A US $30 million prize to incentivize private sector companies and organizations to develop a vaccine against *Brucella melitensis* in small ruminants for use in the developing world.
Across the developing world, smallholder farmers rely heavily on livestock as a source of vital income and are an essential source of food for these households. Often, however, herds are threatened by a highly infectious disease known as Brucellosis that causes abortions, infertility, and decreased milk production; impacting a smallholder farmer’s potential to earn, support their family, and work to get out of poverty. The disease also threatens farmers’ health because it is zoonotic meaning it can cross the species barrier. While vaccines exist, they require complex management techniques that are not appropriate for developing country environments, and the disease remains endemic across much of Africa, the Middle East, and Asia.

The Brucellosis Vaccine Development Pilot is a US $30 million pull mechanism that aims to incentivize animal health companies to develop a vaccine against *Brucella melitensis*, a strain of Brucellosis that particularly affects small ruminants (goats, sheep, etc.) and is prevalent throughout developing countries. Eligible companies can receive three milestone payments at different stages that could add up to a total of US $26 million for one entrant. The contest will span up to ten years and will be managed by the Global Alliance for Livestock Veterinary Medicines (GALVmed). Photo credit: GALVmed.

**THE CHALLENGE OF BRUCELLOSIS**

Brucellosis is a costly and highly infectious disease that affects livestock and causes abortions, infertility, decreased milk production and weight loss.

The annual economic impact of brucellosis on smallholder farmers in South Asia and Sub-Saharan Africa is estimated at US $500 million per year.

Brucellosis is a zoonotic disease - able to cross the species barrier - causing approximately **500,000 new human cases annually**. The disease presents itself with severe flu-like symptoms.

Current vaccines require sophisticated management systems and are not appropriate in developing country environments where the disease remains endemic.

**ANTICIPATED IMPACT**

- Improved livelihood and income for smallholder farmers by mitigating costs. For example, in India, the cost of Brucellosis has been estimated at approximately US $21 - US $38 per infected animal.

- Increased health outcomes through improved access to healthy, non-infected meat and milk. Smallholder health outcomes will improve as smallholders increase their consumption of protein, iron, and other nutritious benefits.

- A significant decrease in infection rates of humans through reduced risk of human infection. Additional economic savings from mitigating the cost of hospitalization and other health expenses.

- Prevention of future Brucellosis outbreaks which put millions of humans at risk and compromise the livestock industry.
**BRUCELLOSIS VACCINE PRIZE**

**Phase 1: Application Phase**
Organizations have one year to develop an idea and submit their initial application.

**Milestone Payment 1:**
**Application**
**US $100,000**
An expert judging panel will review applications quarterly and select the best ten to receive an application prize of US $100,000 each.

**Phase 2: Solving Phase**
Organizations enter into the solving phase where they develop their proof of concept and work to meet efficacy and safety requirements.

**Milestone Payment 2:**
**Efficacy Study**
**US $1 Million**
First four companies that complete efficacy studies that demonstrate a successful test of a scaled-up version of a vaccine and meet requirements will receive US $1 million each.

**Phase 3: Final Phase**
Organizations take their proposed vaccines and register them in approved countries.

**Milestone Payment 3:**
**Grand Prize**
**US $20 Million**
The first company that registers a vaccine that meets the minimum viable product (MVP) requirements will receive a US $20 million prize.

**Best-in-Class Prize:**
**US $5 Million**
If an organization produces and registers a vaccine that meets any one of the Best-in-Class criteria within one year of the Grand Prize award, they will receive US $5 million.

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**MINIMUM Viable PRODUCT (MVP)**

To win the grand prize of US $20 million, the winning vaccine must meet the MVP requirements. A full list of the MVP requirements can be found in Appendix 3 of the official competition rules found at: [www.brucellosisvaccine.org](http://www.brucellosisvaccine.org)

**Considerations for the MVP include:**

- **Efficacy** - Effective against *B. melitensis* in sheep or goats with potential for a second target species.
- **Safety** - Safe for pregnant animals (less than 5% abortion rate).
- **Efficacious** - Protects more than 80% of animals.
- **Affordability** - Affordability for smallholder farmers, including a sufficiently low cost of manufacturing

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**BEST-IN-CLASS PRIZE**

A US $5 million prize will be available to the first applicant that develops and registers a vaccine that meets the MVP requirements and any one of the Best-in-Class criteria. The Best-in-Class prize will be open for one year after the award of the grand prize.

**Considerations for the Best-in-Class Prize include:**

- **Cross-species protection**
  Protect against *B. melitensis* in small ruminants and *B. abortus* in cattle.
- **Safety**
  Provide maximum human and animal safety (i.e. have an inactive vaccine).
- **Thermoresistance**
  Effective at 45°C for three weeks.
- **Curative**
  Curative/therapeutic effect on infected animals.
AgResults is a $122 million collaborative initiative between the governments of Australia, Canada, the United Kingdom, the United States, and the Bill & Melinda Gates Foundation to incentivize the private sector to overcome market barriers and develop solutions to food security and agricultural challenges that disproportionately affect people living in poverty. The initiative designs and implements prize competitions, also referred to as pay-for-success or pull mechanisms, which are innovative development finance mechanisms that incentivize the private sector to work towards a defined goal.

STAY CONNECTED!

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This is not an official competition document. All prizes and requirements regarding the competition are subject to the official competition rules. For more information on how to apply and the competition rules please visit:

www.brucellosisvaccine.org