



***Integrated Control of Liver Flukes of Cattle Using Botanical Extracts and Biocontrol Agents***

***(PRJ-0109-2016)***

***University of kwaZulu-Natal***

***Quarter 1 2016*** (January 2016 till March 2016)

**Project goals**

**Goal 1 - Survey farms to get a measure of infestation levels**

***Achievements***

- Protocols for this goal will be prepared and discussed for approval

***No Non-achievements / underperformance has been reported***

**Goal 2 - Screen for drug and multi-drug resistance in the two primary flukes found in South African animals. Get the samples from livers at abattoirs and from the faeces of animals in the field. Test the animals of commercial and small scale farmers.**

***Achievements***

- Protocols for this goal will be prepared and discussed for approval

***No Non-achievements / underperformance has been reported***

**Goal 3 - Develop storage protocols for flukes at various life stages**

***Achievements***

- Protocols for this goal will be prepared and discussed for approval

***No Non-achievements / underperformance has been reported***

**Goal 4 - Initiate primary screening in vitro of plant extracts on flukes.**

## **Achievements**

- Plants to be identified and collected for further treatment

### ***No Non-achievements / underperformance has been reported***

**Goal 5 - Initiate screening for biocontrol agents in infested pastures, to kill: a) the eggs in faeces; b) the miracidia in the faeces; c) the cercaria and metacercaria stages - In vitro (in microtitre plate wells) and In vivo trials (in pots)**

## **Achievements**

- Identifying biocontrol agents that has a potential to control flukes from the literature and start collecting them for further progress

### ***No Non-achievements / underperformance has been reported***

**Goal 6 - a. Isolate and screen for biocontrol agents that kill the alternate host, the snails in pot trials.**

## **Achievements**

- Identifying biocontrol agents that has a potential to control flukes from the literature and start collecting them for further progress

### ***No Non-achievements / underperformance has been reported***

## **Income and expenditure statement**

Income and expenditure statement	<a href="#">Book3.xlsx</a>
Unnecessary spending during period	No

## **Popular Report**

No file has been uploaded

## **Additional documentation**

[Re-report1.docx](#)

## **Statement**

Levy funds were applied only for the purposes stated in the contract	Yes
Levy funds were applied in an appropriate and accountable manner	Yes

Sufficient management and internal control systems were in place to adequately control the project and accurately account for the project expenditure	Yes
The information provided in the report is correct	Yes