



GreenProtein Timeline 2019



Valorisation of vegetable processing industry remnants into high-value functional proteins and other food ingredients

Grant Agreement Number: 720728





JANUARY-MARCH 2019

January

ROYAL COSUN: Evaluation of new raw materials.

BIONET: Elaboration of engineering documents: P&ID (Process & instruments diagrams); LEIV (List of equipment's, instruments & valves); and general documents (cyclogram, the utilities power consumption and the interconnection diagram).

INRA: Probing the effect of Rubisco on the mechanical properties of wheat dough.

Faculty of Business and Law, University Union Nikola Tesla: Analysing LCA studies regarding protein extraction and isolation.

February

ROYAL COSUN: Start of pre-engineering Demo.

BIONET: Continuation of previous engineering and general documents. Start of the Lay-out/Rack distribution diagram.

INRA: Probing the effect of Rubisco on the properties of wheat dough.

Innovarum: Distribution of updated dissemination materials (poster, roll-up and flyer) to project partners.

Faculty of Business and Law, University Union Nikola Tesla: Studying LCA research concerning different protein sources.

March

ROYAL COSUN: Pre-engineering Demo.

BIONET: RFQ (Request for quotation); Cyclogram; utilities power consumption; interconnection diagram; lay-out/Rack distribution diagram

INRA: Probing the effect of Rubisco on the properties of wheat dough.

Innovarum: Webpage & social media maintenance. Preparation of blog post on vegetable proteins.

Faculty of Business and Law, University Union Nikola Tesla: Estimating different types of sugar beet leaves treatments.

ARPIL-JUNE 2019

April

ROYAL COSUN: Engineering and contracts. Orders with suppliers.

BIONET: RFQ ; Cyclogram; utilities power consumption; interconnection diagram; lay-out/Rack distribution diagram.

INRA: (1) Visualisation of Rubisco in wheat-based products using microscopy. **(2)** Probing Rubisco purity using UV-Vis spectroscopy

Innovarum: Webpage and social media work.

Faculty of Business and Law, University Union Nikola Tesla: Dubravka Skunca, LCA Leader for GreenProtein Project met with Paulus Kusters, Project Manager in Dinteloord, Netherlands to discuss LCA analysis plans.1.

May

ROYAL COSUN: Engineering and contracts. Orders with suppliers.

BIONET: RFQ (Request for quotation); cyclogram; utilities power consumption; interconnection diagram; lay-out/Rack distribution diagram and Measurement of sampling points

INRA: (1) Visualisation of Rubisco in wheat-based products using microscopy. **(2)** Probing Rubisco purity using UV-Vis spectroscopy.

Innovarum: Webpage and social media work. Participation in Seeds & Chips 2019.

Faculty of Business and Law, University Union Nikola Tesla: Researching scenario of leaving sugar beet leaves on the field..

June

ROYAL COSUN: Final design process , layout and start of detailed engineering utilities and interconnections.

BIONET: RFQ (Request for quotation) and interconnection diagram.

INRA: Continuation of May activities..

Innovarum: Webpage and social media work. Preparation of blog post in collaboration with Maude Ducrocq (INRA).

Faculty of Business and Law, University Union Nikola Tesla: Researching scenario of sugar beet leaves fermentation to produce biogas.

JULY-SEPTEMBER 2019

July

ROYAL COSUN: Start of the construction of the Demo Plant.

INRA: Continuation of June activities.

Innovarum: Production of the GreenProtein Advertising cloth: pre-designs.

Faculty of Business and Law, University Union Nikola Tesla: Researching RuBisCo protein extraction & isolation.

August

ROYAL COSUN: Construction of the Demo Plant.

INRA: Writing of "Food Hydrocolloids" paper.

Innovarum: Starting preparations for opening of the Demo Plant. Production of the GreenProtein Advertising cloth: supervision.

Faculty of Business and Law, University Union Nikola Tesla: Defining of the exact research plan for LCA.

September

ROYAL COSUN: start of processing of the raw material first packages at the Demo Plant.

Ruitenbergh Ingredients: Organise and supervise group of students (WUR) carrying out a preliminary consumer study to find out if acceptability of the new protein can be influenced by the way of labelling.

BIONET: Site Acceptance Tests (SATs) of packages and interconnections. Roles: preparation of SAT plan and preparation of SAT protocols.

INRA: Writing of "Food Hydrocolloids" paper.

Innovarum: Preparations for the Opening of the Demo Plant: preparing video scripts for project partners. Production of the GreenProtein Advertising cloth: installation.

Faculty of Business and Law, University Union Nikola Tesla: Description of the goal and scope of the LCA study. Three different scenarios of sugar beet leaves treatment (leaving sugar beet leaves on the field; sugar beet leaves fermentation to produce biogas; extraction and isolation of Rubisco protein from sugar beet leaves) have been defined. .

OCTOBER-DECEMBER 2019

October



ROYAL COSUN: final construction of the Demo Plant and grand **OPENING OF THE DEMO PLANT.**

Ruitenbergh Ingredients: Organise and supervise group of students (WUR) – Started on September.

BIONET: SATs of packages and interconnections. Roles: preparation of SAT plan and preparation of SAT protocols.

INRA: Maude's stay in Lublin to investigate the interactions between Rubisco and wheat proteins using spectroscopy techniques.

Innovarum: Organisation support during Opening of the Demo Plant

Faculty of Business and Law, University Union Nikola Tesla: Functional unit and system boundaries have been defined. Impact categories have been selected. defined.

November

ROYAL COSUN: Processing and trouble shooting.

Ruitenbergh Ingredients: Organise and supervise group of students (WUR) – Started on September.

BIONET: SATs. Roles: Coordination of SAT activities; Manage discrepancies in the Action Plan; Witness the execution of SATs; Execution of SATs (interconnections), and Preparation of SAT report.

INRA: Maude's stay in Lublin.

Innovarum: Communication and Dissemination of the Opening of the Demo plant: webpage, social media and video promotion.

Faculty of Business and Law, University Union Nikola Tesla: Comparison between LCA results of different scenarios of sugar beet leaves treatment.

December

ROYAL COSUN: final month of Demo Plant processing of Rubisco from Sugar beet leaves.

Ruitenbergh Ingredients: Organise and supervise group of students (WUR) – Started on September.

INRA: Writing of "Food Hydrocolloids" paper.

Innovarum: Preparation of an updated GP PPT presentation. Participation in BBIJU info day 2019.

Faculty of Business and Law, University Union Nikola Tesla: Calculation of sugar beet leaves LCA results for each process of extraction and isolation separately.