



D 4.2: First pilot scale products produced and delivered to industrial end users for analysis and market test

Acronym	Pro-Enrich	
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Executive summary

This deliverable provides an overview of the first pilot scale products produced and delivered to industrial end users for analysis and market test.

Introduction

Pilot upscaling of the biorefining processes were run at the Danish Technological Institute and the first pilot scale products were produced and delivered to industrial end users for analysis and market test during the spring of 2019. Larger upscale runs were also performed at Bangor University.

The end users had different requirements and needs of documentation therefore a composition analysis was run on the sample to document e.g. protein content and % DM (see ANNEXES 1-4).

Section 1

The following samples were sent to end users:

Sample material	WHEN	TO WHOM	FROM	AMOUNT
Rapeseed kernels w/o the rapeseed hulls, (56% protein content) from cold pressed rapeseed meal	01.04.2019	Chimar	BU	500 g
Protein extract from cold pressed rapeseed meal.	25.04.2019	Tate&Lyle	BU	70 g
Protein extract from hot pressed rape seed press cake	12.03.2019	ABP	DTI	200 ml
Protein extract from hot pressed rape seed press cake, batch 1	08.04.2019	Chimar	DTI	500 g
Protein extract from hot pressed rape seed press cake, batch 2	08.04.2019	Chimar	DTI	500 g
Protein extract from hot pressed rape seed press cake, batch 1	08.04.2019	Tate&Lyle	DTI	500 g
Protein extract from hot pressed rape seed press cake, batch 2	08.04.2019	Tate&Lyle	DTI	500 g
Protein extract from hot pressed rape seed press cake, batch 1	08.04.2019	Innovarum	DTI	500 g
Protein extract from hot pressed rape seed press cake, batch 2	08.04.2019	Innovarum	DTI	500 g
Protein extract from hot pressed rape seed press cake, batch 1	22.04.2019	Mars	DTI	500 g
Protein extract from hot pressed rape seed press cake, batch 2	22.04.2019	Mars	DTI	500 g
Protein extract from hot pressed rape seed press cake, batch 1	22.04.2019	Innorennew	DTI	100 g
Protein extract from hot pressed rape seed press cake, batch 2	22.04.2019	Innorennew	DTI	100 g
Protein extract from cold pressed rape seed press cake, batch 4	22.04.2019	Innorennew	DTI	100 g

Conclusions

This was the first run of samples provided to the end users. This list will be updated continuously during the remaining time of the project.

ANNEXES

SDS_Pro-Enrich_batch 1_20190207

Safety Data Sheet			
1. Sample ref.	RAP-0219-01-4.1 <i>Pro-Enrich; demo batch no. 1; sample no. 4.1</i>	2. Date of sampling	02/2019
3. Sample name	<i>Protein extract from hot-pressed rape seed cake</i>		
4. Appearance	<i>Light yellow powder, odourless, volatile</i>	5. Quantity	500 g
6. Ingredients	<i>Lignocellulose: Protein, sugars, dietary fibers, organic acids, phenols, lipids, tannin</i> <i>Protein: 15-30 %</i> <i>Sugars: 15-30 %</i> <i>Ash: 10-20 %</i> <i>Others: 30-60 %</i>		
7. Hazards	<i>Inhalation may cause allergic reaction; unhazardous to the environment</i>		
8. Storage	<i>Keep dry at room temperature</i>		
9. Comments	Protein extract from hot-pressed rape seed cake for demonstration and testing by end-users of the consortium.		

1. Sample Ref.: **SSS-MMAA-OO-NN**
 - a. SSS: Origin: Chose from: RAP/OLI/CIT/TOM
 - b. mmaa: Month and year of sampling, i.e. 0219 – (February 2019)
 - c. OO: Partner Code: 01 - DTI; 16 – Tate & Lyle
 - d. NN: Correlative number.
2. Date of sampling: MM/AAAA
3. Sample name: Olive leaves for example
4. Appearance: Physical description of the sample
5. Quantity: Approximate weight or volume of sample
6. Ingredients: Main ingredients/chemical compounds of sample
7. Hazards: Risk with contact, ingestion or spill
8. Storage conditions: Special conditions for sample storage
9. Comments: Additional information, photographs, etc.

Date

Mads Anders Tengstedt Hansen

Product Manager

SDS_Pro-Enrich_batch 2_20190220

Safety Data Sheet			
1. Sample ref.	RAP-0219-01-4.1 <i>Pro-Enrich; demo batch no. 2; sample no. 4.1</i>	2. Date of sampling	02/2019
3. Sample name	<i>Protein extract from hot-pressed rape seed cake</i>		
4. Appearance	<i>Light yellow powder, odourless, volatile</i>	5. Quantity	500 g
6. Ingredients	<i>Lignocellulose: Protein, sugars, dietary fibers, organic acids, phenols, lipids, tannin</i> <i>Protein: 15-30 %</i> <i>Sugars: 15-30 %</i> <i>Ash: 10-20 %</i> <i>Others: 30-60 %</i>		
7. Hazards	<i>Inhalation may cause allergic reaction; un-hazardous to the environment</i>		
8. Storage	<i>Keep dry at room temperature</i>		
9. Comments	Protein extract from hot-pressed rape seed cake for demonstration and testing by end-users of the consortium.		

1. Sample Ref.: **SSS-MMAA-OO-NN**
 - a. SSS: Origin: Chose from: RAP/OLI/CIT/TOM
 - b. mmaa: Month and year of sampling, i.e. 0219 – (February 2019)
 - c. OO: Partner Code: 01 - DTI; 16 – Tate & Lyle
 - d. NN: Correlative number.
2. Date of sampling: MM/AAAA
3. Sample name: Olive leaves for example
4. Appearance: Physical description of the sample
5. Quantity: Approximate weight or volume of sample
6. Ingredients: Main ingredients/chemical compounds of sample
7. Hazards: Risk with contact, ingestion or spill
8. Storage conditions: Special conditions for sample storage
9. Comments: Additional information, photographs, etc.

Date

Mads Anders Tengstedt Hansen

Product Manager

Report of Analysis			
1. Sample ref.	RAP-0219-01-4.1 <i>Pro-Enrich; demo batch no. 1; sample no. 4.1</i>	2. Date of sampling	02/2019
3. Sample name	<i>Protein extract from hot-pressed rape seed cake</i>		
Ingredients			
DM	94,2	wt %	
Protein	22,5	wt % on DM	
Monosaccharides	17,2	wt % on DM	
Lipids	(LOQ) <0,3	wt % on DM	
Ash	16,4	wt % on DM	
Other	43,9	wt % on DM	

RoA_Pro-Enrich_batch 1_20190207

1. Sample Ref.: **SSS-MMAA-OO-NN**
 - a. SSS: Origin: Chose from: RAP/OLI/CIT/TOM
 - b. mmaa: Month and year of sampling, i.e. 0219 – (February 2019)
 - c. OO: Partner Code: 01 - DTI; 16 – Tate & Lyle
 - d. NN: Correlative number.
2. Date of sampling: MM/AAAA
3. Sample name: Olive leaves for example

Date

Mads Anders Tengstedt Hansen
Product Manager

RoA_Pro-Enrich_batch 2_20190220

Report of Analysis			
1. Sample ref.	<i>RAP-0219-01-4.1</i> <i>Pro-Enrich; demo batch no. 2;</i> <i>sample no. 4.1</i>	2. Date of sampling	02/2019
3. Sample name	<i>Protein extract from hot-pressed rape seed cake</i>		
Ingredients			
DM	91,6	wt %	
Protein	26,7	wt % on DM	
Monosaccharides	17,2	wt % on DM	
Lipids	(LOQ) <0,3	wt % on DM	
Ash	17,3	wt % on DM	
Other	38,8	wt % on DM	

1. Sample Ref.: **SSS-MMAA-OO-NN**
 - a. SSS: Origin: Chose from: RAP/OLI/CIT/TOM
 - b. mmaa: Month and year of sampling, i.e. 0219 – (February 2019)
 - c. OO: Partner Code: 01 - DTI; 16 – Tate & Lyle
 - d. NN: Correlative number.
2. Date of sampling: MM/AAAA
3. Sample name: Olive leaves for example

Date

Mads Anders Tengstedt Hansen
Product Manager