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Agroscope


Photographs as an education tool in linear description – experiences from the Franches- Montagnes horse

Ruedi von Niederhäusern, SNSF

International Workshop on Linear Profiling in the Warmblood Horse




www.harasnational.ch

Agroscope Swiss national Stud Farm SNSF



The Franches-Montagnes

- The Franches-Montagnes (FM) is the last native Swiss horse breed with multiple use and good character
- The breed has developed from a heavy draught breed used in agriculture to a light draught breed that excels in leisure riding and in international driving competitions

<https://www.lenouveliste.ch/articles/sports/autres-sports/jerome-voulaz-721679>

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+ Linear description and breeding value estimation in the FM breed

- Since 2006, breeding values are estimated for 43 traits using a multi-trait animal model (“BLUP”).

Traits (phenotypes)	Judged	Described	Measured	Total
Conformation traits	3	24	1	28
Performance traits (Field test for driving and riding)		12		12
White markings		3		3

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+ Linear description sheet

oLD version

LINEARE BESCHREIBUNG FÜR CH-PFERDE (3jährig und älter)
DESCRIPTION LINEAIRE POUR CHEVAUX CH (3 ans et plus)

Schau/Concours: _____ Datum/Date: _____ Richter/Juge: _____

ID-Nr.: _____ Vater/Père: _____

Geburtsdatum/Date de naissance: _____ m. f. Rasse: FM DS HF MT

Typ/Type: _____ Gesamtversch./Impression générale: _____ Körperbau/Conformation: _____ Gänge/Allures: _____ Stockmassch. au garrot: _____

1. Kopfdruck	ausdruckslos	□ □ □ □ □ □ □ □ □ □	ausdrucksvoll		Mangel/Défauts
Expresion de la tête	voit	□ □ □ □ □ □ □ □ □ □	expressive	<input type="checkbox"/>	
2. Genachen	pléna	□ □ □ □ □ □ □ □ □ □	léns		
Genachen	kurz	□ □ □ □ □ □ □ □ □ □	lang		
3. Halslänge	courts	□ □ □ □ □ □ □ □ □ □	longue	<input type="checkbox"/>	
Long. de l'encolure	kurz	□ □ □ □ □ □ □ □ □ □	lang		
4. Halsbreite	bas	□ □ □ □ □ □ □ □ □ □	hoch		
Atteche de l'encolure	weinig	□ □ □ □ □ □ □ □ □ □	schwer		
Mesure de la tête	plu	□ □ □ □ □ □ □ □ □ □	leicht		
5. Widerristhöhe	flach	□ □ □ □ □ □ □ □ □ □	hoch		
Hauteur du garrot	kurz	□ □ □ □ □ □ □ □ □ □	lang		
7. Widerristlänge	kurz	□ □ □ □ □ □ □ □ □ □	lang		
Longueur du garrot	kurz	□ □ □ □ □ □ □ □ □ □	lang	<input type="checkbox"/>	
8. Schulterlänge	kurz	□ □ □ □ □ □ □ □ □ □	lang		
Longueur de l'épaule	kurz	□ □ □ □ □ □ □ □ □ □	lang		
9. Schulterneigung	steil	□ □ □ □ □ □ □ □ □ □	schräg		
Incl. de l'épaule	steil	□ □ □ □ □ □ □ □ □ □	schräg		
10. Rückenlänge	kurz	□ □ □ □ □ □ □ □ □ □	lang		
Longueur du dos	kurz	□ □ □ □ □ □ □ □ □ □	lang		
11. Rückenlinie	weich	□ □ □ □ □ □ □ □ □ □	gerade		
Ligne du dos	weiche	□ □ □ □ □ □ □ □ □ □	hart/starr	<input type="checkbox"/>	
12. Kruppenlänge	kurz	□ □ □ □ □ □ □ □ □ □	lang		
Long. de la croupe	kurz	□ □ □ □ □ □ □ □ □ □	lang		
13. Kruppenneigung	horizontal	□ □ □ □ □ □ □ □ □ □	abfallend		
Incl. de la croupe	horizontal	□ □ □ □ □ □ □ □ □ □	abfallend		
14. Behauung	wenig	□ □ □ □ □ □ □ □ □ □	viel		
Fosse	flach	□ □ □ □ □ □ □ □ □ □	vertiefte	<input type="checkbox"/>	
15. Vorderbein	rückbeinig	□ □ □ □ □ □ □ □ □ □	vorbäugig	<input type="checkbox"/>	<input type="checkbox"/> knieweit
Jambe antérieure	rückbeinig	□ □ □ □ □ □ □ □ □ □	drüben	<input type="checkbox"/>	<input type="checkbox"/> gerad
16. Sprunggelenkeineinleitung	steil	□ □ □ □ □ □ □ □ □ □	gerade	<input type="checkbox"/>	<input type="checkbox"/> faulbeinig
Angle des jarrets	steil	□ □ □ □ □ □ □ □ □ □	coude	<input type="checkbox"/>	<input type="checkbox"/> combés
17. Fesselneigung	steil	□ □ □ □ □ □ □ □ □ □	weich	<input type="checkbox"/>	<input type="checkbox"/> haken
Angle des pastilles	steil	□ □ □ □ □ □ □ □ □ □	weich	<input type="checkbox"/>	<input type="checkbox"/> post.
18. Fundament	schwammig	□ □ □ □ □ □ □ □ □ □	stücken	<input type="checkbox"/>	<input type="checkbox"/> unreg. Fesseln
Fondement	schwammig	□ □ □ □ □ □ □ □ □ □	sec	<input type="checkbox"/>	<input type="checkbox"/> talons fuyants
19. Schritt	kurz	□ □ □ □ □ □ □ □ □ □	raumgreifend	<input type="checkbox"/>	<input type="checkbox"/> h. ll.
Pas	kurz	□ □ □ □ □ □ □ □ □ □	amplé	<input type="checkbox"/>	<input type="checkbox"/> botte et s. post. de
20. Trab	kurz	□ □ □ □ □ □ □ □ □ □	raumgreifend	<input type="checkbox"/>	<input type="checkbox"/> h. re.
Trot	kurz	□ □ □ □ □ □ □ □ □ □	amplé	<input type="checkbox"/>	<input type="checkbox"/> boite et s. post. de
21. Trab: Schub	wenig	□ □ □ □ □ □ □ □ □ □	viel	<input type="checkbox"/>	
Trot: engagement	wenig	□ □ □ □ □ □ □ □ □ □	beaucoup	<input type="checkbox"/>	
22. Trab: Elastizität	steif	□ □ □ □ □ □ □ □ □ □	elastisch		
Trot: élasticité	steif	□ □ □ □ □ □ □ □ □ □	élastique		
23. Korrektheit d. Gänge	furchend	□ □ □ □ □ □ □ □ □ □	höflich		
Correct. des allures	billant	□ □ □ □ □ □ □ □ □ □	soop de manchette	<input type="checkbox"/>	<input type="checkbox"/> schmal
24. Typ	typisch	□ □ □ □ □ □ □ □ □ □	typisch	<input type="checkbox"/>	<input type="checkbox"/> überbaut
Type	typisch	□ □ □ □ □ □ □ □ □ □	surbaillé	<input type="checkbox"/>	<input type="checkbox"/> schmal
	extrem	□ □ □ □ □ □ □ □ □ □	extrem		<input type="checkbox"/> breit

Bemerkungen/Remarques: _____

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Phenotypes of the FM breed

- Breeding values of the stallions are published annually.

000071947, Nils_du_Sous-Bois, 2007

Weisse Abzeichen -20 100 +20

Total	90	100	
Auge	88	100	
Narbe	88	100	
Wesen	88	100	

Feldtest

Stellen	108
Anfahren	111
F-Schritt	122
F-Tritt	112
Fahrigkeit	106
Durchlässigkeit	106
Nachlassen	114
in Schritt	103
in Trab	107
in Galopp	107
Reitfähigkeit	103
in Kurve	103

Lineare Beschreibung

Stockmass	106
Ext. Typ	114
Ext. Körperbau	115
Ext. Gangart	119
Nagelbau	115
Gelenkbau	109
Halslänge	113
Halsbreite	116
Halsmuskelatur	103
Widerrücken	103
Widerrückengänge	121
Schulterlänge	114
Schulterbreite	116
Schulterhöhe	116
Krüppellänge	95
Krüppelhöhe	95
Krüppelbreite	106
Beinlänge	106
Wadenlänge	106
Sprunggelenk	106
Fußbau	106
Fußbreite	106
Schweiflänge	121
Stammhöhe	115
Stammbreite	116
Stammtiefe	116
Stammstärke	112

Agroscope, Swiss National Stud Farm (SNSF) and Franches-Montagnes (FM) association, 2015

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How judges are chosen

- Requirements
 - Being a successful breeder
 - Representative of a region (6)
 - Strong personality
 - Passed the basic education
- Election procedure
 - Candidate is proposed by the regional conference
 - Candidate is elected at the general assembly
- Judge gremium
 - 9 judges of the breed
 - Activity is restricted to 12 years

Number of FM horses per canton (Ref: TVD 2013)

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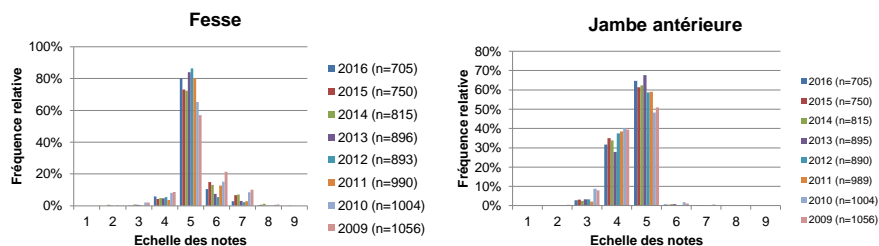
🇨🇭 Judge training

- Ground work
 - Personal experience
 - Basic education course conformation & gaits FM (5 days)
- Continuing training (yearly)
 - ½ day on adult horses (in March)
 - ½ day on foals (in July)
 - 2h Feedback-session after the judging season (in November)



Bild: T. Tüscher 2018

🇨🇭 Problems...



- Distribution around the perceived optimal value
- But where is the optimum?

Linear trait	Mean	Mode	Range
21. Trot: Engagement	9.00	9.00	9
22. Trot: Elasticity	9.00	9.00	9
23. Correctness of gaits	5.00	5.00	5
24. Type	8.50	9.00	5-9

Pfammatter, 2017

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+ New approach, using photographs to visualize breeding standards and to calibrate linear description

- First step; visualize the need for change (by bachelor thesis)
 - Convince the breeding commission
 - Convince executive board

- Second step; creation of a working group
 - Include concerned persons (judges) in a working group
 - Include deciders (president of the breeding commission) in the working group

- Step three; do the thing
 - As head of the working group; be a coach, not an expert!
 - Four full-day sessions to create the standards
 - Five full day sessions to build up – adjust the pics (with a pro)

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+ Results 1/3

- New Sheets LBE
 - with Optima
 - new traits
 - Clearer trait description

DESCRIPTION LINEAIRE POUR CHEVAUX FM
LINEARE BESCHREIBUNG FÜR FM - PFERDE
Barcode Etiquette
new version
N°
start

Lieu / Ort: _____ Signature du juge/Unterschrift der Richter: _____
 N°-ID / ID-Nr: _____ Père / Vater: _____ Date / Datum: _____
 Nom / Name: _____ m. f/w. FM MT

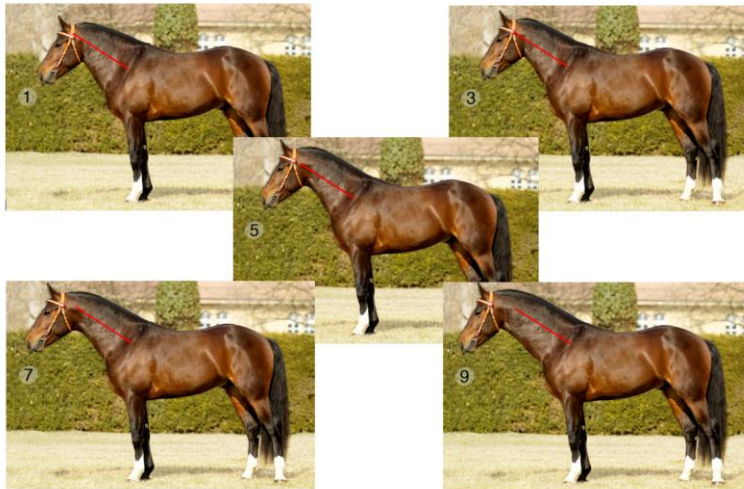
Type / Typ	Conformation / Körperbau	Alures / Gänge	H. au garrot / Stockmass	Défauts / Mängel
1	Expression de la tête Kopfschick	courte schwer	1 2 3 4 5 6 7 8 9	extrême leicht
2	Genaschen	pleine voll		libre frei
3	Long de l'encolure Halslänge	courte kurz		longue lang
4	Attache de l'encolure Halsansatz	basse tief		haute hoch
5	Musculature de l'enc. Halsmuskulatur	peu wenig		massive schwer
6	Hauteur du garrot Widerristhöhe	plat flach		haut hoch
7	Longueur du garrot Widerristlänge	court kurz		long lang
8	Longueur de l'épaule Schulterlänge	courte kurz		longue lang
9	Incl. de l'épaule Schulterneigung	droite steil		oblique schräg
10	Longueur du dos Rückenlänge	court kurz		long lang
11	Ligne du dos Rücklinie	mou weich		horizontale gerade
12	Long de la croupe Kruppenlänge	courte kurz		longue lang
13	Incl. de la croupe Kruppenneigung	horizontale horizontal		avalant abfallend
14	Fesse Beinung	peu cutulée wenig		fortm. cutulée seil
15	Jambe antérieure Vorderbein	renvoyée rückbeig		brassacourt vorbeig
16	Angle des jarrets Sprunggelenkneigung	droit steil		genoux en x knien jambs clos knienassig genoux knien
17	Angle des paturons Fesselwinkel	droit steil		saleté böckel
18	Fondement Fundament	spongieux schwammig		laineux wollig
19	Pas Schritt	court kurz		ample weit
20	Trot, amplitudes Trot, Rhythmus	court kurz		ample weit
21	Trot, engagement Trot, Schub	peu wenig		beaucoup viel
22	Trot, élasticité Trot, Elastizität	raide steif		élastique elastisch
23	Correct. des allures Korrektheit d. Gänge	billante fuchelnd		group de manchette zahnteils
24	Type Typ	lourd schwer		léger leicht
	Long. des paturons Fesselänge	court kurz		long lang
	Attache des nerfs Lendenverdrücktheit	forte stark		faible schwach

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Results 2/3

- Handout on paper (A3) for 19 traits on the standing horse

3. Halslänge / Long. de l'encolure

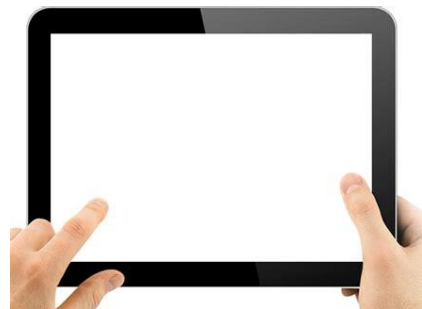
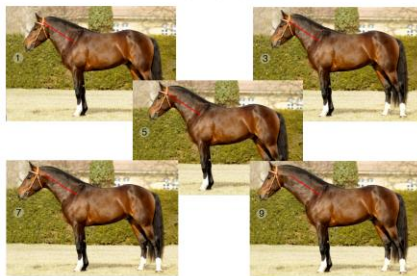


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Results 3/3

- Series of pictures on a tablet for 19 traits on the standing horse

3. Halslänge / Long. de l'encolure



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🇨🇭 Implementation: March 2018

All judges received the following:



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🇨🇭 Implementation march 2018

Difficulties:

- 5 out of 9 judges had no previous experience with electronic tools
- Only 45 minutes for the theoretical introduction
- Only 60 minutes were available for the introduction of the new traits (2) and the discussion of the changes of the remaining traits

Positive:

- No general opposition from the judges of the breed

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Implementation march 2018

LINEARE BESCHREIBUNG FÜR CH-PFERDE (jährig und älter)
DESCRIPTION LINEAIRE POUR CHEVAUX CH (3 ans et plus)

OLD VERSION

Schau/Contour: _____ Datum/Date: _____ Rute/Weg: _____

ID No.: _____ Value/Val: _____

Geburtsdatum/Date de naissance: _____ m. f. L. R. B. M. T.

DESCRIPTION LINEAIRE POUR CHEVAUX FM
LINEARE BESCHREIBUNG FÜR FM - PFERDE

Barcode Etiquette

NEW VERSION

N° ID: _____

Signature du juge/Unterschrift des Richter: _____

N° ID / ID-AR: _____ Péri / Vater: _____ Date / Datum: _____

Nom / Name: _____ M. F. M. MT

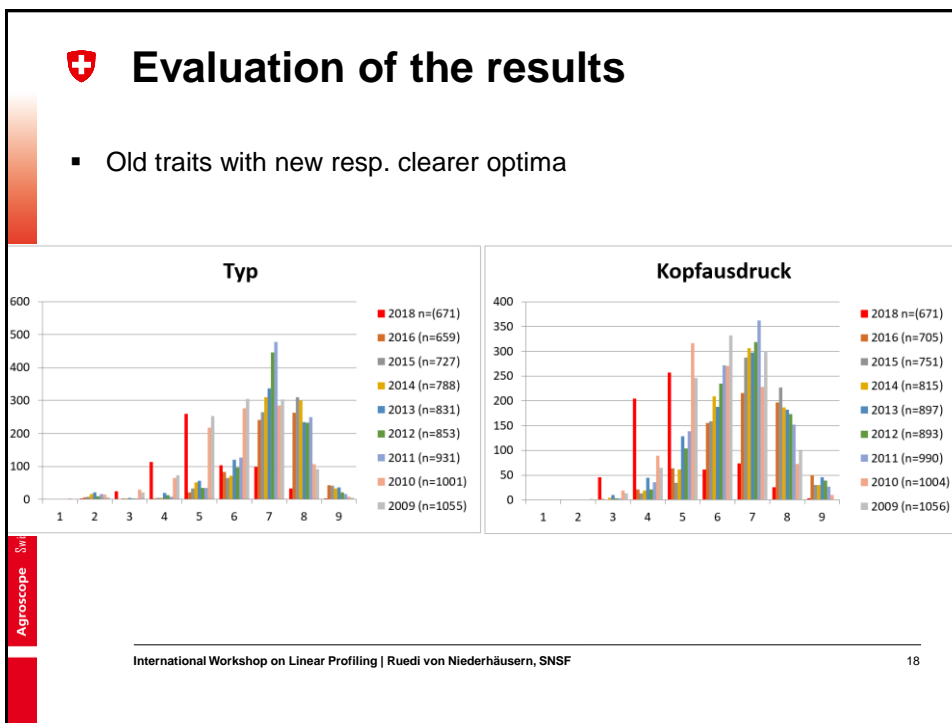
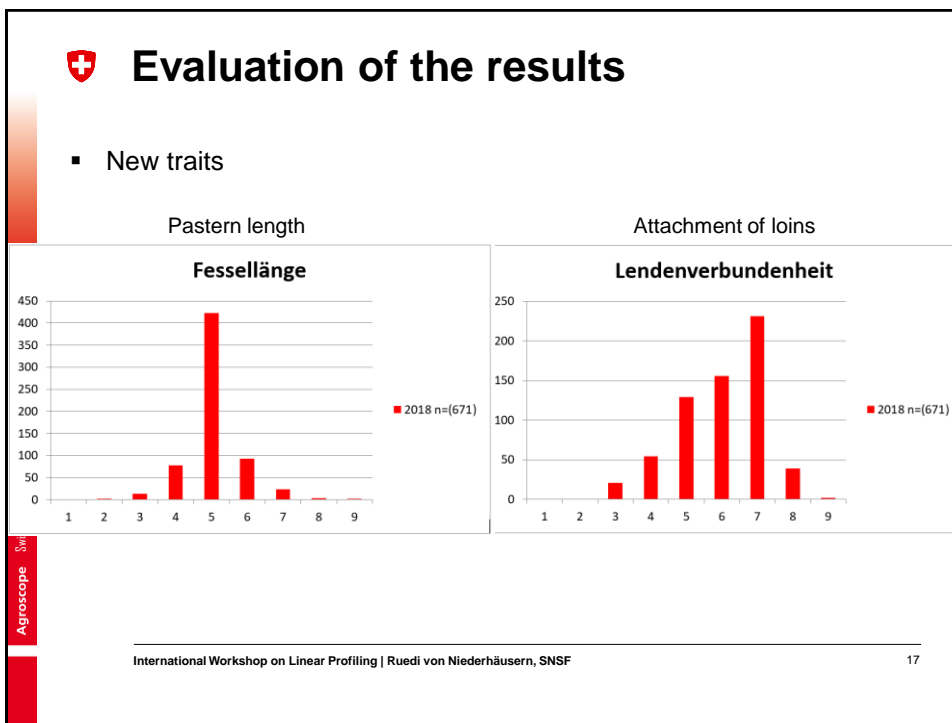
Type/Type		Körperbau/Conformation		Gänge/Allures		Stockmaß/H. au garrot						
Gesamtversch./Expression générale												
1. Kopfansdruck	extrem	1	2	3	4	5	6	7	8	9	extrem	Mangel/Défauts
— Expression de la tête	ausdruckslos	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ausdruckslos	extrem
2. Ganzkörper	voll	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ausdruckslos	extrem
— Ganzkörper	ohne	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ausdruckslos	extrem
3. Halslänge	kurz	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	lang	lang
— Länge der Fesselhöhe	lang	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	lang	lang
4. Halsbauform	stief	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	hoch	hoch
— Abdruck der Fesselhöhe	stief	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	hoch	hoch
5. Halsmuskulatur	wenig	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	schwach	schwach
— Muskulatur des Halses	stief	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	schwach	schwach
6. Widerristhöhe	flach	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	hoch	hoch
— Rückenlinie	flach	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	hoch	hoch
7. Widerristhöhe	kurz	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	lang	lang
— Länge der Halswirbelsäule	kurz	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	lang	lang
8. Schulterlänge	kurz	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	lang	lang
— Schulterhöhe	kurz	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	lang	lang
9. Schulterhöhe	kurz	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	lang	lang
— Höhe der Halswirbelsäule	kurz	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	lang	lang
10. Rückenlänge	kurz	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	lang	lang
— Länge der Halswirbelsäule	kurz	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	lang	lang
11. Rückenlänge	kurz	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	lang	lang
— Länge der Halswirbelsäule	kurz	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	lang	lang
12. Rückenlänge	kurz	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	lang	lang
— Länge der Halswirbelsäule	kurz	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	lang	lang
13. Rückenlänge	kurz	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	lang	lang
— Länge der Halswirbelsäule	kurz	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	lang	lang
14. Rückenlänge	kurz	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	lang	lang
— Länge der Halswirbelsäule	kurz	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	lang	lang
15. Rückenlänge	kurz	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	lang	lang
— Länge der Halswirbelsäule	kurz	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	lang	lang
16. Rückenlänge	kurz	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	lang	lang
— Länge der Halswirbelsäule	kurz	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	lang	lang
17. Rückenlänge	kurz	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	lang	lang
— Länge der Halswirbelsäule	kurz	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	lang	lang
18. Rückenlänge	kurz	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	lang	lang
— Länge der Halswirbelsäule	kurz	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	lang	lang
19. Rückenlänge	kurz	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	lang	lang
— Länge der Halswirbelsäule	kurz	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	lang	lang
20. Rückenlänge	kurz	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	lang	lang
— Länge der Halswirbelsäule	kurz	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	lang	lang
21. Rückenlänge	kurz	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	lang	lang
— Länge der Halswirbelsäule	kurz	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	lang	lang
22. Rückenlänge	kurz	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	lang	lang
— Länge der Halswirbelsäule	kurz	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	lang	lang
23. Rückenlänge	kurz	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	lang	lang
— Länge der Halswirbelsäule	kurz	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	lang	lang
24. Rückenlänge	kurz	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	lang	lang
— Länge der Halswirbelsäule	kurz	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	lang	lang

Bemerkungen/Remarques: _____

Judging season from March to October

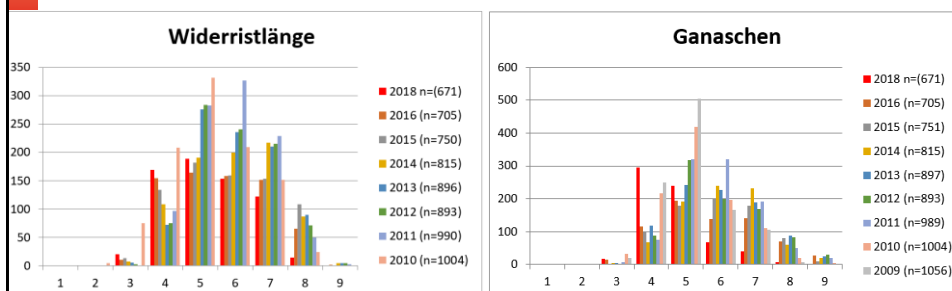



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🇨🇭 Evaluation of the results

- Old traits with unchanged optima and better distribution



- Around 2/3 of the traits had the same distribution as before

🇨🇭 Feedback session November 2018

- Oral Feedback
 - 4/9 judges very positive
 - 4/9 judges undecided
 - 1/9 judge was opposed on «general principle»
- Positive
 - Good instrument to recalibrate oneself during the season
 - You can explain a decision to the breeder based on the pictures
- Negative
 - Some images are not entirely «right» yet
 - No one needs a template how an LBE should be done

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Back to work

- The same working group:
 - Re-evaluation of images for 7 traits
 - Write explanatory texts for each trait
 - Refine the sheet

- What's next?
 - Decision from board
 - Definitive introduction from 1.3.2019
 - Intensive training of the judges

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DESCRIPTION LINEAIRE POUR CHEVAUX FM
LINEARE BESCHREIBUNG FÜR FM · PFERDE

Barcode Etiquette N° start

Lieu / Ort: _____ Signature du juge/Unterschrift der Richter: _____
 N°-ID / ID-Nr. _____ Père / Vater: _____ Date / Datum: _____
 Nom / Name: _____ m. f/w. FM MT

Impz. générale / ges. Erscheinung: _____ Conformation / Körperbau: _____ Allures / Gänge: _____ H. au garrot / Blockmass: _____

	extrem	1	2	3	4	5	6	7	8	9	extrem	Défauts / Mängel
1. Tête / Kopf	lourd / schwer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	léger / leicht	
2. Ganache	pleine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	libre	
3. Long. de l'encolure / Halslänge	courte	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	longue	
4. Attache de l'encolure / Halsansatz	basse	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	haute	
5. Musculation de l'enc. / Halsmuskulatur	peu	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	massive	
6. Hauteur du garrot	plat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	haut	
7. Longueur de l'épaule / Schulterlänge	courte	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	longue	
8. Incl. de l'épaule / Schultersteigung	droite	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	inclinée	
9. Longueur du dos / Rückenlänge	court	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	long	
10. Ligne de dos / Rückenlinie	mou	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	horizontale	
11. Attache des reins / Lendenansatz	faible / schwach	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	forte / stark	
12. Long. de la croupe / Kreuzlänge	courte	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	longue	
13. Incl. de la croupe / Kreuzsteigung	horizontale	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	avalisée	
14. Penne / Becken	peu-ouverte / wenig	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	très-ouverte / viel	
15. Jambes antérieures / Vorderbein	renvoyées / rückwärts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	bras-courts / vorwärts	
16. Angle des jarrets / Kniekehle	droit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	coûlé / gekniet	
17. Sprunggelenkstellung	horizontal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	avalisée / gekniet	
18. Long. des paturons / Fessel-/Hufgröße	court / kurz	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	long / lang	
19. Angle des paturons / Fessel-/Hufwinkel	droit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	mou / weich	
20. Fondement / Fundament	spongieux / schwammig	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	sec / trocken	
21. Pied / Schuh	court / kurz	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ample / raumgrend	
22. Trot engagement / Trab-/Raumgriff	court / kurz	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ample / raumgrend	
23. Trot élasticité / Trab-/Elastizität	peu / wenig	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	beaucoup / viel	
24. Serrée des allures / Korrektheit d. Gänge	laxe / lockert	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	élastique / elastisch	
25. Format	lourd / schwer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	léger / leicht	

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Take home message

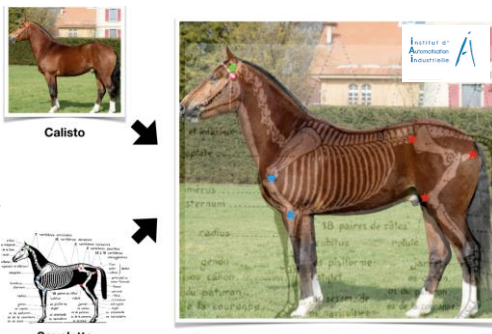

- Show with proven results that there is a problem
- Include, from the start of the project, the concerned people (judges)
- It takes time for the whole process to work
- Training of the judges is very important

= Good system to calibrate the judges and to get better phenotypes




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Other ideas

- Skeleton morphing
 - Artificial intelligence
 - Using photographs (2D or 3D)
 - No more judges?
- Scan the horses in 3D?

MORPHO 3D

3D OUEST  **INRA**  


<https://vimeo.com/219370900>

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Thank you for your attention



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