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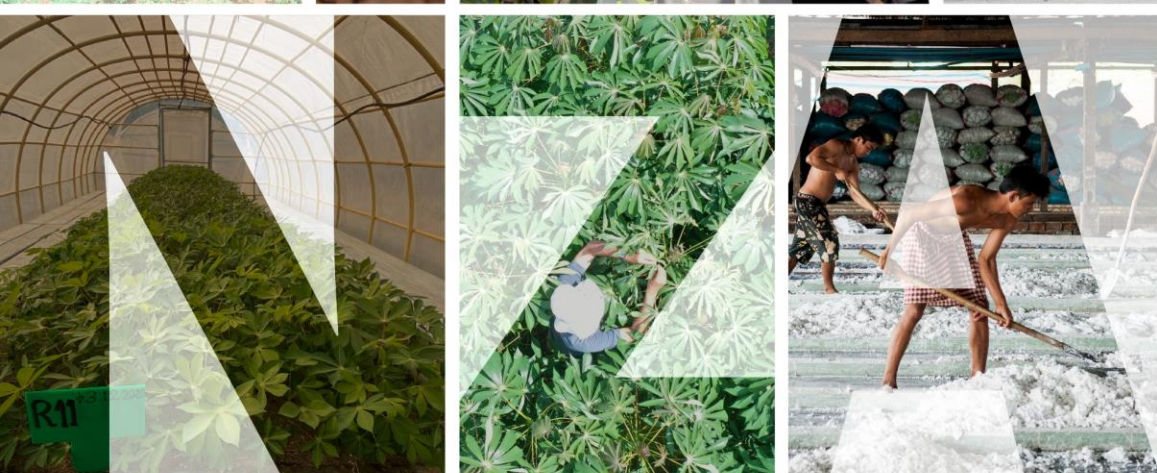


Cassava Postharvest Quality Laboratory

Luis Fernando Londoño

Senior Coordinator

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La Alianza de Bioversity International y el Centro Internacional de Agricultura Tropical (CIAT) hace parte de CGIAR, un consorcio mundial de investigación para un futuro sin hambre.

Postharvest Quality Laboratory TEAM

1. Juan Morera	Technician	Assistant
2. William Triviño	Worker	Worker
3. Paola Ramos	Worker	Temporal
4. Cristian Salazar	Worker	Temporal
5. Cristian Duarte	Chemist	Senior Research Assistant
6. Jorge Luna	DMc	Research Associate
7. Maria Alejandra Ospina	DMc	Research Associate
8. Larry Moreno	DMc	Research Associate



Capacity of quality lab

The Cassava Postharvest Quality Lab evaluate approximately 3500 – 4000 samples per year

The PQL have capability to evaluate:

- Dry Matter 50 per day
- Water absorption 45 per day by duplicate (3 people)
- NIRS > 100 by duplicate
- Optimal cooking time 45 per day
- Cyanide 60 per day by duplicate (after harvesting)
- Total starch 60 per day by duplicate (after harvesting)
- Amylose 60 per day by duplicate (after harvesting)
- Carotenes by HPLC 36 per day (2 people)
- Texture 126 runs per day
- Viscosity by Rapid visco analyzer 40 runs per day
- Sensorial test

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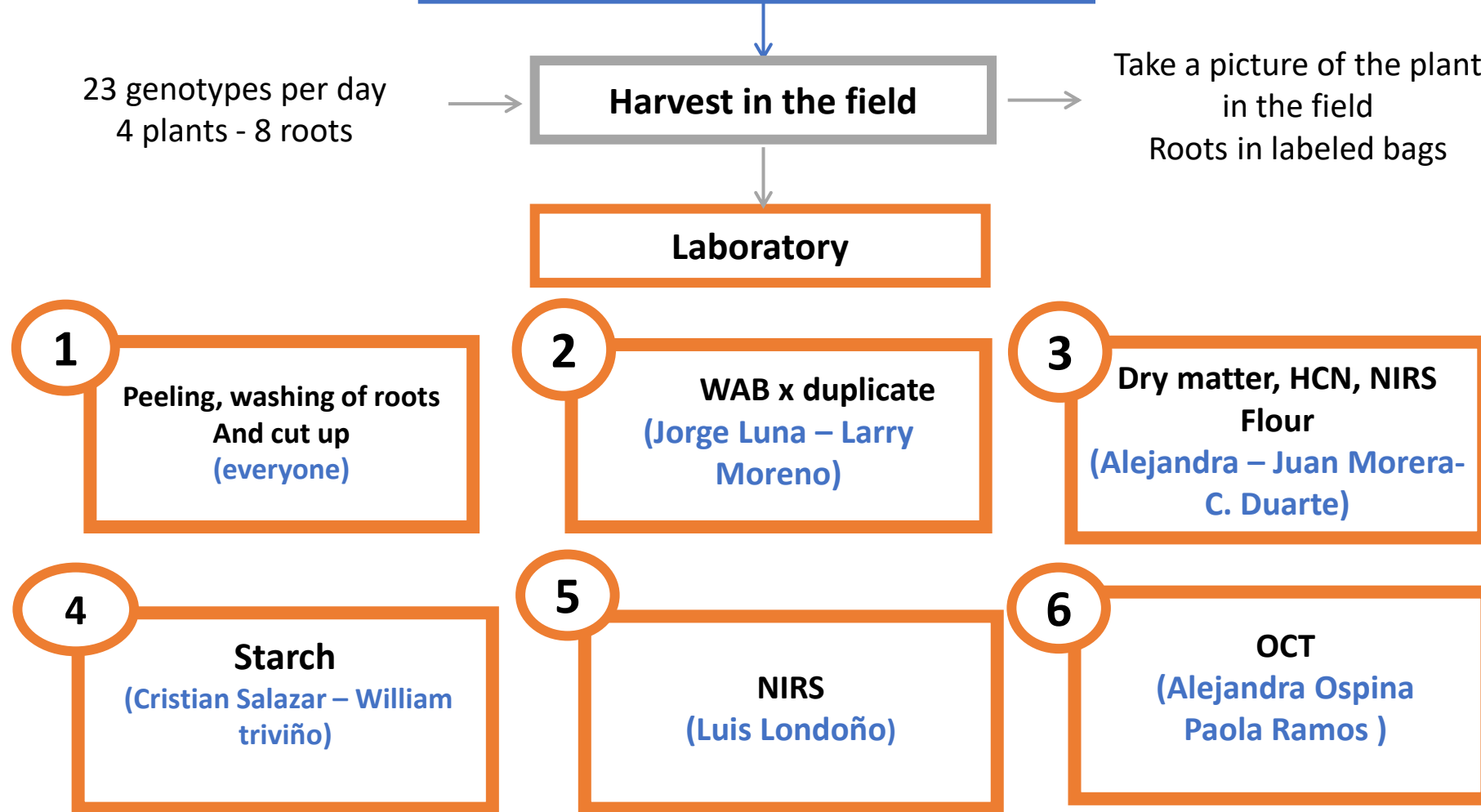
Cut up



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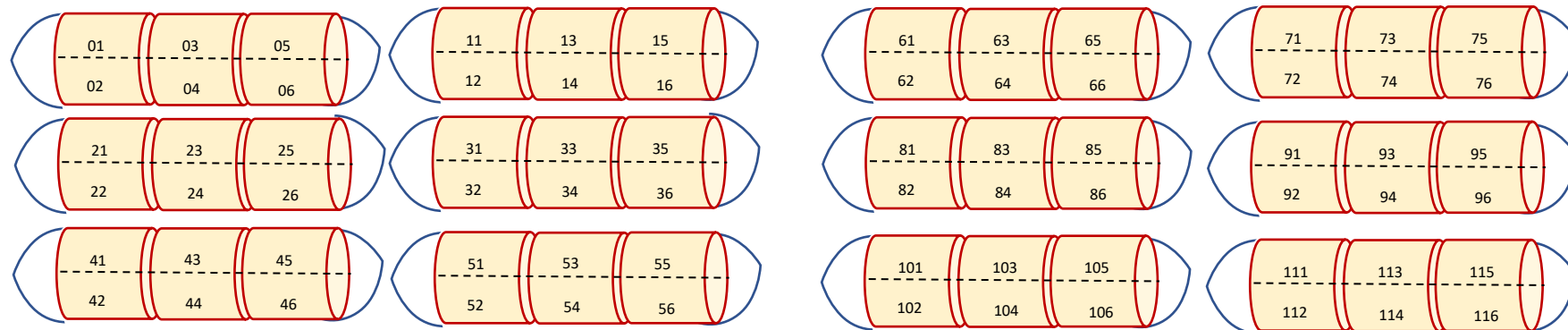
Schedule of processing



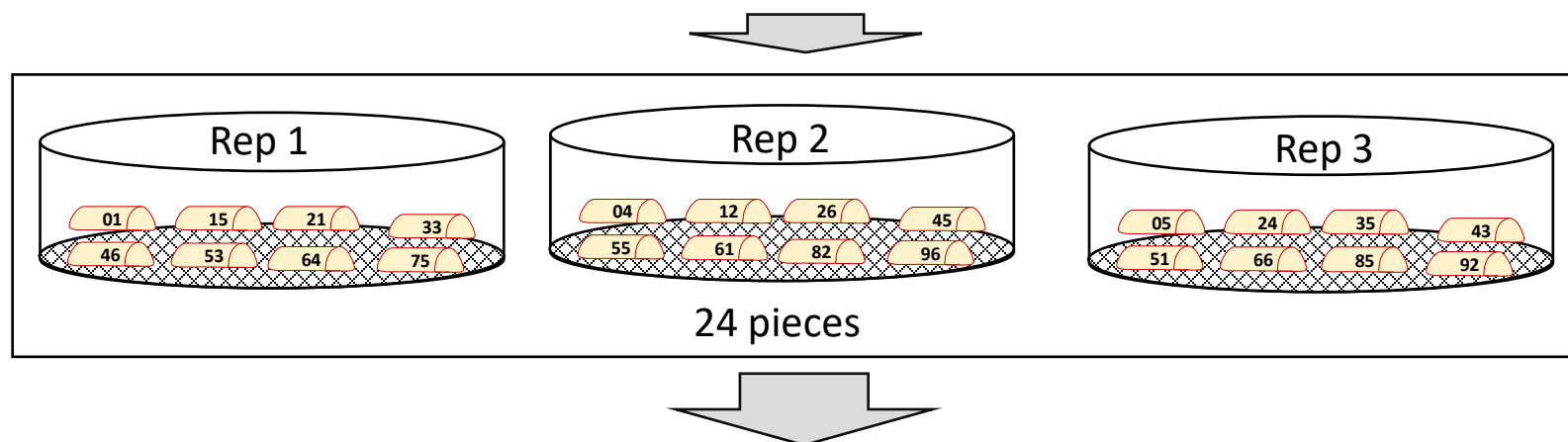
Analysis: Dry matter, WAB, NIRS, OCT, MATSON, Texture, Flour, Freeze drying

Processing:	1. Juan Morera	*Dry matter, NIRS, Flour:	Cristian Duarte
	2. William Trivino		Juan Morera
	3. Paola Ramos		William Trivino
	4. Cristian Salazar		
	5. Cristian Duarte		
	6. Jorge Luna	*WAB:	Jorge Luna
	7. Maria Alejandra Ospina		
	8. Larry Moreno		
		*Texture- Mattson:	Larry Moreno
			Cristian Salazar
		*OCT fork:	Maria Alejandra Ospina
			Paola Ramos
		*NIRS:	Luis Londoño

Protocol of WAB, optimal cooking time (OCT) and texture



We identify every piece



Identificar:
I: Código de campo (01-30)
Px: Numero de trozo (01-96)
Ej: G01P01, indica el genotipo 01 y el trozo 01

Rep. 1: 03, 16, 21, 46, 51, 82, 96, 103 (WAB 20 y 30 min, NIRs (WAB30), %DM (WAB30), Flour (WAB30))
Rep. 2: 02, 24, 32, 43, 66, 75, 85, 101 (WAB 20 y 30 min, NIRs (WAB30), %DM (WAB30), Flour (WAB30))
Rep. 3: 04, 22, 35, 64, 76, 106, 114, 116 (WAB 20 y 30 min, NIRs (WAB30), %DM (WAB30), Flour (WAB30))

Texture: 12, 23, 31, 36, 44, 52, 53, 63, 65, 71, 86, 91, 95, 102, 104, 112, 115

Nirs - %DM (fresh): 01, 45, 54, 61, 62, 65, 72, 81, 92, 105, 111, 112, Flour

OCT: 06, 13, 25, 34, 41, 56, 73, 83, 94

Matson: 05, 14, 26, 33, 42, 55, 74, 84, 93



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Methodologies

- Dry matter

105 °C por 24h

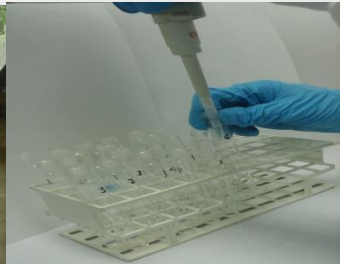
- Texture



- Cyanide



Extraction



Dilution on buffer
and enzyme



Incubation



Cloramine T
And color reactive



Reading 605nm

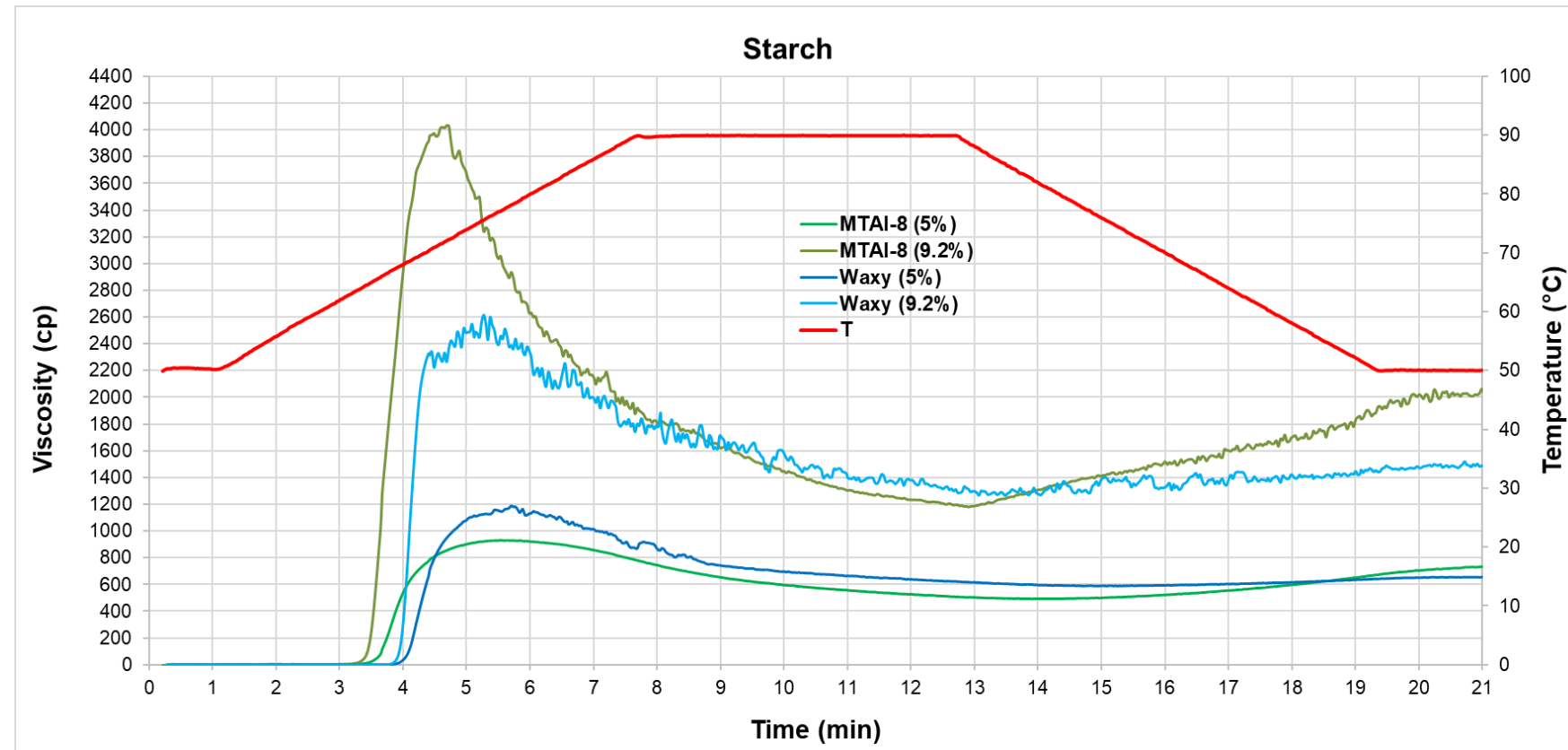
Essers, S. A. *et al*, *J. Sci. Food Agric.* 63, 287-296 (1993)
Beleía, A. *et al*, *Journal of Texture Studies* 35, 542-553 (2004)
Cooke, R. *et al*, CIAT, (1979)

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Methodologies

RVA (Rapid Visco Amilograph)



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Optimal Cooking Time (OCT)

Fork Method



Mattson Cooker Method



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Water Absorption



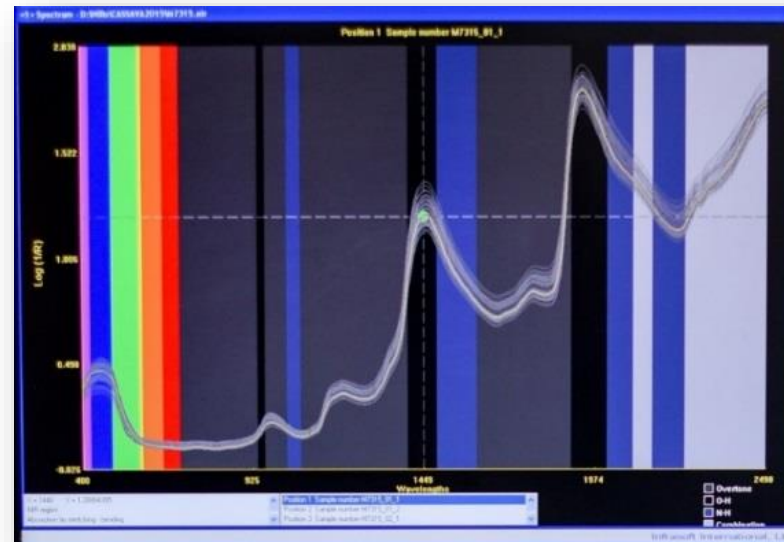
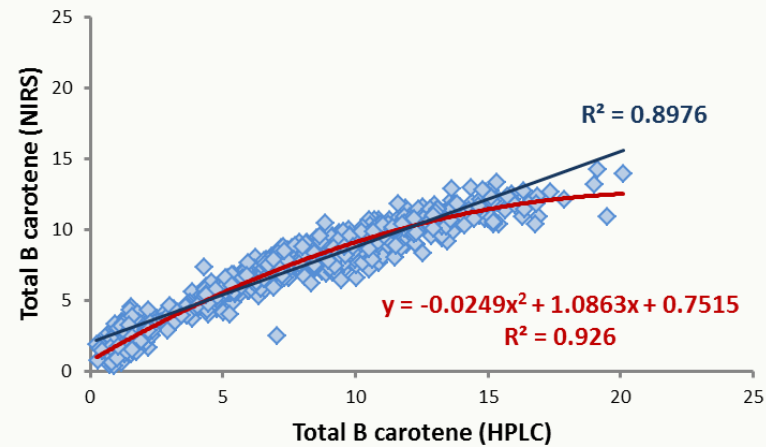
- **Cooking time** is an important acceptability criteria for boiled cassava
- **Dry matter** can NOT predict **cooking time**.
- **Water absorption** is repeatable and its correlation with **cooking time** is significant.

Prediction of β -carotene and Dry matter by NIRS

Homogenization of the sample



Record of the spectra



Edit - D:\NIRS\CASSAVA2015\M3016 RED2016.ANL

File Name: D:\NIRS\CASSAVA2015\M3016 RED2016.ANL Predicted Value File File Date:

Master No: 97710804 Samples: 1088 Deleted: 0

Samples of Total 1088 of 1088

Position	Sample Number	Date	Time	DM	TCC_HPLC	TBC_HPLC
1	M3016_001_1	4/ 6/2016	09:39:46	27.6487	16.7059	11.1854
2	M3016_001_2	4/ 6/2016	09:40:34	27.5618	17.1480	11.9184
3	M3016_002_1	4/ 6/2016	09:41:43	35.0897	16.4150	10.7785
4	M3016_002_2	4/ 6/2016	09:42:32	34.8881	16.0792	10.6608
5	M3016_003_1	4/ 6/2016	09:43:56	34.4810	16.1647	11.7174

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Prediction β -carotene and Dry matter by NIRS QualitySpec

Choose 1 root with good size from every genotype

Cut the proximal part carefully to obtain a flat surface

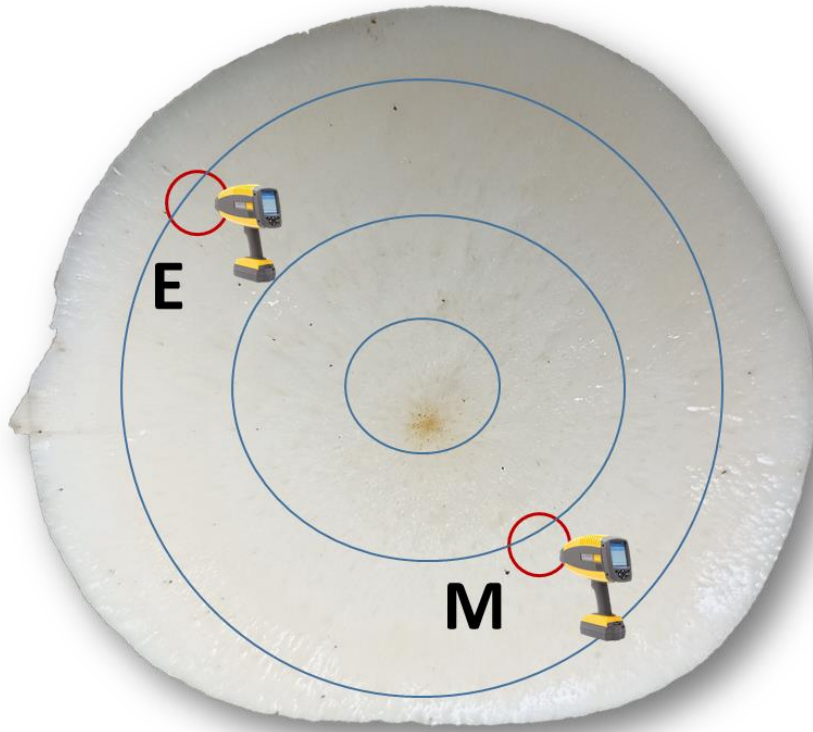
Acquire 3 spectra in the surface in the zones EEM

Cut the distal part and acquire 3 spectra MME

Measure DM of the resulting central piece of root

D= Distal

P= Proximal



Mashed



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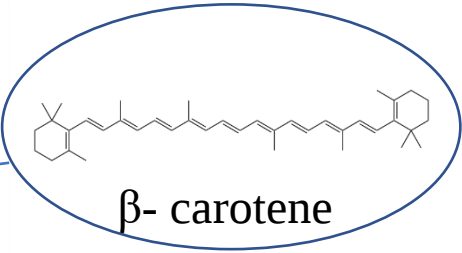
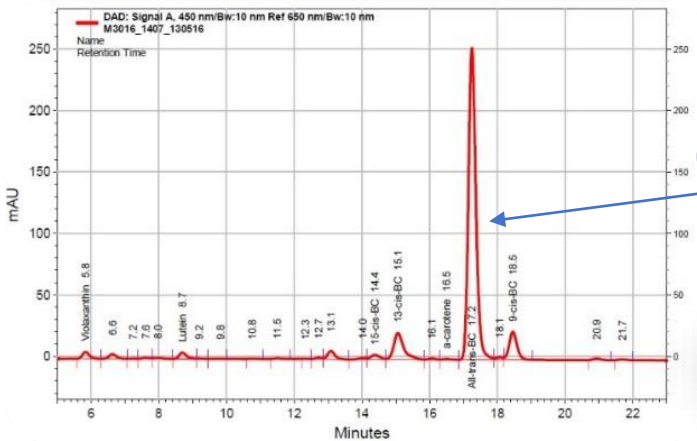
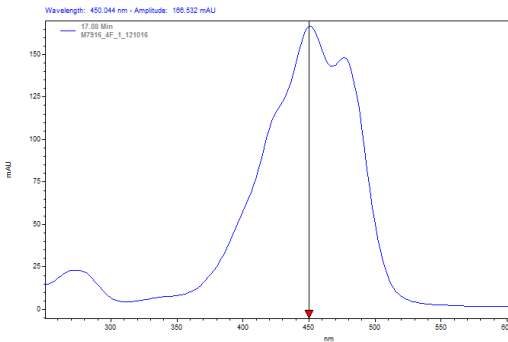
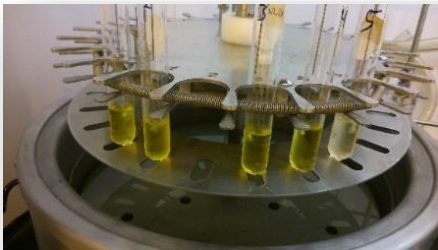




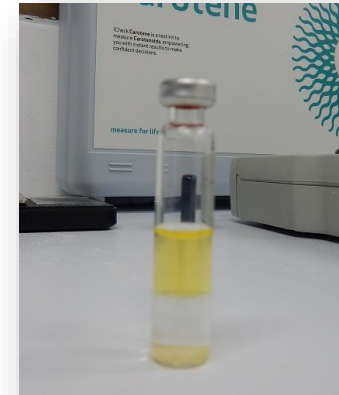
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Determination of carotenes by HPLC



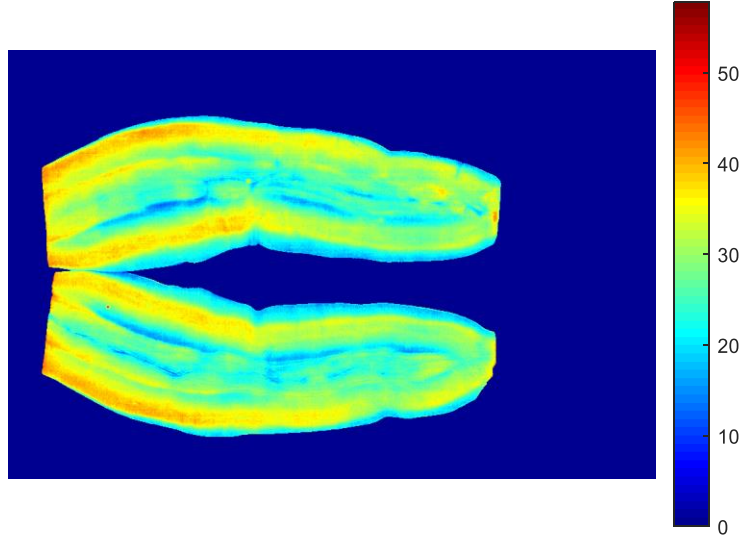
Determination of total carotenes by iCheck Carotene



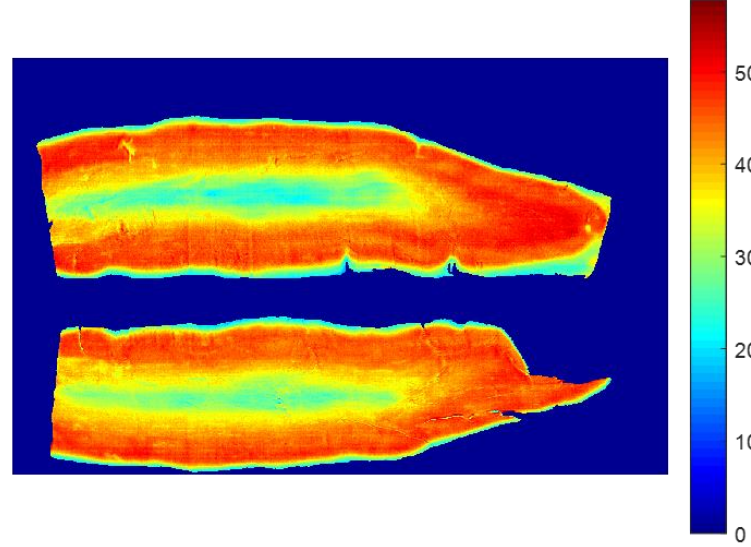
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Hyperspectral imaging analysis

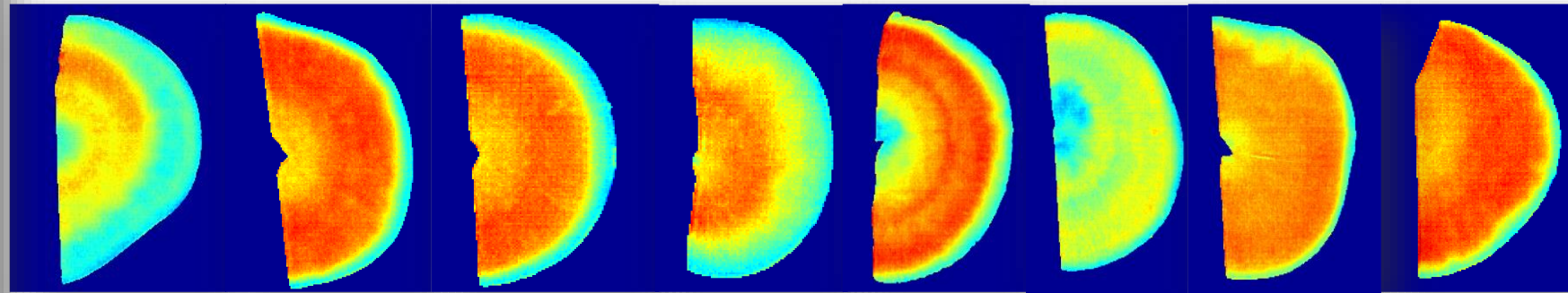
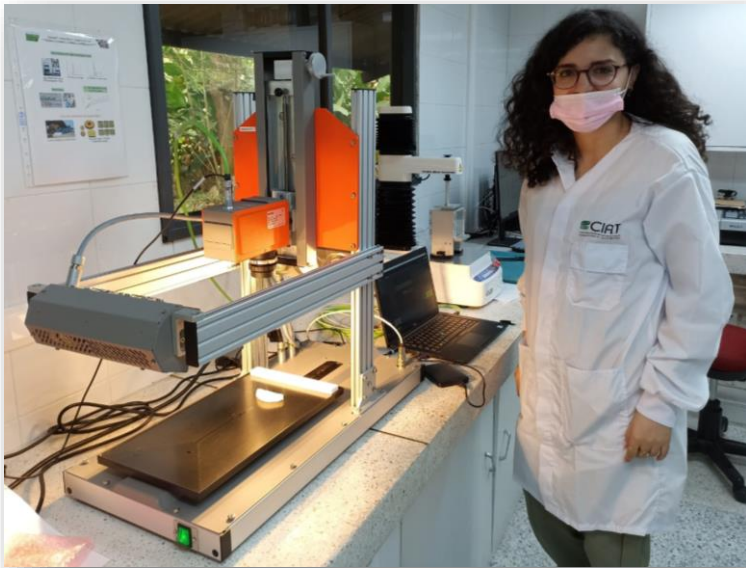
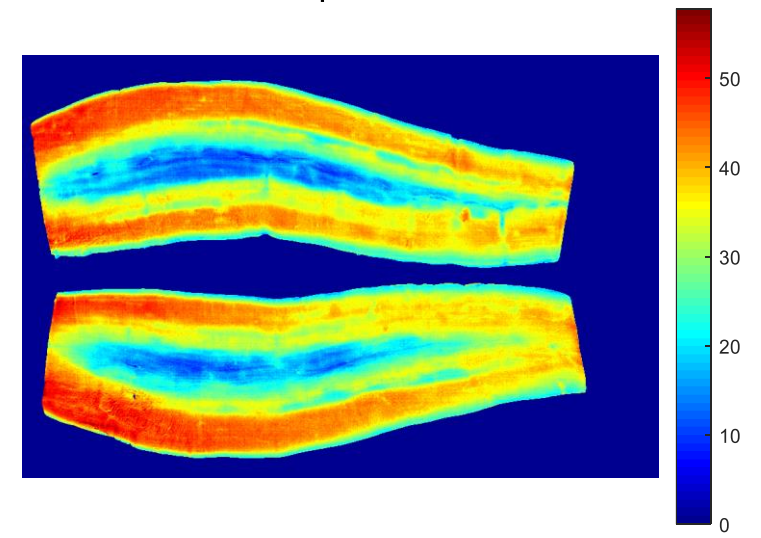
p02



p07



p08



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Important trails for PQL

RTB Foods

PPD

GWAS Collection (Diversity)

Yellow Families

Products LAB

Schedule of Harvests

	2022	L	M	X	J	V	S	D	L	M	X	J	V	S	D	L	M	X	J	V	S	D	L	M	X	J	V	S	D	L	M	X	J	V	S	D	L	M						
2021	December			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31										
	January						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31							
	February	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28															
	March	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31												
	April				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30										
	May						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30								
	June			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30											
	July					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31								
	August	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31												
	September				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30										
	October					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31								
	November			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30											
December				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31										
	Festivos																																											

No. de ENSAYO LABORATORIO POSCOSECHA				No. de ENSAYO LABORATORIO NQL		Fecha siembra	Fecha inicial Cosecha	Fecha final Cosecha	Genotipos	Edad	MS	WAB	NIRS /por t	OCT	OCT MATT	HCN	Harina	Produccion Almidon	análisis de almidon	Lio	HPLC	Textura	Observaciones
202102	202102CQU1_ciat	E21-33	M09221	Progenitores RTBFoods 9 meses		4-Mar-21	6-Dec-21	13-Dec-21	31	9.2	x	x	x	x	x		x			x		x	
	202102CQU1_ciat	E22-01	M00322	Progenitores RTBFoods 10 meses		4-Mar-21	4-Jan-22	11-Jan-22	31	10.2	x	x	x	x	x		x			x		x	
202108	202108CQU2_ciat	E22-02	M00422	Multiplicacion Progenie RTBFoods 10 meses		16-Mar-21	12-Jan-22	20-Jan-22	288	10.1		x	x			x							
202103	202103DVG2_ciat	E22-03	M00622	Familias Carotenos GM3732-GM3736 LAB		24-Mar-21	17-Jan-22	19-Jan-22	106	10.0			x										
202101	202101DVG6_ciat	E22-04	M00722	Diversidad Genetica GWAS		3-Mar-21	24-Jan-22	7-Feb-22	272	10.9	x	x	x	x		x	x	x		x			
	202108CQU2_ciat	E22-05	M01322	Multiplicacion Progenie RTBFoods 11 meses		16-Mar-21	8-Feb-22	16-Feb-22	288	11.0		x	x			x							PPD con 20 genotipos seleccion Thierry, 7 se cruzaban con muestras
202109	202109DVG6_momi	E22-06	M01422	Diversidad Genetica GWAS		21-Apr-21	17-Feb-22	8-Mar-22	272	10.1	x	x	x	x		x	x	x		x			Materia seca de campo y QualitySpec // muestra para Adriana Boho
	202102CQU1_ciat	E22-09	M01522	Progenitores RTBFoods 12 meses		4-Mar-21	10-Mar-22	16-Mar-22	31	12.4	x	x	x	x	x		x			x		x	Del 4 al 18 de Marzo Visita de Dominique, Fabrice y Karima
202131	202131DVG2_momi	COSECHA CANCELADA		Familias Carotenos GM3732-GM3736 LAB		30-Jun-21	5-Apr-22		106	9.3	x	x	x/x	x		x	x						50 Genotipos diarios aproximadamente
202172	202172BCPRC_repe	COSECHA CANCELADA		Prueba regional Beta carotenos		8-Jul-21	5-Apr-22		16		x	x	x	x		x						x	
202178	202178BCPRC_polo	COSECHA CANCELADA		Prueba regional Beta carotenos		16-Jul-21	7-Apr-22		16		x	x	x	x		x						x	
202127	202127BCCOB_ciat	E22-14	M03122	Campo de Observacion Betacarotenos		23-Jun-21	18-Apr-22	22-Apr-22	140	10.0	x	x	x/x			x							
202128	202128BCMUL_ciat	E22-15	M03622	Campo de Observacion Betacarotenos 2020		23-Jun-21	25-Apr-22	3-May-22	260	10.2	x		x/x	x	x	x					x		
202129	202129BCGN3_ciat	E22-16		Estudio Genético de Productos LAB		23-Jun-21	4-May-22	13-May-22	45	10.5			x							x	X		Liofilizar y enviar a Adriana para enviar al Royal holloway
		E22-17		Cocción con marinado CaCl2			9-May-22	13-May-22															Larry CR63, IND135
202137	202137SGEPR_ciat	E22-18		Small granule (SG)		29-Jul-21	17-May-22	20-May-22	16	9.7	x		x			x	x	x					Enviar a CIRAD para DSC
202136	202136DVPRG_ciat	E22-19	M05122	Parentales Mejoramiento		29-Jul-21	23-May-22	31-May-22	210	9.9	x	x	x/x			x							Revisar realizar DM por gravedad
202132	202132BCF1C_ciat	E22-20	M05322	F1C1 Betacarotenos		29-Jul-21	1-Jun-22	8-Jun-22	1253	10.2	x	x	x/x			x					x		Pedir a Sandra las bajitas para calibrar el QualitySpec
202132	202132BCF1C_ciat y F1	E22-21		F1C1 Betacarotenos QualitySpec																			
202148	202148SGF1T_ciat	E22-22		Small granule (F1SG) Nelson			13-Jun-22	14-Jun-22	100														Screening de tamaño de partícula al microscopio
		E22-23		Dulcecita - Sugary			8-Jul-22	8-Jul-22															
202175	202175CQCOB_ciat	E22-24	M06722	Campo Observacion Calidad Culinaria		22-Sep-21	18-Jul-22	22-Jul-22	90	10.0		x	x	x		x							
202151	202151DVGST_ciat	E22-25		Training Population		15-Aug-21	16-Aug-22	26-Aug-22	417	12.2		x	x			x							
202143	202143LAPLY_ciat	E22-26		Waxy roots for starch / con controles			29-Aug-22		322				x	x	x				x				

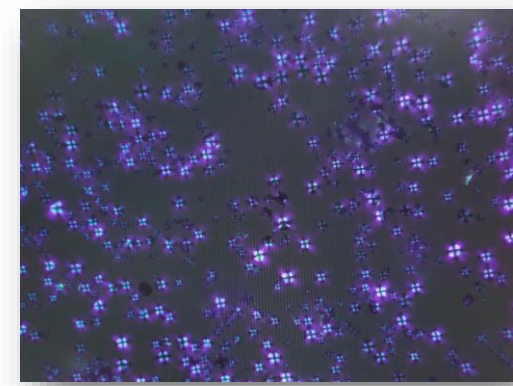
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Schedule of Harvests 2023

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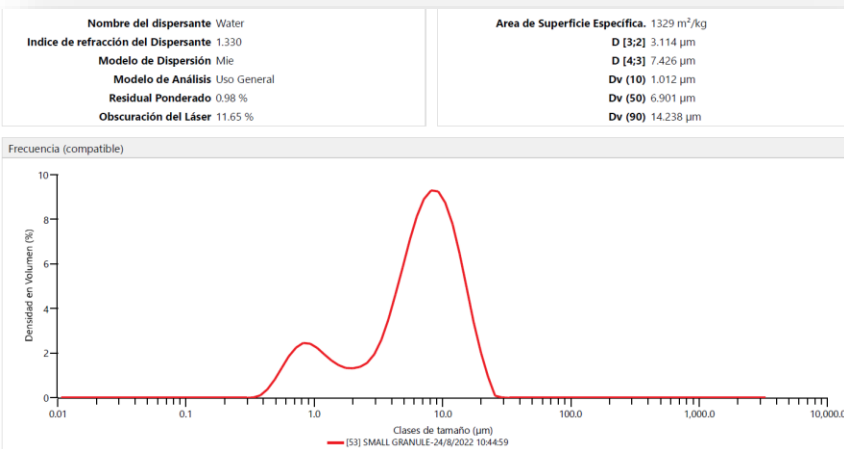
Ensayo	Nombre ensayo	No. de ENSAYO PQL	No. de ENSAYO NQL	Nombre Ensayo	Fecha Siembra	Fecha inicial Cosecha	Fecha final Cosecha	Sembrada s	Genotipos	Edad	MS	WAB	NIRS /por t	OCT	MATT	HCN	Harina	Produccion Almidon	análisis de almidon	Lio	HPLC	Textura	Observaciones	Cantida d de plantas	No. análisis	Total análisis
GY202201	202201DVMUL_ciat			Familias Carotenos 3736-3732	16-Mar-22	10-Jan-23		10	106	10.0	X	X	X				X				X			1060	5	530
GY202202	202202DVMUL_ciat			Familias Carotenos 5270-5309	16-Mar-22	10-Jan-23		10	31	10.0	X	X	X				X				X			310	5	155
GY202203	202203PDMUL_ciat			PPD	16-Mar-22	10-Jan-23		10	53	10.0	X	X					X							530	4	212
GY202204	202204DVMUL_ciat			Multiplificacion Diversidad	24-Mar-22	18-Jan-23		10	280	10.0	X						X							2800	2	560
GY202205	202205DVMUL_ciat			Multiplificacion Familias Carotenos	16-Mar-22	10-Jan-23		10	76	10.0	X						X							760	2	152
GY202206	202206DVGNG6_ciat			Gwas	31-Mar-22	25-Jan-23		10	187	10.0	X	X	X			X	X	X		X				1870	13	2431
GY202207	202207CQQU1_ciat			Progenitores Siembra 1	31-Mar-22	25-Jan-23		12	7	10.0	X	X	X	X	X	X	X	X	X	X	X	X		84	17	119
GY202208	202208CQMUL_ciat			Multiplificacion progenitores	31-Mar-22	25-Jan-23		50	7	10.0	X						X							350	2	14
GY202209	202209CQQU1_ciat			Progenitores Siembra 2	28-Apr-22	22-Feb-23		12	7	10.0	X	X	X	X	X	X	X	X	X	X	X	X		84	17	119
GY202214	202214DVCGB_ciat			Progenie	5-May-22	1-Mar-23		10	42	10.0	X	X	X				X							420	4	168
GY202215	202215DVMUL_ciat			Multiplificacion Testigos	5-May-22	1-Mar-23		60	26	10.0	X						X							1560	2	52
GY202220	202220FSGN1_ciat			Ensayo Cuero Sapo	17-May-22	13-Mar-23		20	232	10.0	X						X							4640	2	464
GY202232	202232DVGNG6_momi			Gwas	18-May-22	12-Feb-23		10	187	9.0	X	X	X			X	X	X		X				1870	13	2431
GY202227	202227CQQU1_ciat			Progenitores Siembra 3	31-May-22	27-Mar-23		12	7	10.0	X	X	X	X	X	X	X	X	X	X	X	X		84	17	119
GY202228	202228DMF1C_ciat			F1C1 Materia seca	13-Jun-22	9-Apr-23		2	153	10.0	X	X				X	X							306	5	765
GY202229	202229CQF1C_ciat			F1C1 Calidad culinaria	17-Jun-22	13-Apr-23		2	131	10.0	X	X				X	X	X						262	11	1441
GY202230	202230BCEPR_ciat			EPR Betacarotenos	7-Jul-22	3-May-23		5	54	10.0	X						X							270	2	108
GY202231	202231DVPRG_ciat			Ensayo Parentales	7-Jul-22	3-May-23		5	396	10.0	X						X							1980	2	792
GY202243	202243BCF1C_ciat			F1C1 Betacarotenos	16-Jun-22	12-Apr-23		2	115	10.0	X	X	X			X	X							230	6	690
GY202244	202244BCMUL_ciat			Multi EPR Betacaroteno	16-Jun-22	12-Apr-23		5	15	10.0	X						X							75	2	30
GY202245	202245BCMUL_ciat			Ensayo Productos	31-May-22	27-Mar-23		25	10	10.0	X	X	X			X	X	X						250	12	120
GY202246	202246CQQU1_ciat			Progenitores Siembra 4	30-Jun-22	26-Apr-23		12	7	10.0	X	X	X	X	X	X	X	X	X	X	X	X		84	17	119
GY202248	202248FSMUL_ciat			Multiplificacion clones llanos	7-Jul-22	3-May-23		5	44	10.0	X						X							220	2	88
GY202249	202249S1F1C_ciat			F1C1 S1	22-Jun-22	18-Apr-23		2	16	10.0	X					X	X							32	4	64
GY202258	202258DVGST_ciat			Viene 202194, Training population	27-Jul-22	23-May-23		5	864	10.0	X						X							4320	2	1728
GY202259	202259CQQU1_ciat			Progenitores Siembra 5	29-Jul-22	25-May-23		12	7	10.0	X	X	X	X	X	X	X	X	X	X	X	X		84	17	119
GY202266	202266IDEP_R_ciat			Inbreeding depresion (viene 202193)	19-Jul-22	15-May-23		4	960	10.0	X						X							3840	2	1920
GY202271	202271DVGST_ciat			Training population (viene 202151)	10-Aug-22	6-Jun-23		5	432	10.0	X	X	X				X							2160	4	1728
GY202272	202272DVMUL_ciat			Progenitores historicos Parte 1	24-Aug-22	20-Jun-23		5	210	10.0	X						X							1050	2	420
GY202273	202273CQQU1_ciat			Progenitores Siembra 6	26-Aug-22	22-Jun-23		12	7	10.0	X	X	X	X	X	X	X	X	X	X	X	X		84	17	119
GY202274	202274CQQU1_ciat			Progenitores Siembra 7	27-Sep-22	24-Jul-23		12	7	10.0	X	X	X	X	X	X	X	X	X	X	X	X		84	17	119
GY202275	202275CQQU1_ciat			Progenitores Siembra 8	OCT			12	7		X	X	X	X	X	X	X	X	X	X	X	X		84	17	119
GY202276	202276SGF1C_ciat			F1C1 Small granule	10-Aug-22	6-Jun-23		2	114	10.0		X	X	X	X	X	X	X	X					228	16	1824
GY202283	202283DVMUL_ciat			Progenitores historicos Parte 2	25-Aug-22	21-Jun-23		5	168	10.0	X						X							840	2	336
GY202289	202289DVGXE_ciat			TPE	25-Aug-22	21-Jun-23		20	100	10.0	X						X							2000	2	200
				Progenitores Siembra 9	NOV			12	7		X	X	X	X	X	X	X	X	X	X	X	X		84	17	119
				Progenitores Siembra 10	DEC			12	7		X	X	X	X	X	X	X	X	X	X	X	X		84	17	119
				Progenitores Siembra 11	JAN			12	7		X	X	X	X	X	X	X	X	X	X	X	X		84	17	119
				Progenitores Siembra 12	FEB			12	7		X	X	X	X	X	X	X	X	X	X	X	X		84	17	119



Suggestion for Breeding team

To Maintain a plot with the more relevant genotypes for the visitors, have the possibility of the genotypes during the year.

e.g: HMC 1, PER 183, Yellow cassava good quality cooking, waxy cassava, small granule, Dry matter, etc...



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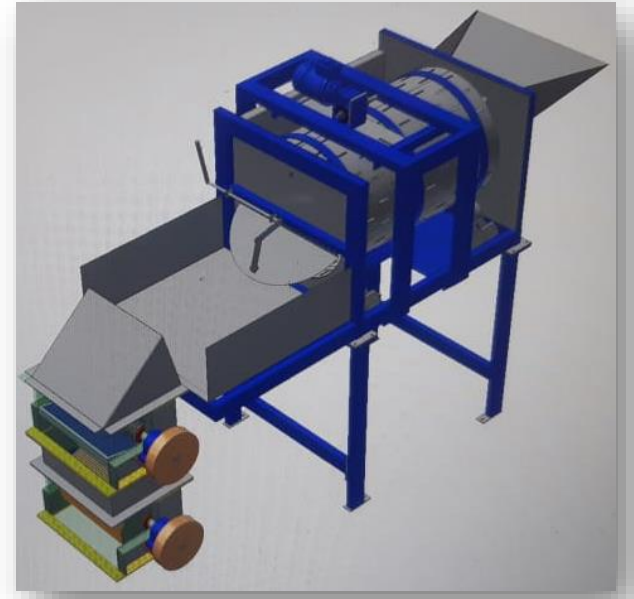


Products from cassava



Next steps

- Pilot plant of production of flour and extraction of starch (invested US 20.000)
- What need the consumers? To know what is the applications for starch. Because we have different kind of starches from diversity and special starches (small granule and waxy)
- Improve the Food laboratory (add analysis more applicated to the costumers, and products)
- The RTBFoods evaluation per one year

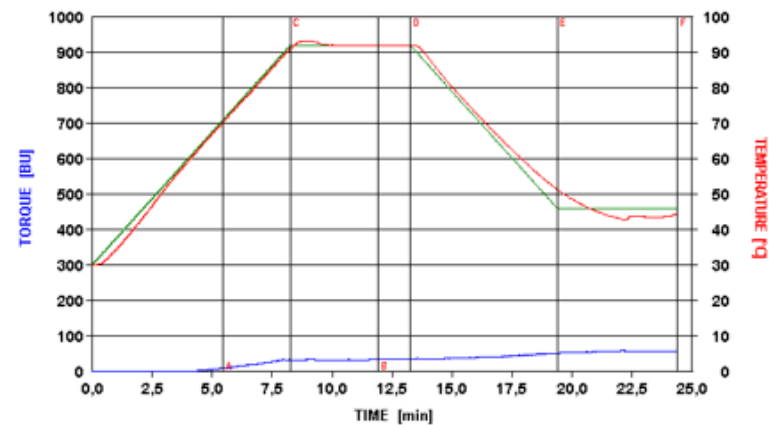


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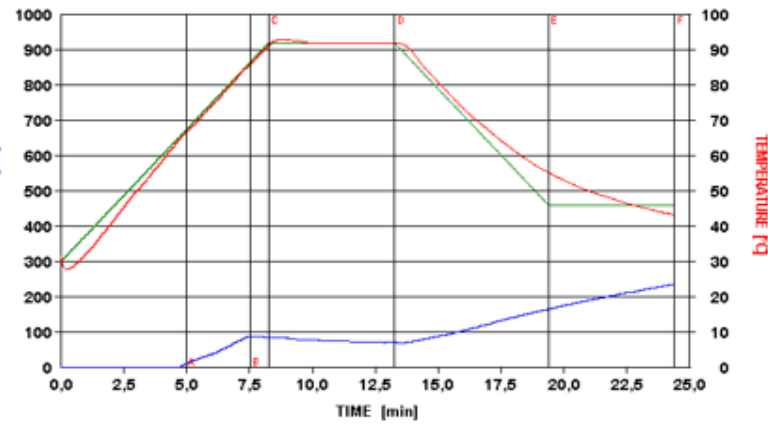


Starches from CIAT

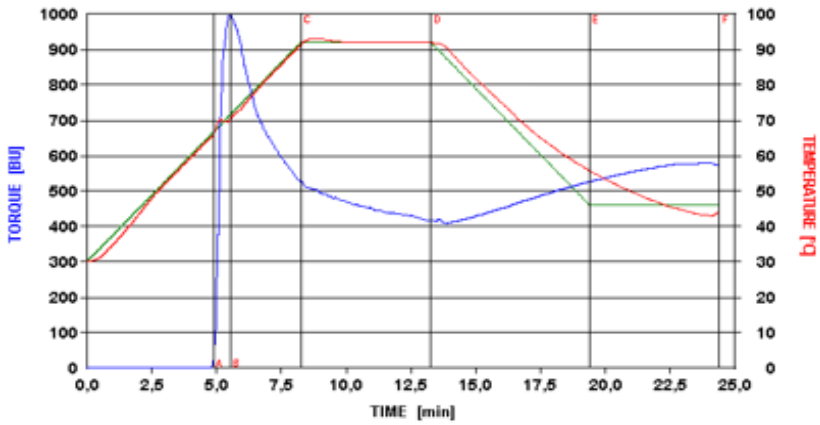
¿Micro Visco-Amylo-Graph = Rapid Visco Analyser?



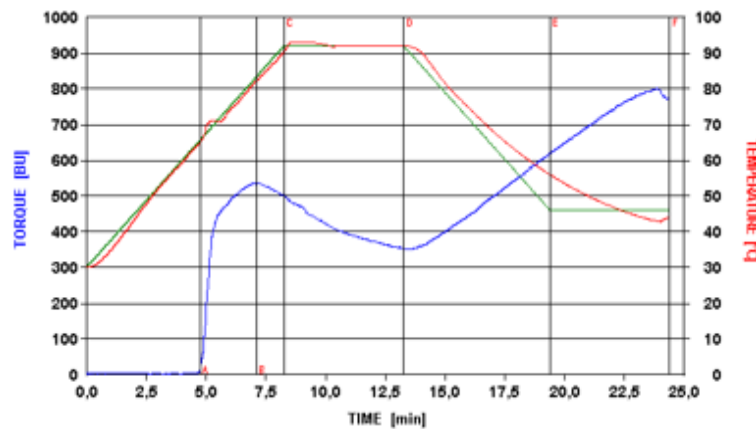
5G160-13
(Small granule)



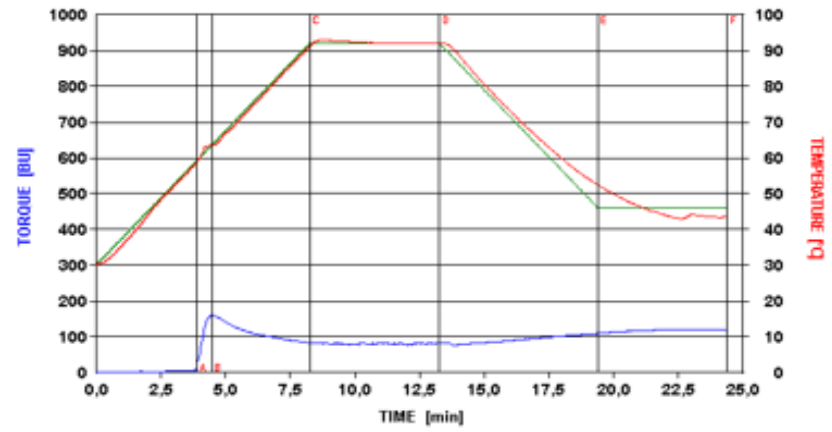
GM4694-16
(Small granule)



SM4794-8
(Waxy)



SM2775-4
(High dry matter)



AM1290-1
(Double mutant)

Productos de la yuca



**Yuca
biofortificada
para consumo
humano**

(ALC & ASS)



**Raíces frescas
y secas
para consumo
humano**

(ALC, ASS & SA)



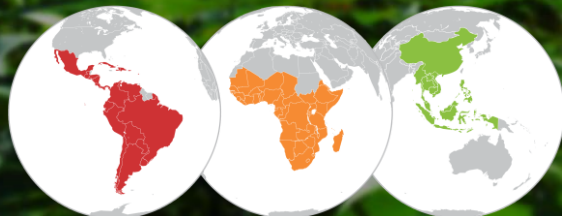
**Yuca industrial:
almidón
y alimento
animal**

(ALC, ASS & SA)



**Almidón
especial
de yuca**

(ALC)



**América Latina y el Caribe (ALC)
África Sub-Sahariana (ASS)
Sureste Asiático (SA)**

Liberación de variedad **biofortificada** en proceso

- ✓ **Buena** calidad culinaria
- ✓ **Alto** contenido de caroteno: 12%
- ✓ **Mayor** rendimiento que Venezolana
- ✓ **Mejor** estructura de la planta



SM3426-5

Productos a base de yuca de procesamiento a pequeña escala



Alianza



Productos a base de yuca de procesamiento a pequeña escala

CASSAVA FLOUR

THREE SPADES

\$35.00



Size:

2kg Bag

4kg (2 × 2kg Bags)

10kg Box (5 × 2kg Bags)

10kg Sack (Bulk - not split into bags)

BUY IT NOW

Details

Shipping

Nutrition

Alianza



Propiedades funcionales superiores con oportunidades de “etiquetado limpio”

CLARIA®
Functional Clean Label Starch

CLARIA® Functional Clean-Label Starches empower manufacturers to meet increased consumer demand for cleaner labels enabling formulations with similar functionality to a modified food starch.

INTRODUCTION DOWNLOADS APPLICATION HOW WE APPLY IT

Introduction to CLARIA® Functional Clean-Label Starch

Also known as
Clean-label starch, functional clean label starch, starch

CLARIA® Functional Clean-Label Starches labels simply as starch yet perform similarly to modified starches.

Tate & Lyle's line of CLARIA® Functional Clean-Label Starches empowers manufacturers to meet increased consumer demand for cleaner labels enabling formulations with similar functionality to a modified food starch. Globally, consumers are demanding convenient, great tasting foods that have recognisable ingredients on the label. In fact, one-in-four new products today is launched with "cleaner-label" claims. All CLARIA® Functional Clean-label Starch products are certified as non-GMO.

At Tate & Lyle, our technologists range now offers a comprehensive array of Non-GMO offerings for all regions, providing our customers with choices to fit their needs. Our non-GMO ingredients offer the same functionality as their traditional counterparts without compromising on taste or texture, meaning you can offer your consumers everything they're looking for in the foods and beverages they love.



Ingredion Trends Challenges Applications Ingredients Innovate



Ingredients > Starches > Functional Native Starch

Clean up labels with functional native starch

Our portfolio of more than 25 NOVATION® clean label starches lets you formulate on-trend, clean label products rich in texture and taste, across a broad range of applications

As the pioneer in clean label ingredients, we offer the broadest range of specialty clean label starch solutions and formulation expertise available. Having identified the clean label trend in its infancy and helped turn the trend into a way of life for food manufacturers, we know all there is to know about clean label.

As consumers grow ever-more health conscious, clean labels are becoming increasingly important to them. People want to know exactly what's going into their food. That's why you need simple recipes, with ingredients they recognise and trust.

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Sweeteners

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- Corn Sweeteners +
- Polyol Sweeteners +
- Specialty Sweeteners +
- Sugar +

Zero Calorie Sweeteners

Tapioca Syrups

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Non-GMO* Tapioca Syrup

A label-friendly swap for corn syrup

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Home > Products & Services > Food and Beverage Solutions > Starches > Tapioca Starch Ingredients

Tapioca Starch Ingredients

Clean delicious taste and texture with a gluten-free, non-GMO starch



Tapioca Starch

Tapioca starches from ADM deliver great taste and texture that's also on trend – and satisfies consumer demand for clean label offerings. Non-GMO and gluten-free, our tapioca starches offer all the functionality to deliver superior texture, plus a clean, neutral flavor profile for the ultimate consumer pleasing taste in your products, especially in applications where the flavor of a traditional starch is not desirable.

SMS FOOD NON-FOOD Search

New Product Highlights

Explore our new product highlights with highest performance to catch up food & beverage trends and advance your products to the next level

D-PERSE® CAP – the shortcut to transform oil-based ingredient to powder

Read more

Deliver clean label yogurt to health lovers with **Natura® Y808**

Read more

Serving the favorable soup & sauce texture with **GENIGEL® M78**

Read more

KREATION® N-BIND – an excellent binding ability for plant-based meat

Read more

OUR CUSTOMER BENEFIT PLATFORMS

CLEAN & ORGANIC

OFFERINGS

- DELIVERING SIMPLE & NATURAL INGREDIENT SOLUTIONS WITH BETTER PERFORMANCE AND FRENCH LABEL.

PRODUCTS

- ORGANIC TAPIOCA STARCH
- ORGANIC TAPIOCA SWEETENER
- ORGANIC RICE STARCH & FLOUR
- ORGANIC NAVY RICE STARCH & FLOUR
- WAXY TAPIOCA STARCH
- CASSAVA FLOUR
- RICE STARCH & FLOUR
- SWEET POTATO FLOUR
- WUJIAO STARCH
- TARO FLOUR
- SAGO STARCH
- ARROWROOT STARCH

HEALTH & NUTRITION

OFFERINGS

- DELIVERING ON-TREND SOLUTIONS TO ADDRESS GROWING HEALTH AND NUTRITION TRENDS.

CONVENIENCE

OFFERINGS

- ENCOMPASSING QUICK SOLUTIONS FOR MORE CONVENIENCE.

FUNCTIONAL SOLUTION

OFFERINGS

- PROVIDING BETTER INGREDIENTS FOR PRODUCT PERFORMANCE AND IMPROVEMENT, ESPECIALLY IN YIELD, PROCESSABILITY AND COSTING.

SUSTAINABILITY

OFFERINGS

- CREATING VALUES TO WASTE AND BY-PRODUCTS FABRICATED WITH CORPORATE SOCIAL RESPONSIBILITY ON THE ENVIRONMENTAL CONSERVATION.

PRODUCTS

- GLUTEN FREE RANGE, BAKERY AND SNACKS, BREADING & COATING, FRYING
- LOW GI FLOUR
- TAPIOCA PEARL
- RICE TON GIL
- SNACK
- MODIFIED STARCH FOR FOOD & BEVERAGE PRODUCTS
- PEEMK, STARCH & FLOUR
- VEGETABLES
- ANIMAL GROWTH PROMOTER
- THE FINEST TASTE STARCH FOR BIOPLASTIC

CLEAN & ORGANIC

Alianza





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Thank you!

