

COMMON BEAN (PHASEOLUS VULGARIS L.) COOKING TIME ANALYSIS PLATFORM

PURPOSE

TECHNOLOGY

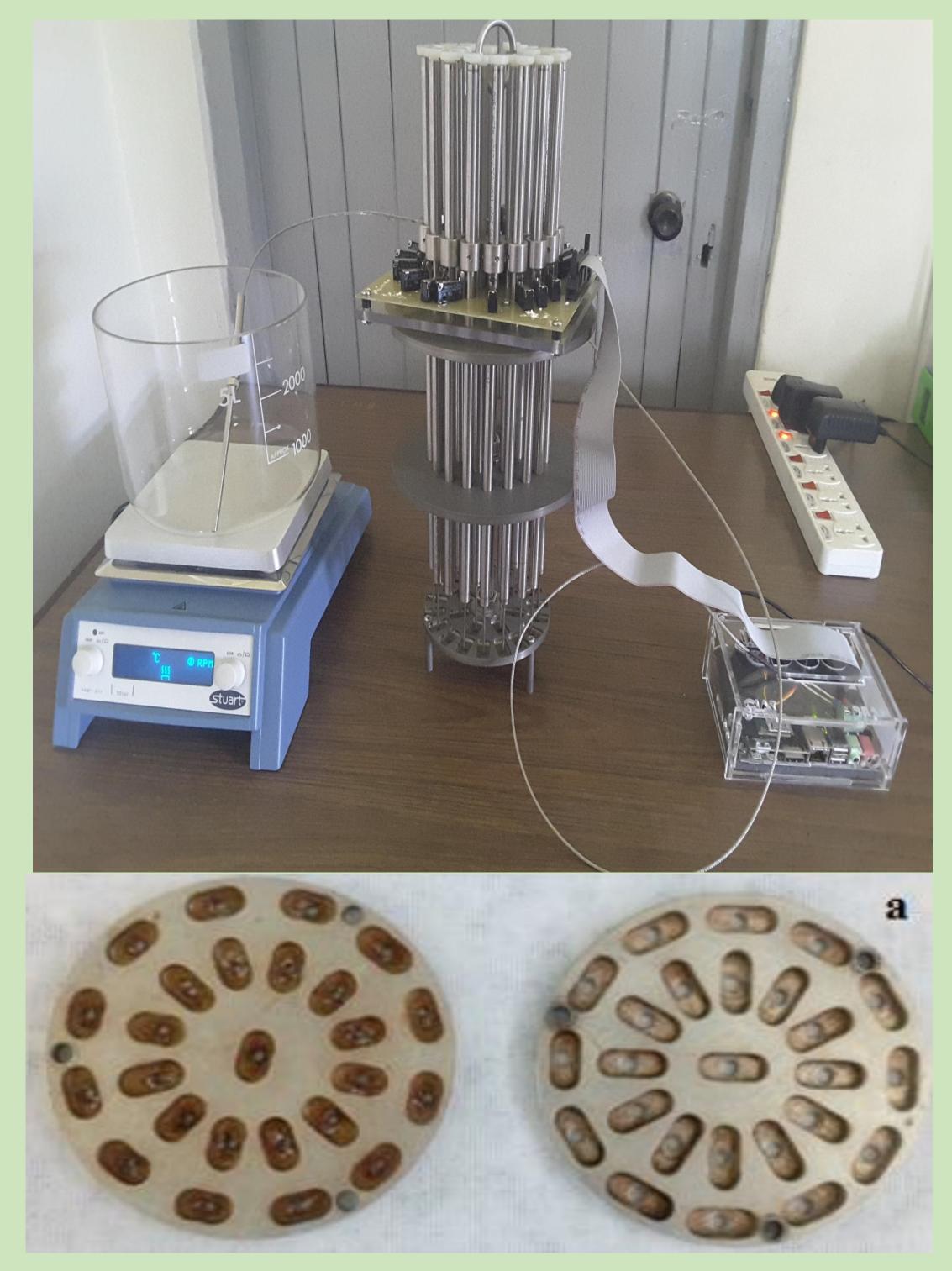
To evaluate the time taken to cook dry common

beans and select fast cooking beans

Automated Mattson cookers fitted with temperature gauge

METHODOLOGY

Freshly harvested beans are oven dried at 40°C for 24 hours, actellic dust is added to prevent bean weevils, & the seed packets are placed in a drum containing well dried silica gel to maintain moisture content at 10-13%.



- Within six months from harvest, 25 seeds/ plot that are without damage (mechanical, physical, insect), & with intact seed coat are randomly sampled & weighed (dry weight)
- Beans are pre-soaked at 5°C for 18 hours using distilled water, drained , weighed (soaked weight) & kept in sealed bottles until the time to cook
- Seeds are mounted in the Mattson cookers, & the component is immersed boiling water of 98-100°C.
- Upon softening, the pin drops and a bean is pierced. The pin drop sends
 electromagnetic waves that are converted to cooking time.
 The broth is drained, beans weighed (cooked weight) & either discarded or
 dried for iron/ zinc analysis.
- Each machine cooks a minimum of three(3) samples per day

 Not secure | africa_4:8080/#/home C Bean Cooking MAIN MENU **Bean Cooking Machine** A Home Automatic system capable of indicating that the cooking tim Trials signals and convert them into (Udoo) that has a pin system (Machines with the physical world and in weighing 90 grams each, whic cooking. To detect the time wh 25 micro switch so that the mc the pins (GPIO) configured as ir

Any problems please contact us

DATA PREPARTION FOR ANALYSIS

DATA GENERATION PROCESS

- Data for each machine is stored in SD card connected to computer based software
- To access data, any web browser is opened & the machine initials entered to display the page for temperature readings & menu for the experiment set or data download
- The Zipped files contain excel sheets for each sample which are extracted & moved to OneDrive

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RapidCook

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Submit

Schweizerische Eidgenossenschaft

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onfederazione Svizzera

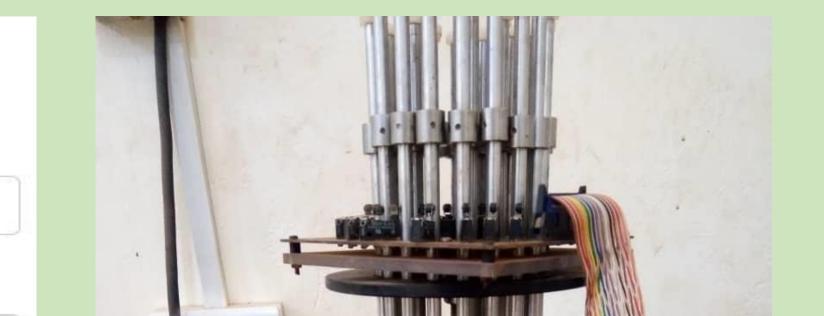
Swiss Agency for Development

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and Cooperation SDC

Select the pin number to get the cooking time

Select the Mattson Cooker output files

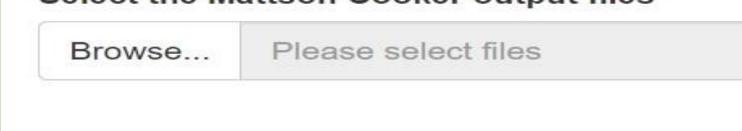


- Open ACIAR-RCBP shinyApp (RAPID COOK)
- Load individual data files
- Load pre-cook data
- Generate raw & summary data + cookT plots

https://aciar-rcbp.shinyapps.io/rapidcook/

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La Download template for pre-cook data

Upload pre-cook data file

Browse... Please select excel file

Select the sheet number to get the pre-cook data



Canada







