensors without a digital signal that stores data) • iPads, TVs • Drones with regular imaging/ recreational drones • Spray capable drones • Recreational mobile cameras (e.g., GoPros)
Efficient Fertilizer and Seed Application Smart technology and equipment that helps producers use fertilizer more efficiently and implement 4R principles to reduce GHG emissions and nutrient run-off while increasing on-farm profit margins.	**7.** Variable rate technology, for example: o Soil sampling and analysis o First time rate mapping services (must include soil sampling as part of map creation) o Retrofit sectional control technology o Retrofit rate control technology o Smart Irrigation systems **8.** Sensor based fertilizer spreader components that optimize granule distribution **9.** Smart air drill monitoring system (e.g., Smart blockage monitoring) **10.** Farm equipment-mounted data collection and data storage units	• Recreational mobile cameras (e.g., GoPros) • Drones for general or recreational use, not specifically for agriculture • Equipment for GPS and auto-steer • Irrigation structural hardware

Livestock Feed Efficiency and Health Monitoring Tools Smart technology and systems that increase feed efficiency and monitor the health of livestock to help increase productivity and reduce waste.	**11.** Electronic livestock ID reader tools or systems that allow data collection for individual animals. For example: o Ear tag monitoring system o Digital ID reader wands, metering heads, and weigh scales o Herd management handheld devices **12.** Smart calf/livestock feeders **13.** Introductory subscriptions to farm management software (first year only) **14.** Health monitoring systems o Monitors activity, temperature, health indicators (e.g., collars or tags) **15.** Remote monitoring cameras (e.g., remote monitoring for existing water sites)	• Mandatory RFID tags • Structural parts of weigh scales • Robot feed pusher (lacks data collection and analysis)
Precision Weed Detection and Elimination Smart technology and systems for the efficient use of pesticides. Efficient use and/or utilizing less pesticide to accomplish an outcome helps to reduce waste and pest resistance while increasing farm profit margins.	**16.** Weed detection and elimination systems (e.g., precision weed sprayers) **17.** Retrofit sectional control technology **18.** Retrofit rate control technology	• Regular spray apparatus parts • Spray capable drones

Stream: Energy Efficiency		
Stream Description	**Eligible Item No. – Item Description**	**Ineligible Expenses**
Smart technology that improves energy efficiency. Using energy efficiently on farm helps reduce emissions and increase farm profit margins. Must be for energy use that directly supports the production of an agricultural commodity.	**19.** Heating o Tankless (in-line) natural gas or electric water heaters EF ≥0.93 o Natural gas: boilers (AFUE of ≥95%), furnaces (AFUE of ≥95%) o Radiant tube heaters for retrofit ONLY **19.1.** Combined heat and power units (CHP) 1.5kW to 500kW **20.** Insulation - NEW BUILD ONLY o Wall insulation i. ≥R25 \$0.40/ft^2 wall area ii. ≥R35 \$0.80/ft^2 wall area o Ceiling Insulation ≥ R50 \$0.20/ft^2 ceiling area i. ≥ R60 \$0.40/ft^2 ceiling area o Under-slab or foundation insulation	• Retrofit insulation • Lighting • Ventilation • Energy efficiency projects not related to agricultural production (e.g., residence, welding shops, etc.)

	i. $0.04/ft^2 per R-value - **MAXIMUM $1.20/ft^2** **21.** Heat pumps o Air source heat pumps o Cold climate air source heat pumps o Ground source heat pumps **22.** Metering equipment **23.** Programmable logic controls – **RETROFIT ONLY** Eligible for energy saving (e.g., controlling lighting, block heaters, ventilation, heating)	

NOTE: For "Smart Farm Technology" Stream and the "Energy Efficiency" Stream:
To qualify for funding under the Program, technologies and/or systems in these Streams must feature "smart" elements, such as: o *Digital sensors* o *Data collection* o *Connectivity* o *Automated data analysis* o *Efficiency improvements* **Digital Sensors** are electrical input instruments for measuring or monitoring conditions with the ability to transmit data to data logs or to other applications. They differ from analog sensors (i.e., non-electrical measurement devices that use physical components like dials). **Data Collection** refers to the logging and storage of measurements and conditions. Once collected, datasets can be analyzed to assist in decision making, often in real time. **Connectivity** allows components within the smart system to communicate with each other. Connections may be hard-wired, or wireless, through Bluetooth, Wi-Fi, radio frequency, or cellular service. When systems utilize the internet for connectivity, they increase the potential for automation and digital intelligence capacity. **Automated Data Analysis** is what allows smart systems to make real time decisions and adjustments. Data collected by sensors is analyzed by a computer and new outputs are generated. Outputs could be recommendations, information for decision making, or automated action.

Stream: Farm Security		
Stream Description	**Eligible Item No. – Item Description**	**Ineligible Expenses**
Farm security technology that improves farm security. Enhancing farm security supports producers in their efforts to secure business assets.	**24.** GPS equipment tags and trackers **25.** Remote monitoring for fixed cameras **26.** Remote fuel tank monitors **27.** Wireless base stations (gateways) **28.** Motion detectors/driveway alert systems **29.** Door sensors	• Bluetooth trackers • Regular fuel tank monitors • Lighting systems • Alarms

Stream: Efficient Grain Handling		
Stream Description	**Eligible Item No. – Item Description**	**Ineligible Expenses**
Grain handling system components that significantly improve energy efficiency above standard configuration help reduce energy use and costs on farms. These components can be factory options on new equipment or retrofits installed on existing equipment.	**30.** Enclosed dryer roof, or enclosed dryer top cover **31.** Automatic moisture-based controllers **32.** High-efficiency burners **33.** Variable Speed Drives (VSD) or Variable Frequency Drive (VFD) for electric motors **34.** Grain dryer PTO to electric motor conversion **35.** Insulated plenums **36.** Exhaust air recirculation systems **37.** Heat exchangers **38.** Gravity-fill roofs **39.** Electrical or gas submeters on dryers **40.** Temperature and moisture monitoring cables for in-bin drying systems and associated master and remote units **41.** Thermostats or thermometers for plenum or burner temperature control on in-bin drying systems **42.** Adapter plates for efficiently fitting external heaters to in-bin drying systems **43.** Indirect-fired high-efficiency portable aeration dryers **44.** Automated bin fan control systems **45.** Natural gas lines to grain dryers – for costs incurred over and above those paid for by the Rural Gas Program to a **MAXIMUM of $20,000**. (*A quote must be provided by the natural gas provider as well as evidence of Rural Gas Program Funding.)*	• Aeration fans and ducts • Grain elevators and conveyors • Grain legs or grain pumps • Hopper bins • Conversion from propane to natural gas • Standard grain dryer configurations • Additional tiers • Software, or data subscriptions for interfacing with moisture and temperature cables • Motors that are not for converting PTO to electric • Leased equipment