



Milk recording of dairy goats

Hugues Caillat

► To cite this version:

Hugues Caillat. Milk recording of dairy goats. Seminar at Taiwan Livestock Research Institute, 2013, 36 p. hal-02802152

HAL Id: hal-02802152

<https://hal.inrae.fr/hal-02802152>

Submitted on 5 Jun 2020

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Milk recording of dairy goats

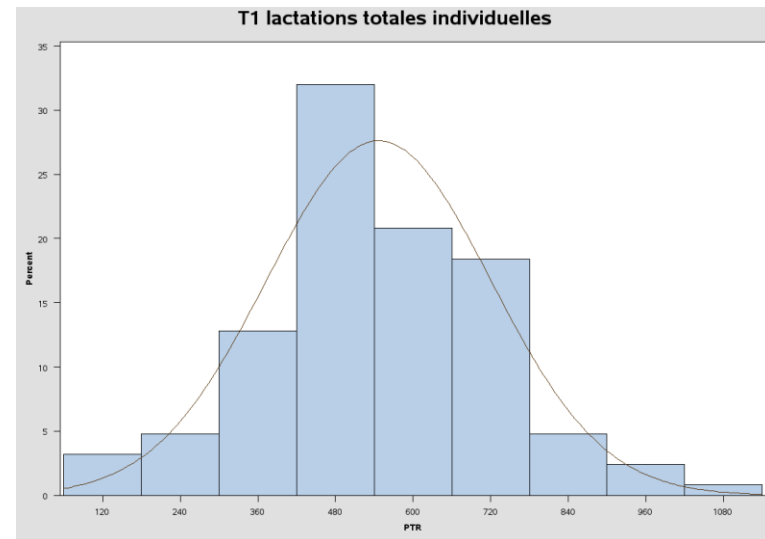
Hugues CAILLAT
Experimental Unit Forage Environment Ruminants
Lusignan/Poitiers - France

❖ Milk recording of dairy goats

1) The French dairy goats production

2) Milk recording : objectives and practices

3) Data of milk recording



❖ The French dairy goats production

✓ 1 270 000 goats → 889 000 dairy goats

✓ 624 millions of liters

Delivred

→ 1st region :
Poitou-Charentes

Processed into cheese

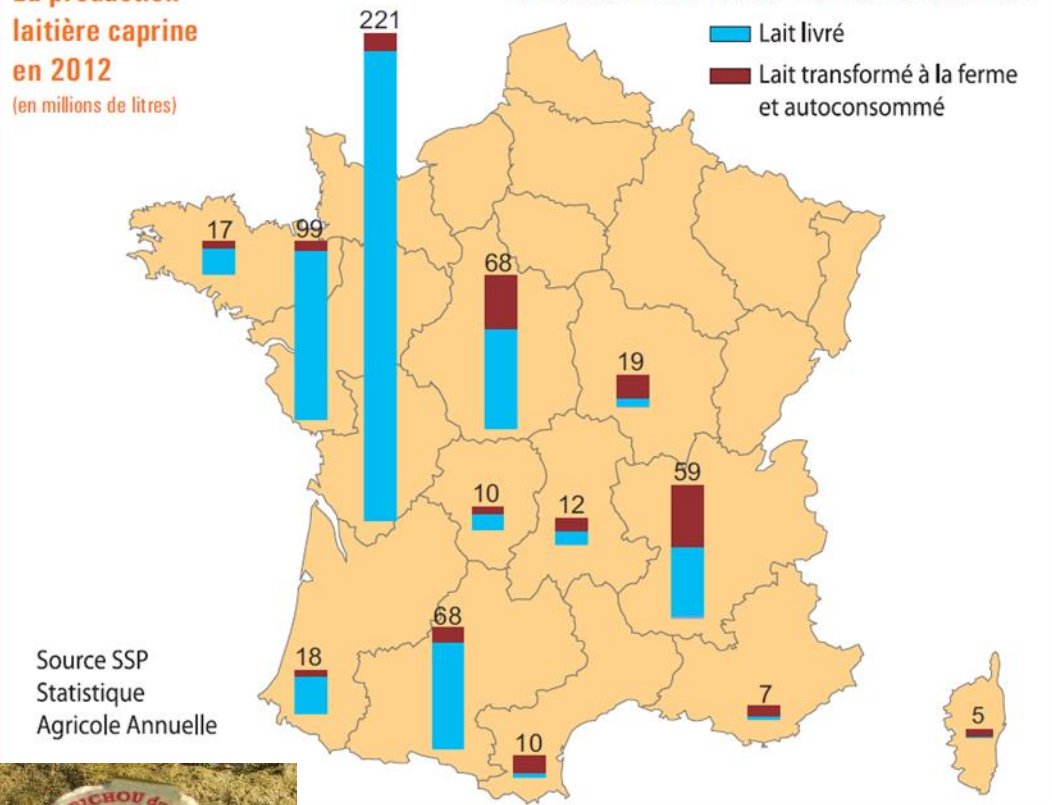
→ Rhone-Alpes and

→ Centre

14 certificated cheeses

La production
laitière caprine
en 2012
(en millions de litres)

Production finale France : 624 millions de litres



Source SSP
Statistique
Agricole Annuelle



❖ The French dairy goats production

- ✓ 2 main breeds : Alpine and Saanen (97% of dairy goats)



450 000 goats



350 000 goats

- ✓ + 4 breeds with low numbers and milk recording data :

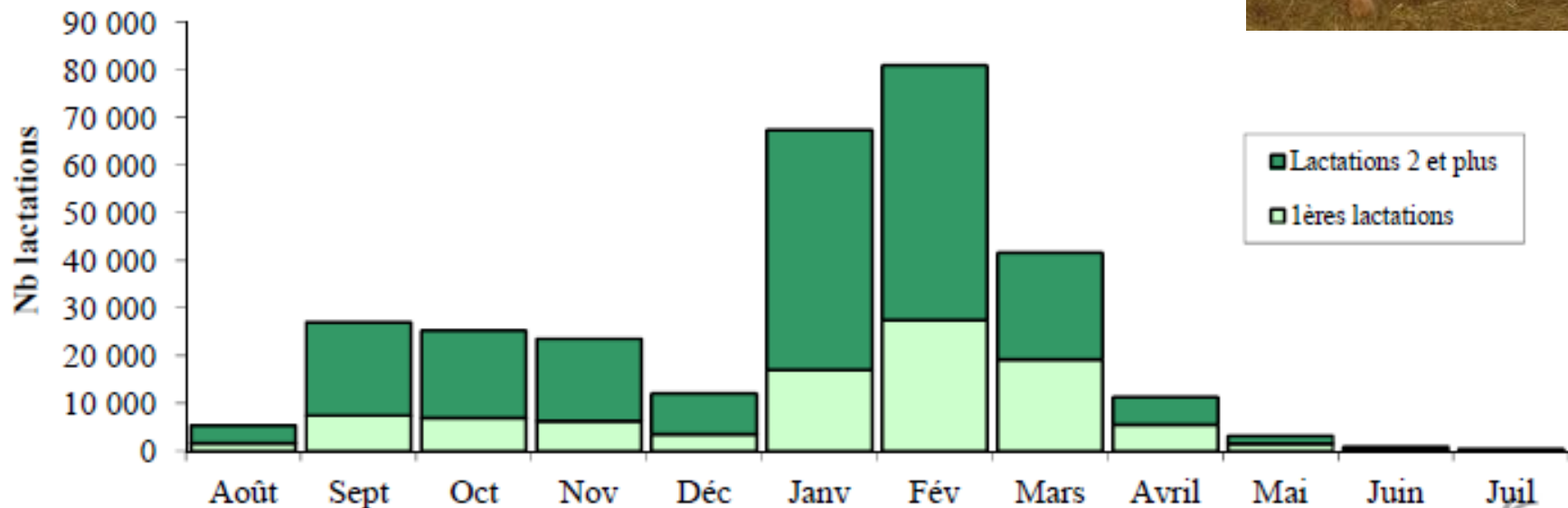


❖ The French dairy goats production

- ✓ 2 main periods of kidding



Répartition des lactations selon le mois de mise bas



- ✓ duration of lactation : 10 months
- ✓ dry-off : 2 months

Official milk recording – France, 2012

❖ The French dairy goats production

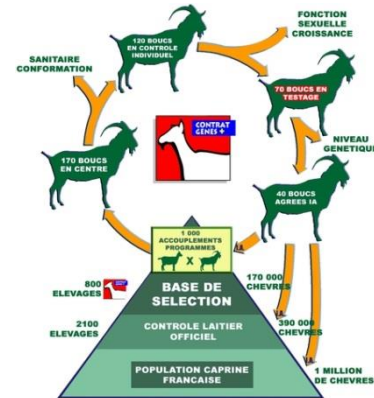
✓ Milk yield and solid contents

Race	Lactations	Durée jours	Lait kg	MP kg	TP g/kg	MG kg	TB g/kg	Intervalle MB-MB j	Rang moyen de lactation
Alpine	166 282	296	915	30,2	33,0	34,4	37,6	384	2,6
Saanen	124 040	313	996	31,5	31,7	35,4	35,5	396	2,5
Croisée	8 545	291	856	27,4	32,0	30,9	36,1	388	2,7
Poitevine	562	249	518	16,1	31,0	18,6	35,8	377	3,1
Pyrénéenne	81	194	187	5,5	29,5	7,5	40,1	363	3,6
Chèvre des Fossés	60	216	260	7,5	28,8	10,9	41,8	378	2,8
Autres races	139	259	540	15,5	28,7	18,2	33,6	371	3,1
Toutes lactations	299 709	303	946	30,6	32,4	34,7	36,7	389	2,6

Official milk recording – France, 2012

❖ Components of the selection program

- Objectives and selection criteria
- Selection scheme
- Milk recording, animal identification, DNA data...
- Genetic evaluation



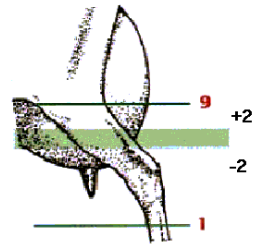


❖ Components of the selection program

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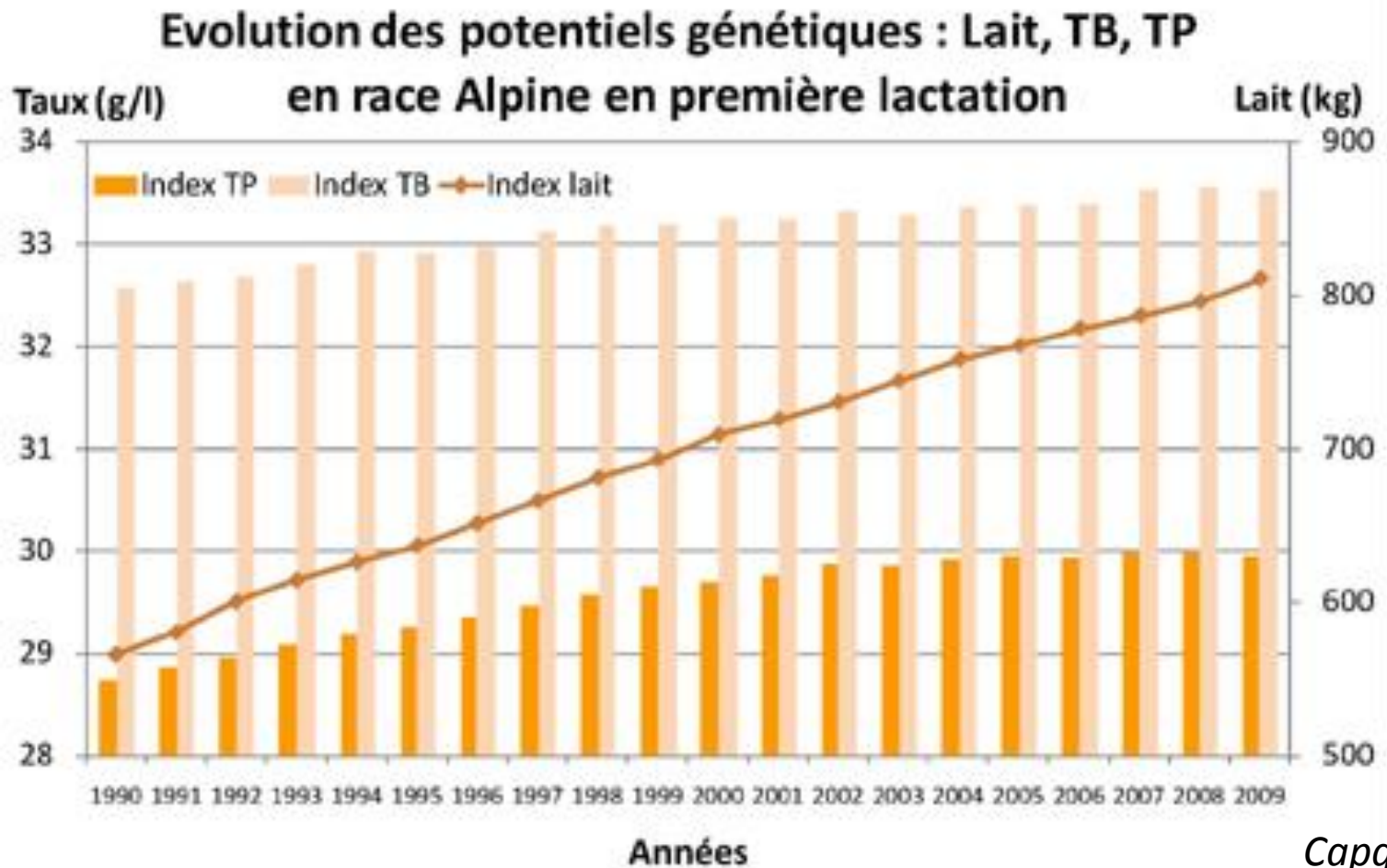
❖ Objectives and selection criteria

- Milk yield
- Protein, Fat (contents)
- Morphology : udder profile, udder floor, rear udder, rear attachment
- *New in 2012 : cell count score*



UDDER FLOOR POSITION

❖ Objectives and selection criteria

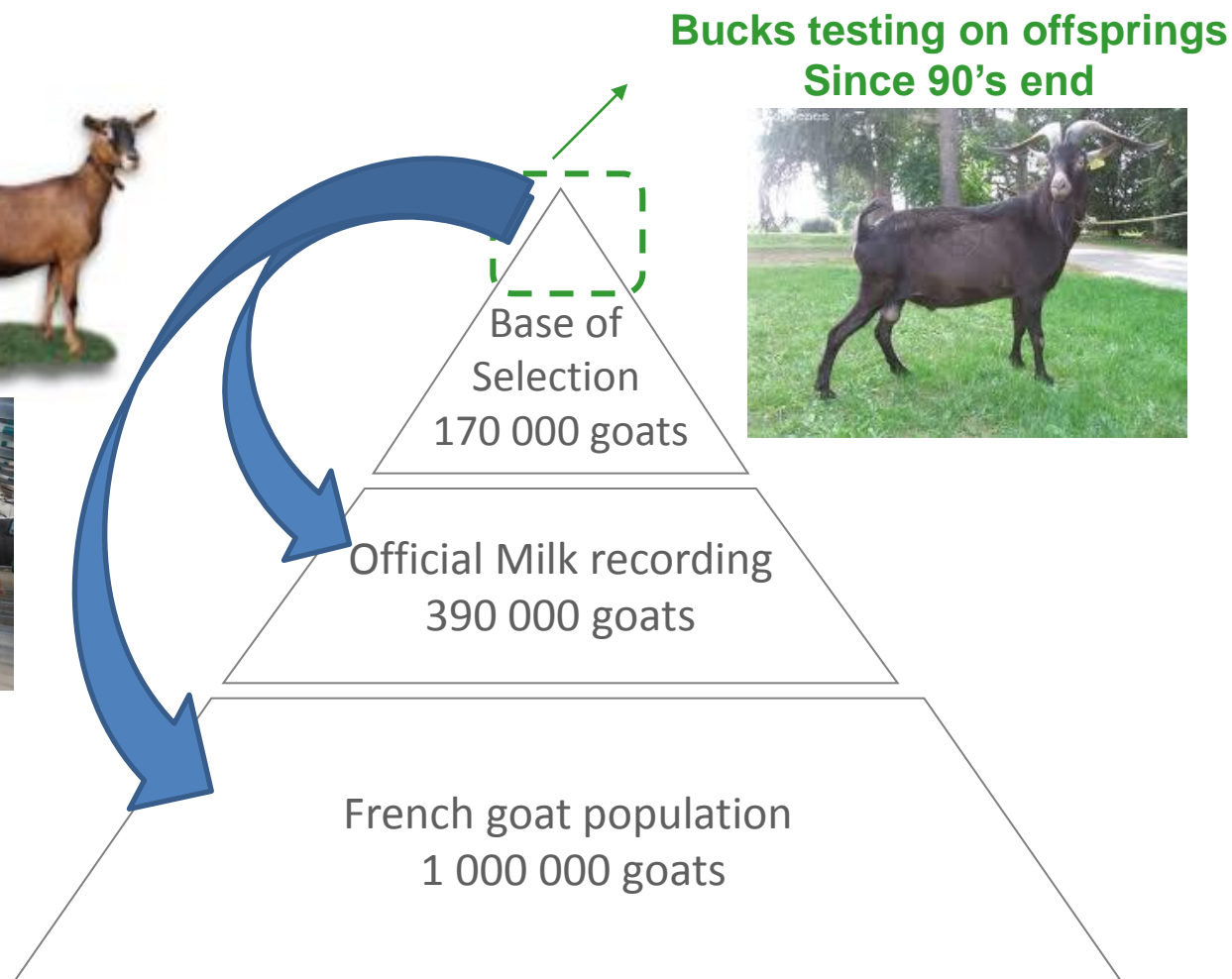


Capgenes, 2012

❖ Components of the selection program

- Objectives and selection criteria
- Selection scheme
- Milk recording, animal identification, DNA data...
- Genetic evaluation

❖ Organisation of selection scheme



❖ Components of the selection program

- Objectives and selection criteria
- Selection scheme
- Milk recording, animal identification, DNA data...
- Genetic evaluation

❖ Genetic evaluation



Capgènes - Droits réservés

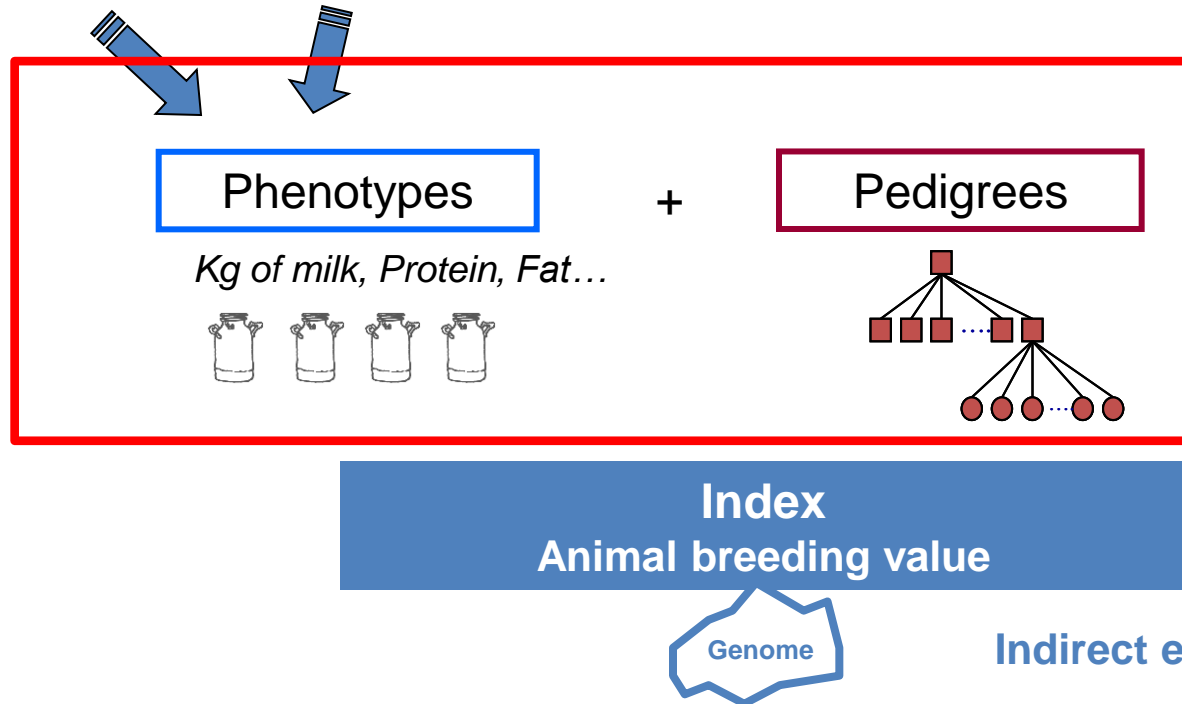


Unknow genes and localisation

Observed traits are the multiplication of genes

Phenotype = expression of genome
in a specific environment

**Milk
recording**



Efficient and operational → high animal breeding



❖ Components of the selection program

- Objectives and selection criteria
- Selection scheme
- Milk recording, animal identification, DNA data...
- Genetic evaluation

❖ 1st step : Identification

Interest of (electronic) identification

- ✓ **Electronic management of herd :**
 - Updated stock list of living animals
 - Reproduction methods and dates
 - Pedigree recording



✓ **Automatic Concentrate Feeder**

✓ **Sort animals**



✓ **Performances recording : weight and milk**

❖ European identification

Eartags



Ear tag for
kids < 6months



2 types of permanent
identification for
breeding animals



Eartag + pastern tag



FR 576476 00076

Country code Farm number Animal number (order)

video

❖ Milk recording organization

- Milk production and quality :
 - several methods from monthly PM/AM visits to farmer
 - samples methods combined with records on bulk milk
- Several electronic devices for automatisisation
- Some organisations offer also general advise feeding, herd management, economic results...

❖ Which tools?

2 types of milk recorders

Exhaustive test



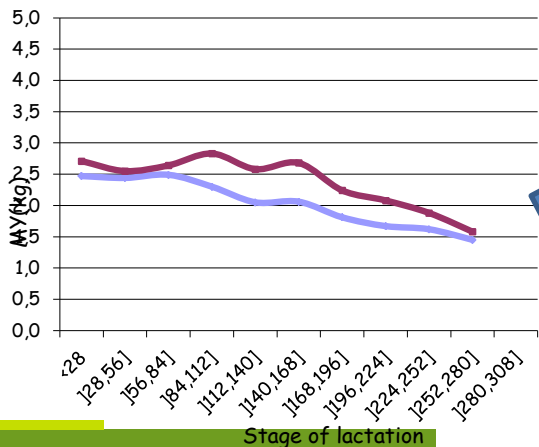
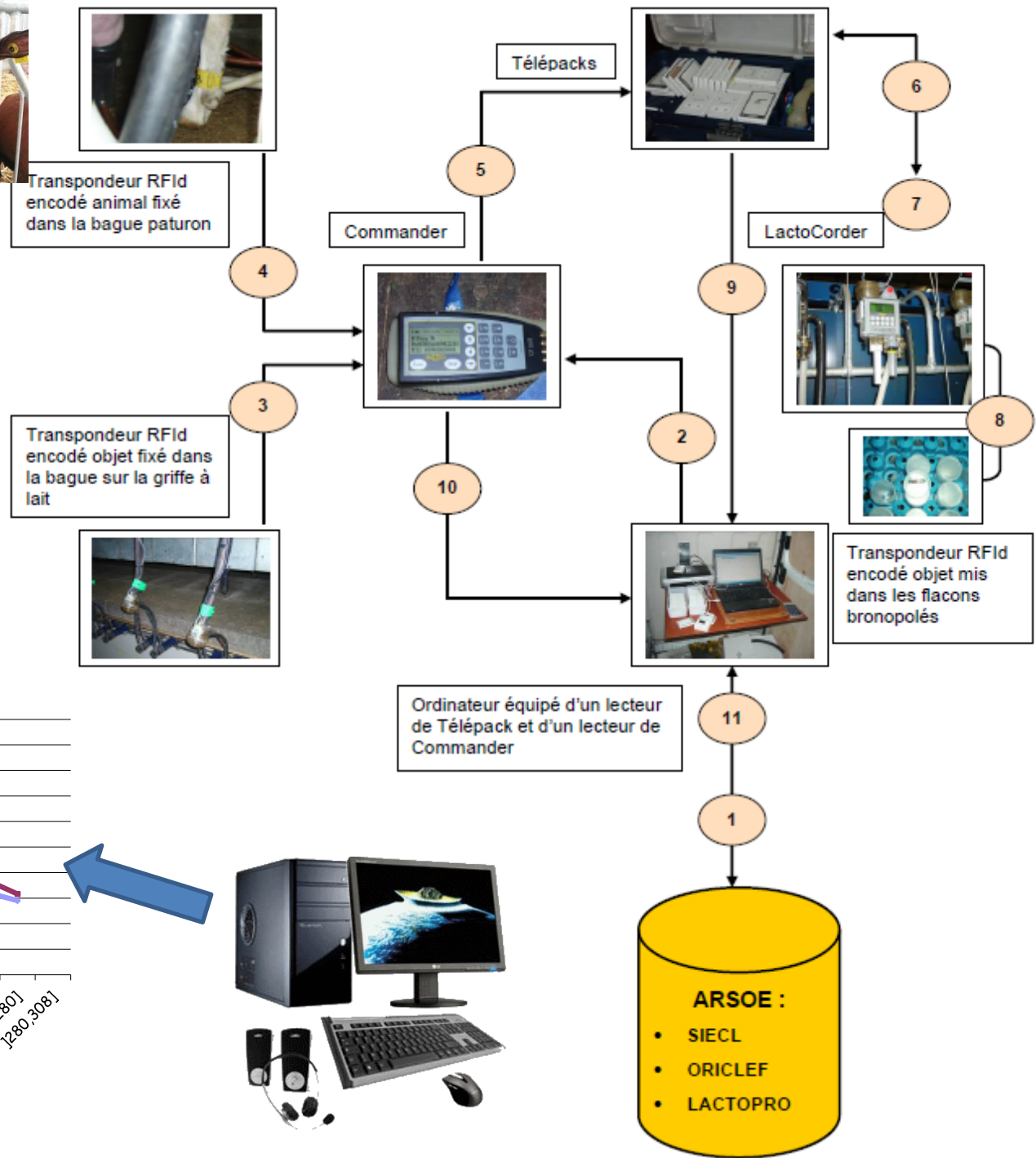
INRA-Gely II test
(INRA Bourges)

Derivative test

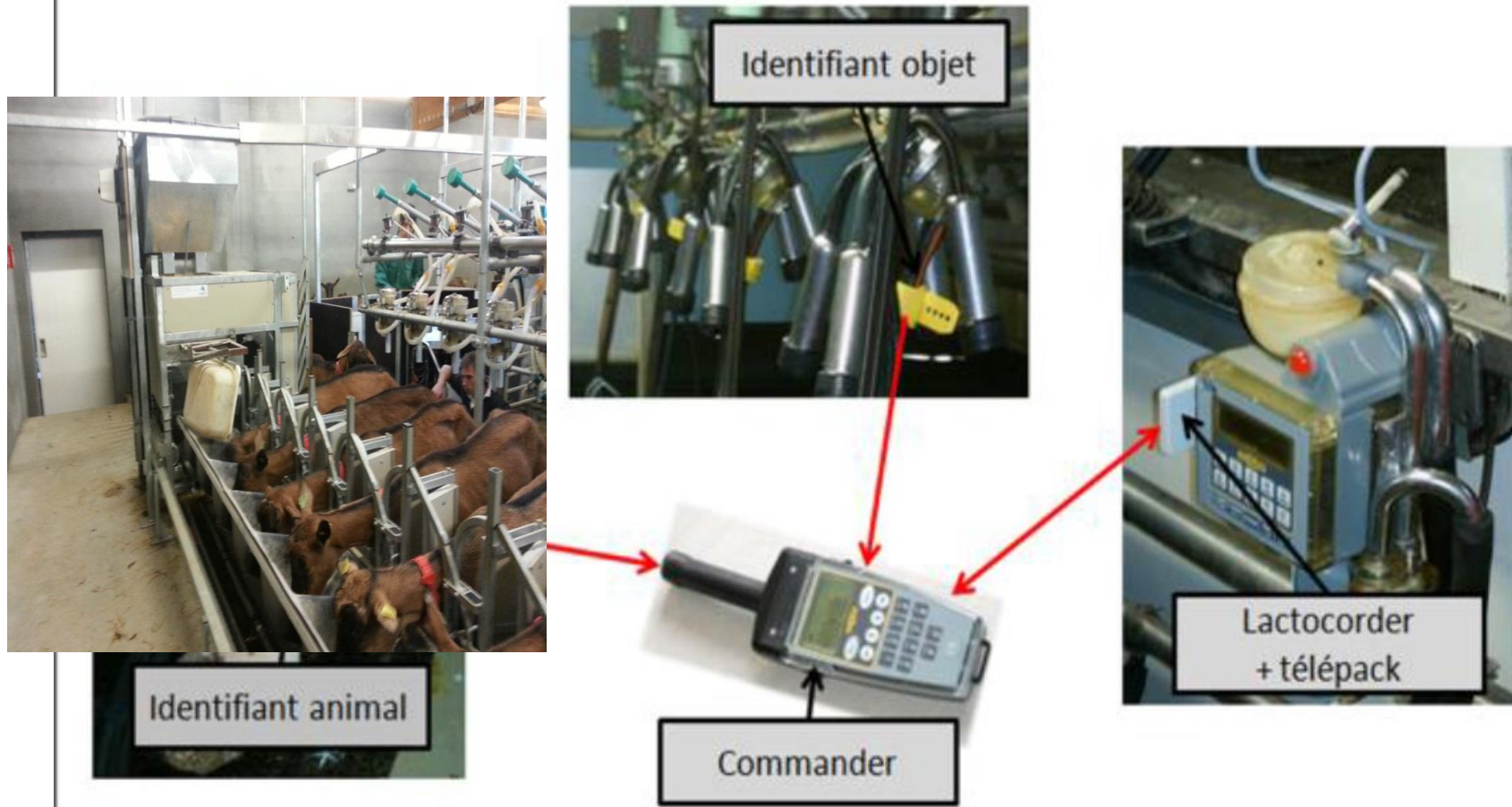


Lactocorder ®
(in farm + INRA Poitiers)

❖ Steps of milk recording in farm

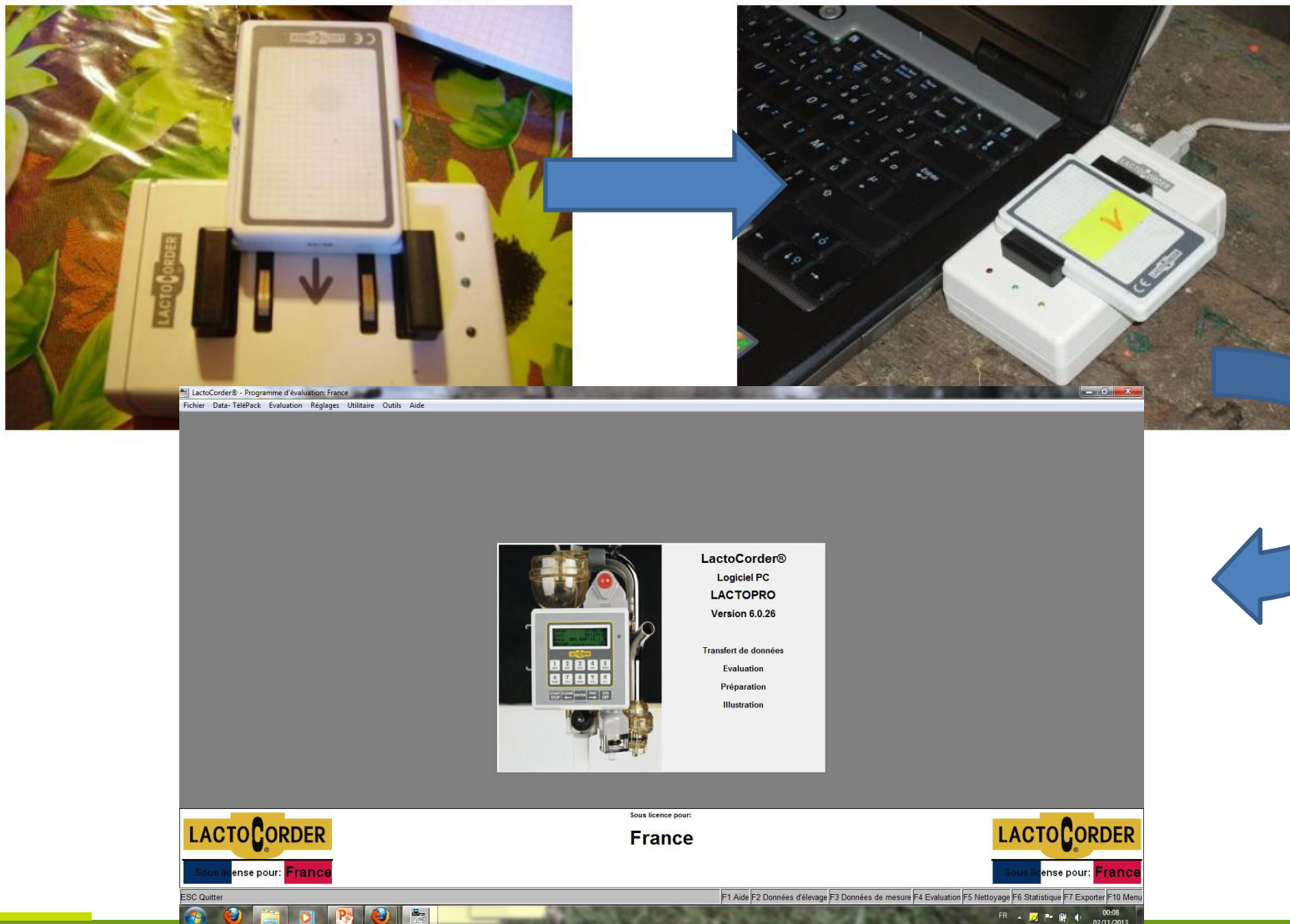


❖ Chaining informations with lactocorder®



Video

❖ Unloading data after milking



❖ Data of lactocorder software : 1 line / goat

LactoCorder® - Programme d'évaluation: France

Fichier Data- TéléPack Evaluation Réglages Utilitaire Outils Aide

Affichage des résultats complets: [Test9169.dat] - Jeu de paramètres 0: All Parameters

117TEST9169 Muster Peter 03.07.99M

	BNR	KNR1	KNR2	Nom	Grp nr	IDAnimal	IDAnimal hex	LS	ID flacon	ID flacon hex	GNR	Date de traite jj.mm.aa	TempsB hh:mm	MZ S/M	MP nr	nID n	RM	RV n	SM	NG	DNW e	AK	EM kg	M
*	15177139169	000013238516	00000092	LOKI	n.	n.v.	n.v.	0	5096234817	012FC25F41	000000002214	03.07.99	06:07	M	n.	n.	0	0	0	00	n.v	11	12	1
*	15177139169	000013384028	00000108	TAGA	n.	n.v.	n.v.	0	5288191473	013B3365F1	000000002214	03.07.99	06:18	M	n.	n.	1	0	0	00	n.v	11	14	1
*	15177139169	000013172807	00000083	TINN	n.	n.v.	n.v.	0	5016643767	012B03E8B7	000000002214	03.07.99	06:29	M	n.	n.	0	0	0	00	n.v	10	5	1
*	15177139169	000013172441	00000079	LEILA	n.	n.v.	n.v.	0	5288286230	013B34D816	000000002214	03.07.99	06:39	M	n.	n.	0	0	0	00	n.v	10	14	1
*	15177139169	000013172043	00000078	ZIRCE	n.	n.v.	n.v.	0	5018628313	012B2230D9	000000002214	03.07.99	06:49	M	n.	n.	0	0	0	00	n.v	10	7	1
*	15177139169	000013261922	00000093	SIGI	n.	n.v.	n.v.	0	5121391930	0131423D3A	000000002214	03.07.99	06:58	M	n.	n.	0	0	0	00	n.v	10	14	1
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*	15177139169	000013238725	00000090	STUXI	n.	n.v.	n.v.	0	5217752064	0137009400	000000002214	03.07.99	07:19	M	n.	n.	0	0	0	00	n.v	10	14	1
*	15177139169	000013292835	00000105	SINKI	n.	n.v.	n.v.	0	5255743516	013944481C	000000002214	03.07.99	08:02	M	n.	n.	0	0	0	00	n.v	09	12	1
*	15177139169	000013101801	00000070	VIKI	n.	n.v.	n.v.	0	5206173409	01364FE6E1	000000002656	03.07.99	06:08	M	n.	n.	0	0	0	00	n.v	11	11	1
*	15177139169	000013270994	00000099	ERNI	n.	n.v.	n.v.	0	5115348282	0130E6053A	000000002656	03.07.99	06:30	M	n.	n.	0	0	0	00	n.v	11	13	1
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*	15177139169	000013384039	00000114	JUSO	n.	n.v.	n.v.	0	5241042118	013863F4C6	000000002656	03.07.99	07:27	M	n.	n.	0	0	0	00	n.v	10	9	1
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*	15177139169	000013270104	00000094	STIPSI	n.	n.v.	n.v.	0	5039461247	012C60137F	000000001923	03.07.99	06:38	M	n.	n.	0	0	0	00	n.v	08	12	1
*	15177139169	000013384040	00000112	VINNI	n.	n.v.	n.v.	0	5212374445	0136AE85AD	000000001923	03.07.99	06:47	M	n.	n.	0	0	0	00	n.v	08	7	1
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*	15177139169	000000000000	00000000	Tankprb	n.	n.v.	n.v.	6	5186145001	01351E4EA9	000000001923	03.07.99	08:14	M	n.	n.	0	0	0	00	n.v	06	8	1

ESC Quitter

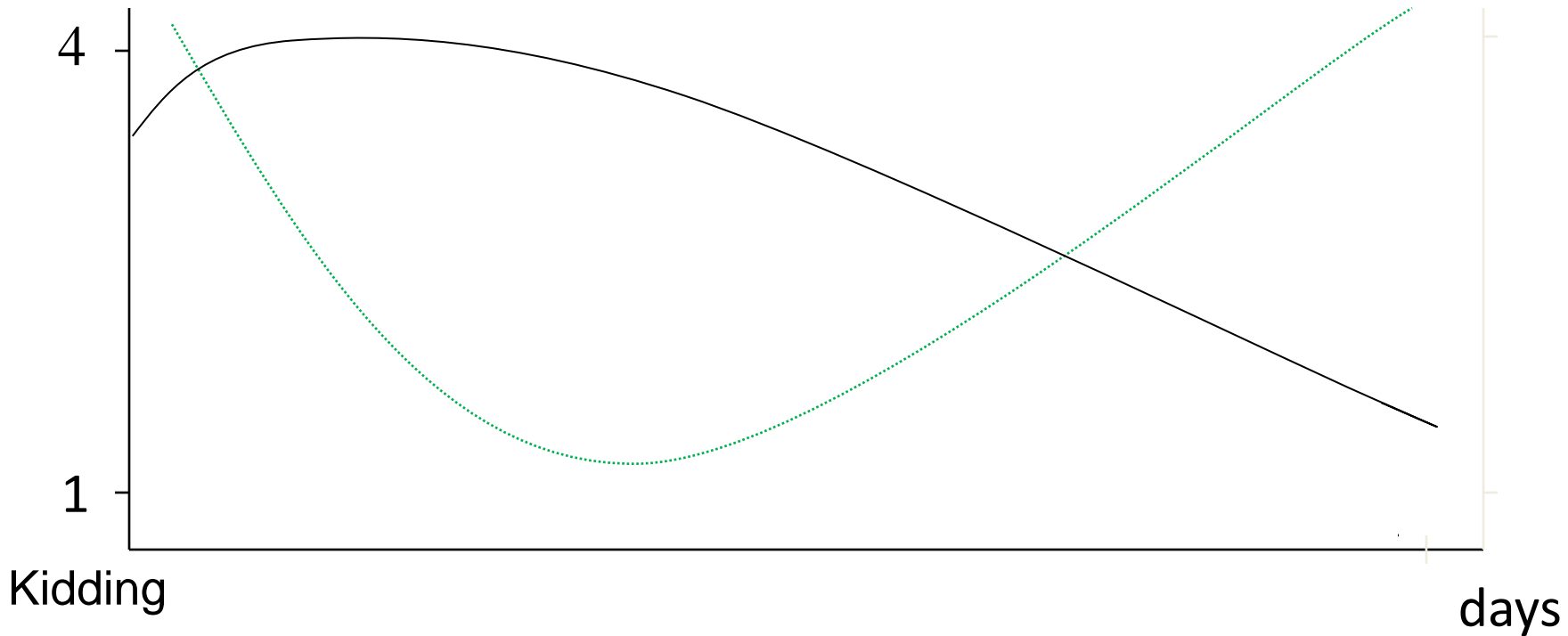
F1 Aide F2 Tri + F3 Tri - F4 Graphique F5 Graphique S/M F6 Statistique F7 Exporter F8 CpSpéc F9 Imprimer F10 Menu

FR 11:20 01/11/2013

❖ Milk production - Traits

- Milk Yield (kg/d)

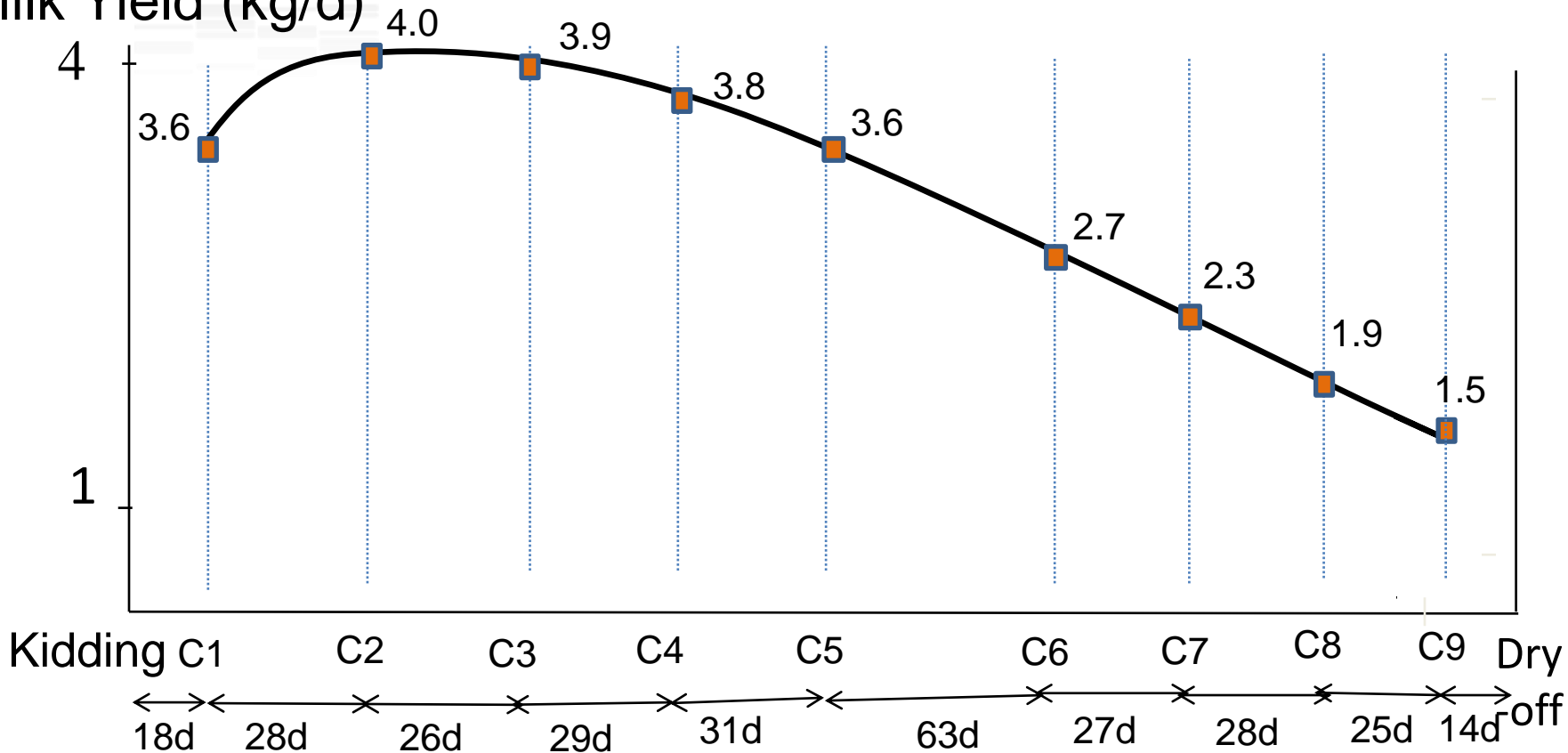
Solid Contents g/kg



Daily production : milk recording

❖ Official Milk Recording

- Milk Yield (kg/d)

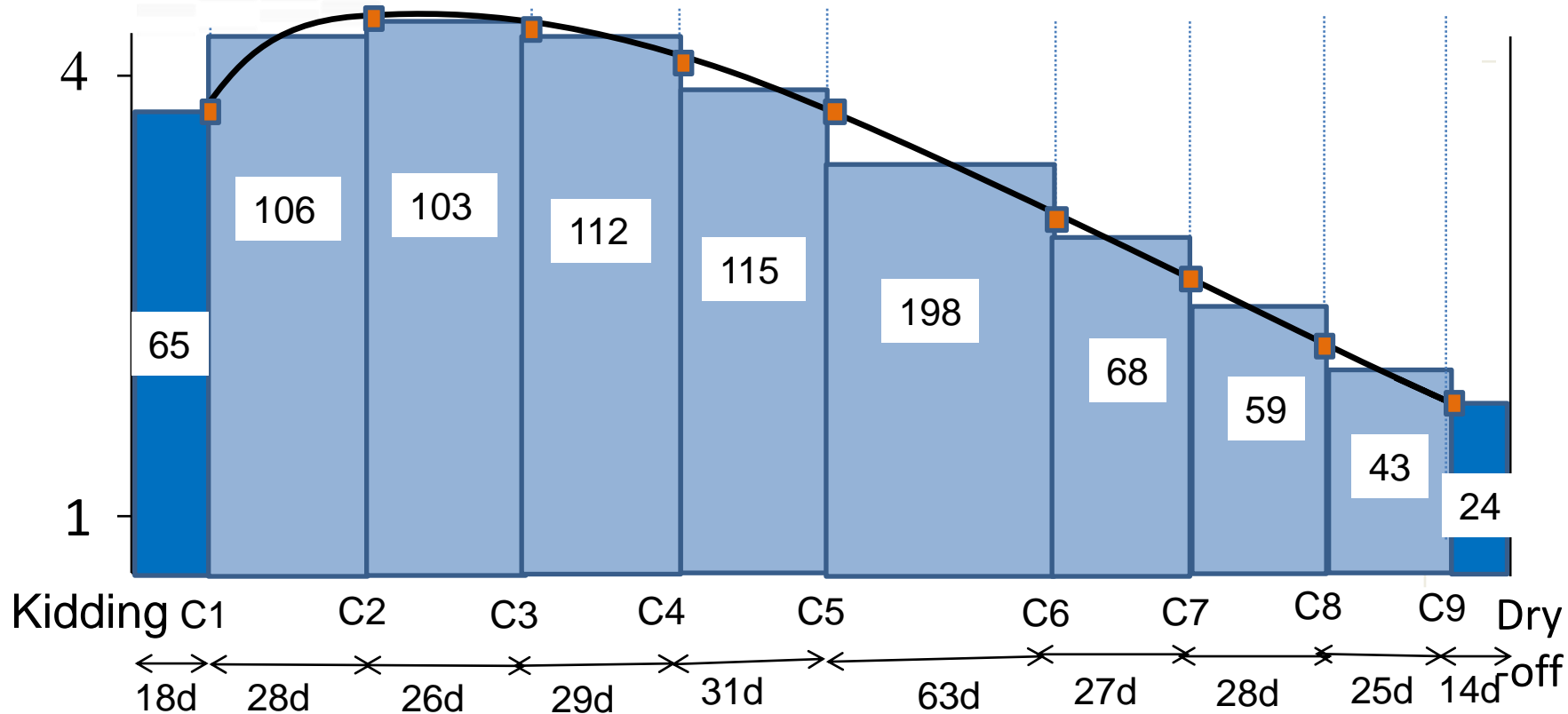


Daily production + quality (fat, protein, cells)

➔ about 1 control/month (evening/morning)

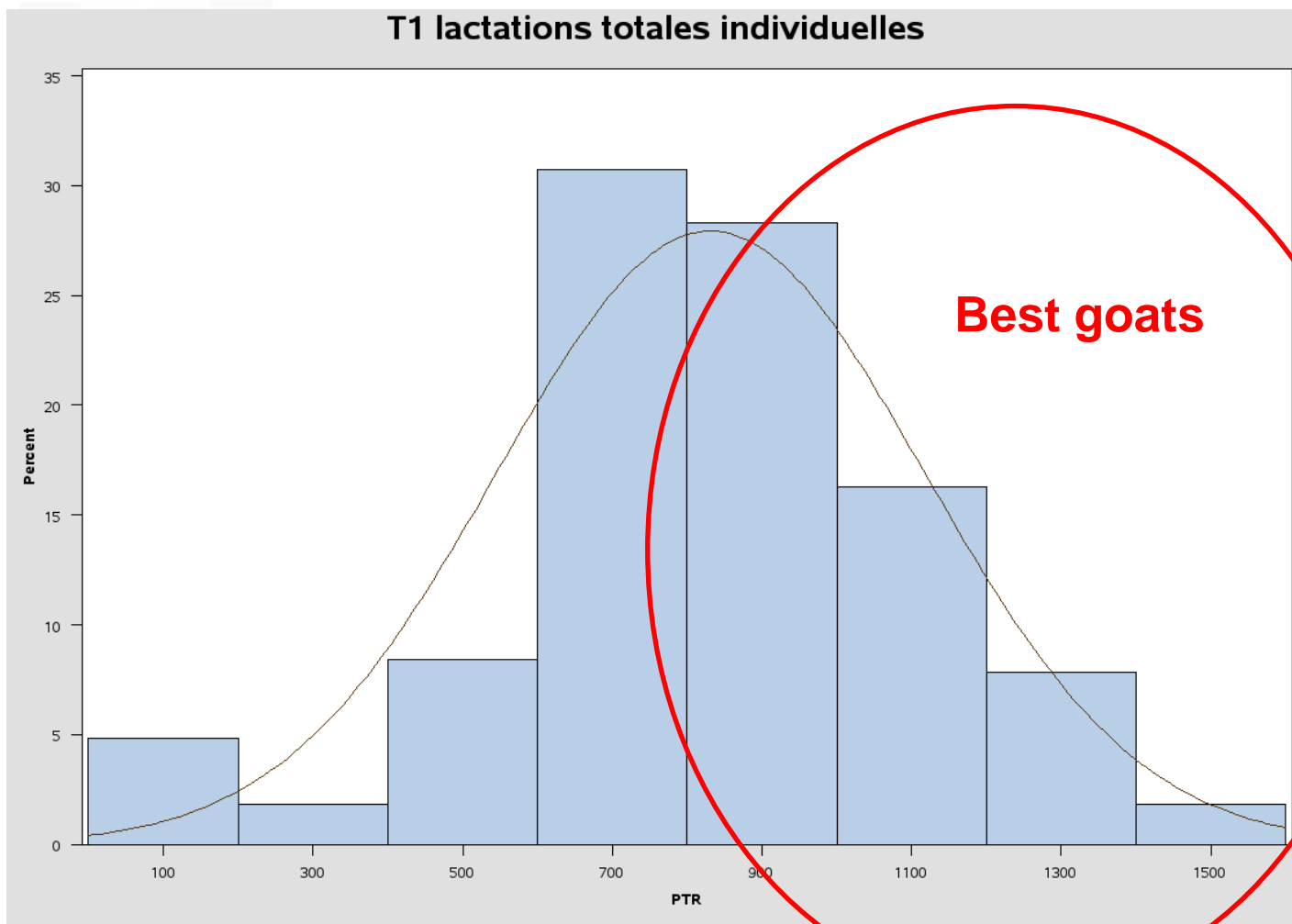
❖ Milk production – Fleischmann method

- Milk Yield (kg/d)

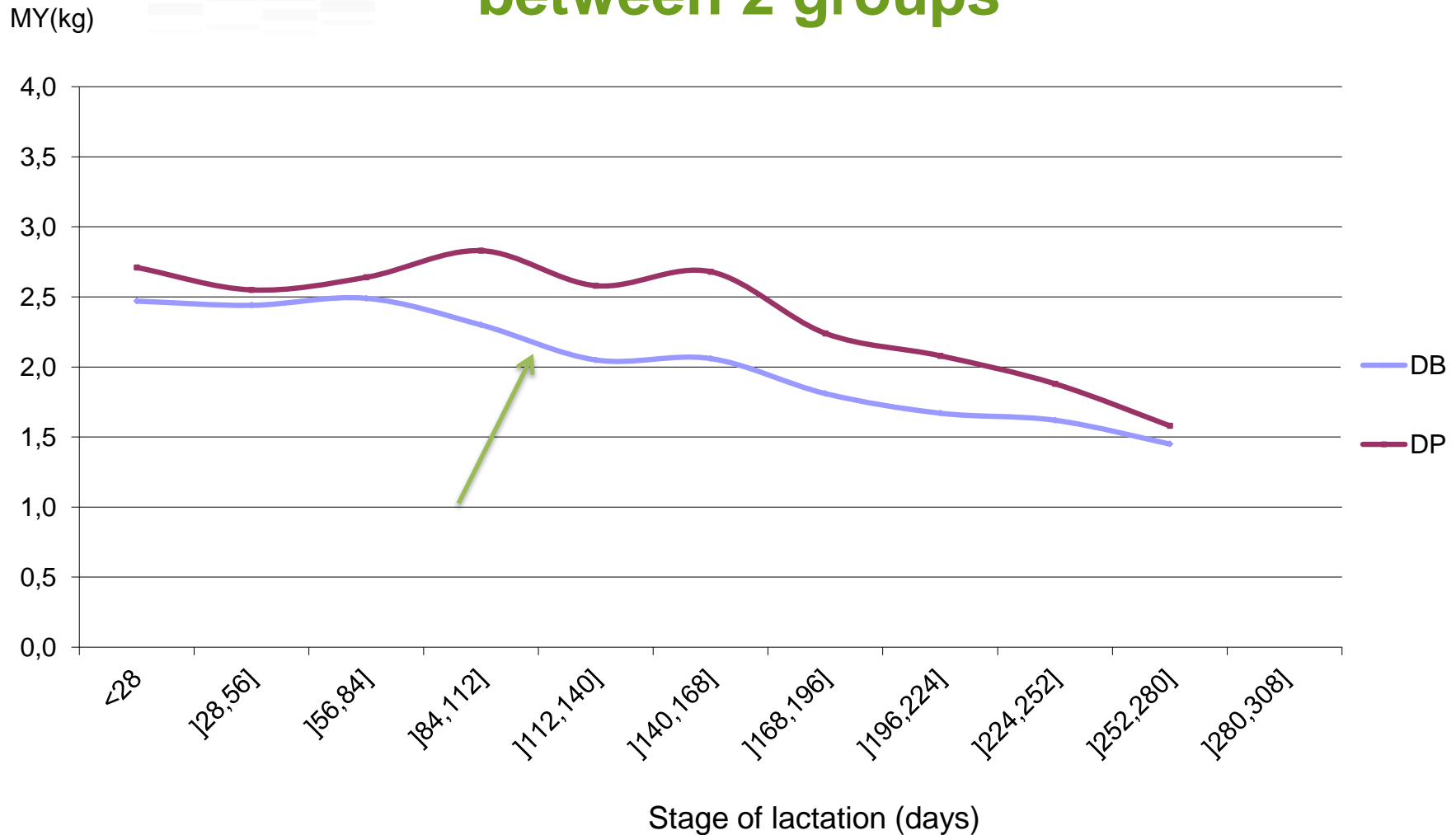


Total lactation: area under the curves → 891kg

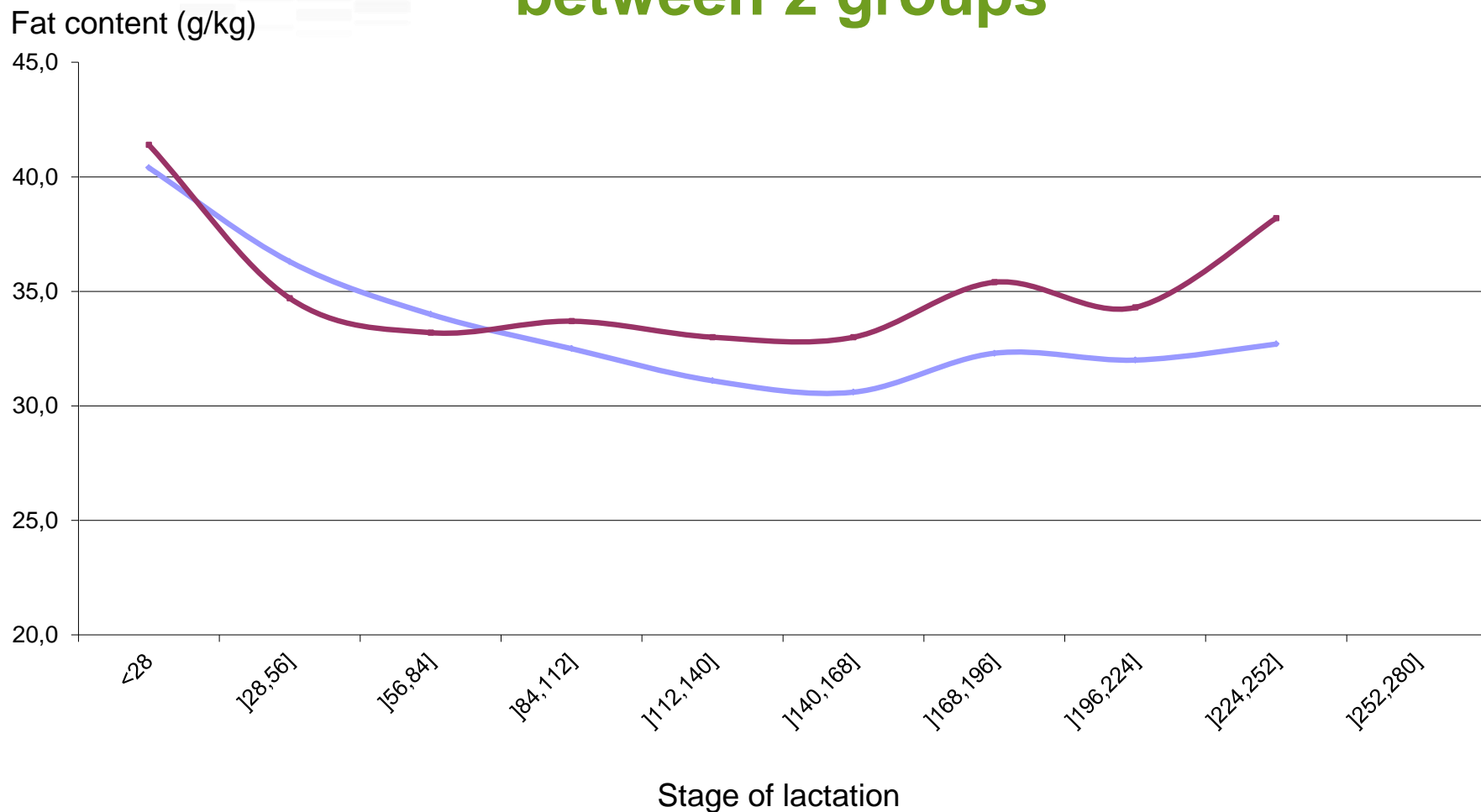
❖ Results : rankings goats on annual lactation



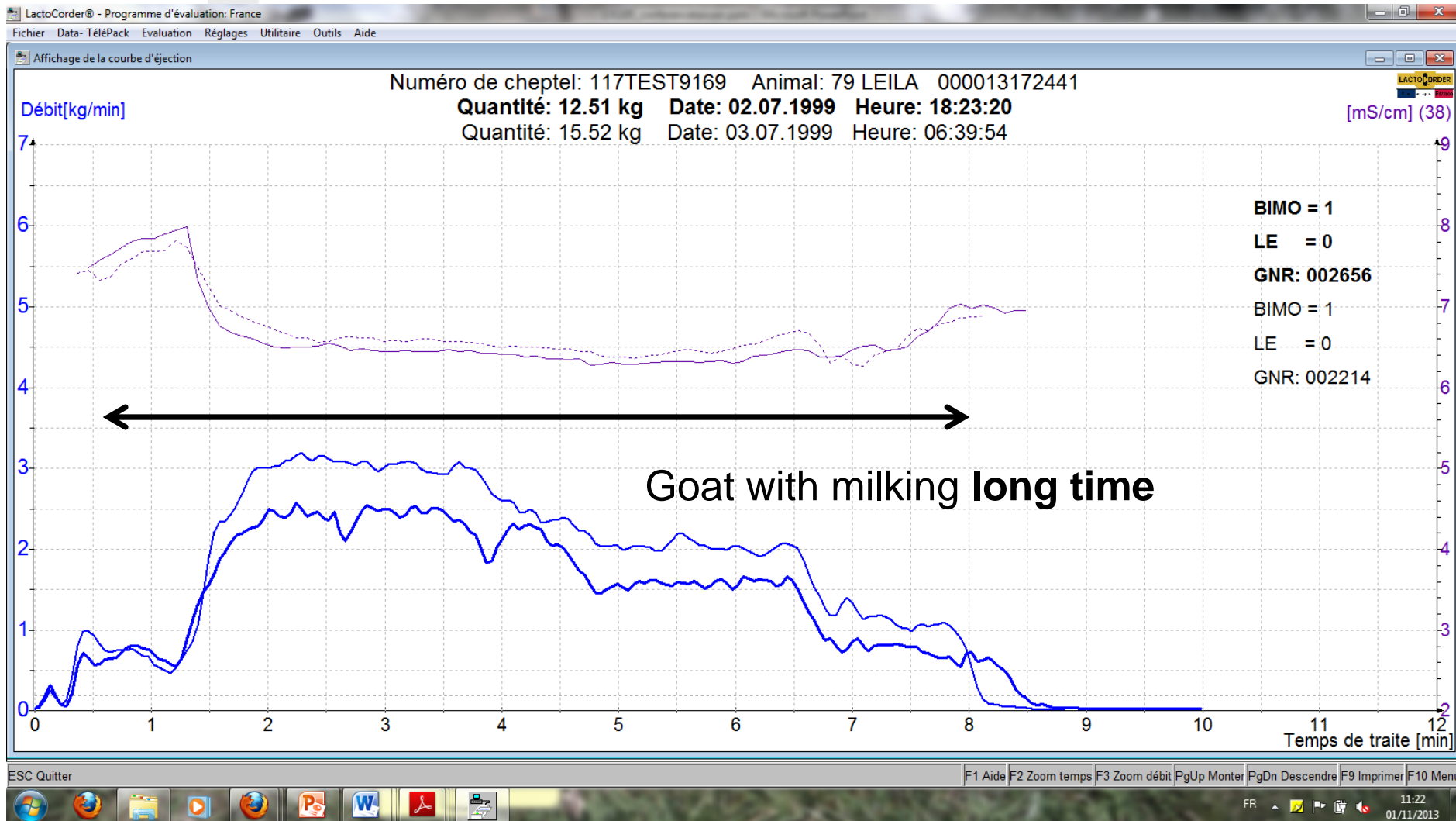
❖ Results : comparison of lactation between 2 groups



❖ Results : comparison of lactation between 2 groups

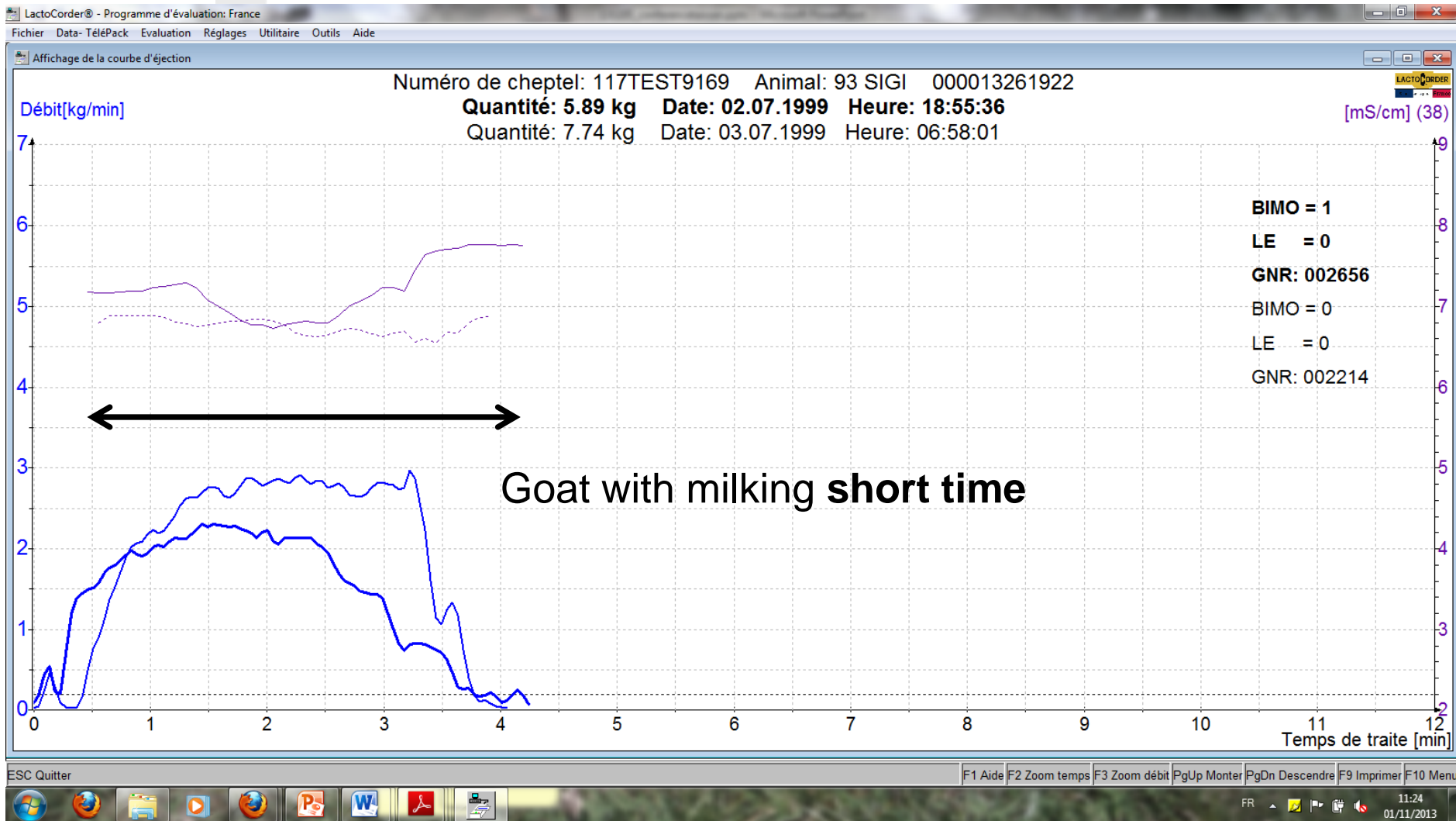


❖ Results : Milking flow kinetics of goats



* Example in dairy cow

❖ Results : Milking flow kinetics of goats



* *Example in dairy cow*

❖ Typical problems in dairy goat programs (1/3)

- Several independent breeders' associations (by breed ?):
 - Low impact
 - Costly Management (birth dates, reproduction, genealogy, organization of shows and events at a small scale)
- Possible solution for small breeds is to make a single goat association. Selection objectives can be kept separated for each breed

According to the words of Dr. Manfredi (INRA Toulouse)

❖ Typical problems in dairy goat programs (2/3)

- Lack of milk recording: heterogeneous production efficiency; selection limited to type traits
- Possible solutions:
 - Identify the responsible for official milk recording
 - Search for funding (can milk plants put a bonus on milk price of recorded herds ?)
 - Study simplified methods of milk recording (with Research Institutions)

According to the words of Dr. Manfredi (INRA Toulouse)

❖ Typical problems in dairy goat programs (3/3)

- Genetic schemes closed (within farm)
- Problems: limited genetic progress and risk of inbreeding
- Solutions :
 - Open the male side: natural mating (buy/exchange bucks with necessary sanitary control) and artificial insemination

According to the words of Dr. Manfredi (INRA Toulouse)

ent animal

Animals identified

Milk rec

-





Thanks for your attention