Speaking the same language....



The SAF breeding program

- Started in 2005
- Annual production of approx 200 GS
- Closed breeding colony since 2011
- Puppies stay with foster families between weaning (8weeks) and *test at the age of 15-18 mth*.

Information from test

- The result is registered in two separate protocols
- The Behavioural rating (BR) protocol filled in during the test
- The Subjective rating (SR) protocol Filled in after the test

		Behavio	ral ratings S	AF test	
Name of dog: FM N	lårdor	KC reg n	:.SE11500/2018	Date of birth: 17 1	2 16
Date of test. 19 05 2	21 Location	of test:	Gender: m/f	Breed GS	
Situation	1	2	3	4	5
1.Affability	Rejects contact, withdraws	Does not reject contact. No withdrawal	Does not reject contact. No withdrawal. Makes contact within 15 sec-	Makes spontaneous contact without jumping and vocalization	Intensive contact with vocalization or jumping at person
2. Handling	Rejects, growls, tries to bite/escape	Pulls away, seeks support from handler	Accepts handling	Accepts handling, seeks contact with TL	Overwhelming contact towards TL
3. Co-	Acts on its own. No	Acts on its own.	Follows without	Dependent. Looking	
operation	contact with handler.	Attentive when handler demanding	handler demanding	for confirmation	
4. Tug of war	Does not take rag	Takes rag. Let go off before handler pulls	Takes rag. Let go when handler pulls	Pulls hard but let go off when handler pulls back hard or make loud noises.	Pulls hard. Does not let go off rag despite hard resistance or disturbances
5. Retrieving	Does not run after ball	Starts running but stops before reaching the ball	Runs after and takes the ball	Runs after and carries it back to handler	Runs after with high intensity and carries it back to handler
b. Obstacle	Does not take	Grabs but let go of	Grabs, carries less	Grabs, carries	Grabs intensely,
6. Reaction in dark room	Wants to leave the room	Freezes when light is out	Walk in to the room less then 3m and stops	Investigates in total darkness but is affected. Goes to handler but with help	Investigates without hesitation or finds handler direct.
7. Metal stair	Refuses	Starts to walk but refuses after some steps	Manages to walk the whole stairway but with great difficulties	Can easily walk the stairway, is affected	Walks the stairway without hesitation
8a. Reaction on table	Tries to escape before table is moving.	Tries to escape when table is moving	Annoyed but does not escape	Tens but not mentally affected	Unaffected
b. Object	Does not take ball	Takes but let go of when table moves	Holds ball despite moving table		
9a. Acoustic startle (prime resp)	Escapes* >5 meter	Escapes 2-5 meter	Escapes 1-2 meter	Reacts but no escape	No fear response
b. Sec. response	Do not enter	Enters with a lot of help from handler	Enters with some help	Enters without help but with hesitation	Enters without hesitation
c. Lasting effect	Very affected	Affected	A bit affected	Affected but is checking	No lasting effect
10a. Visual startle, prim resp.	Escapes < 5 meter	Escapes 2-5 meter	Escapes 1-2 meter	Reacts but without escape	No fear response
b. Aggression	No sign of aggression	Some sign of aggression	Clear sign of aggression	Strong aggression, growls, mouth threat	Bites
c. Sec response	Does not enter	Enters with a lot of help from handler	Enters with Some help	Enters without help but with hesitation	Enters without hesitation
d Lasting effect	Very affected	Affected	A bit affected	Affected but is looking at object	No lasting effect
11a. Visual threat	No reaction, freezing or tries to escape	No reaction	Some reaction, switching between fight flight	Strong reaction towards object. No flight reaction	Attacks and bites
b. Aggression	No sign of aggression	Some sign of aggression	Clear sign of aggression	Strong aggression, growls, mouth threat	Bites
c. Sec response	Does not enter	Enters with a lot of help from handler	Enters with Some help	Enters without help but with hesitation	Enters without hesitation
d. Lasting effect	Very affected	Affected	A bit affected	Affected but is looking at object	No lasting effect
12a. Search	Does not search	Searches but stops	Searches from different directions	Searches intensively, uses different strategies	Searches intensively, uses paws
b. Persistence	Does not start	Searches < 10s	Searches <1min	Searches < 2min	Searches > 2min
13a. Gun fire, fear	Very fearful, escapes	Stops playing, not playful afterwards	Passivity or play, returns to passivity or	No reaction	
b. Positive	No reaction	Stops, looking at	Stops, want to go to	Stops, want to go	Very excited, can not be calmed

SAF-TEST Subjective Ratings of traits with partial indexes

Name of dog: FM Mårdor		KC reg nr:.SE11500/2018	Date of birth: 17 12 16
Date of test. 19 05 21	Location of test:	Gender: m/f	Breed GS
	Tested by:		

A. Affability		E. Courage		I. Sharpness		M. Prey drive	
5. Exag. affable	77	5. Very big	1.48	4. Big	64	5. Very big	1.23
4. Kind Open minded	.16	4. Big	.96	3. Medium	.65	4. Big	.56
3. Kind a bit reserv.	58	3. Medium	.48	2. Small	.31	3. Medium	37
2. Reserved	84	2. Small	40	1. Insignificant	36	2. Small	95
1. Aggressive	-1	1. Insignificant	67			1. Insignificant	-1

B. Competitiveness		F. Nerve stability	1	J. Defense	1	N. Curiosity	1
				drive.			
5. Very big	.93	5. Extr. calm and stabl	-1	5. Very big	-1	5. Very big	.96
4. Big	.84	4. Calm and stable	.83	4. Big	.60	4. Big	1.40
3. Medium	.06	3. Calm	16	3. Medium	.43	3. Medium	56
2. Small	82	2. A bit nervous	-1	2. Small	06	2. Small	80
1. Insignificant	93	1. Nervous	-1	1. Insignificant	72	1. Insignificant	-1

C. Hunting drive		G. Hardness]	K. Control I&J]	O. Resp. to gun fire	
5. Very big	1.04	6. Very hard	-	1. Controlled		4. Curios	.35
4. Big	.50	5. Hard	1.48	2. Uncontrolled		3. Unaffected	.13
3. Medium	61	4. Medium hard	.92			2. Affected (fear)	97
2. Small	-1	3. A bit soft	08			1. Gun shy	-1
1. Insignificant	-1	2. Soft	88				
		1. Very soft	-1			Sec sex car(1-3)	2

D Environment		H. Liveliness		L Co-operativ.		Wither height	64
5. Unaffected	.71	5. Impulsive	-1	5. Very big	0	Progn value	+56
4. Mostly unaffected	.10	4. Very lively	.60	4. Big	.50	Level of educ.	2
3. A bit affected	62	3. Lively	05	3. Medium	25	Hip status	В
2. Affected	81	2. Less lively	70	2. Small	95	Elbow status	Ok
1. Fearful	-1	1. Phlegmatic	-1	1. Insignificant	-1	Breeding	
						(Y/N)	

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Recommendations								
1. Patrol dog	2	4. Other service dog.						
2. Search dog		5. Rej. Temperament	\square					
3. Polis	1	6. Rej. Medical reas.						

Decision	
7. Breeding	
8. Sold companion	
9. Euthanized	

Predicted validity

- How well does the test result predict future training success
- Different traits have different predicted validity. Some traits are more important than others and this may vary for different types of working dogs
- The predicted validity <u>can only</u> be estimated by *comparing test results* with training outcome

Factor analysis on the test result of 496 GS with known training outcome

- The result from the SR protocol gave 3 factors Called: Engagement, Confidence and Aggression explaining 64% of the variation
- The result from the BR protocol gave 5 factors Called: Confidence, Physical engagement, Social engagement, Environmental sureness and Aggression explaining 60% of the variation

Predicted validity in the SAF test

- Both the BR and the SR protocol predicted training outcome with 70-78% accuracy
- Both "Confidence" and "Engagement" from the SR protocol predicted training outcome. "Aggression" did not

Heritability (h₂) and genetic correlation between aggregated traits from BR and SR protocol



Data from Arvelius et al. J. of Vet. Behav. 2014

Prognostic value (PV); an alternative method of predicting training outcome

* Each score is transformed to a partial PV being proportional to how "god" or "bad" it is to be given a particular score.

* The PV represent the sum of all partial PV for a particular dog

Prognostic value (PV): Transforming scores to partial PV



Prognostic value: The template

Score									
Trait	1	2	3	4	5				
Α	-1	-0.6	-0.2	0.4	2.0				
В	-1	-0.4	0	1.6	1.2				
C	-0.8	-0.2	0.4	0.3	-0.2				
D	-1	-0.5	0.2	8.0	2.3				
E	-1	-0.1	-0.1	0.4	0.9				

Red dog: -3.0 *10= -30 Green dog: +5.7 * 10 = 57

Blue dog: 0.1 *10 = 1

X: Prognostic value;

Y: SR Engagement + SR Confidence (Sum of Z value)



Temperament profiles in different categories of dogs





Global collaboration

- There is a global need for more and better working dogs
- This can be managed only by designated breeding programs
- Global breeding collaboration between countries would give better genetic improvements
- Having similar methods for phenotyping dogs would facilitate global collaboration....
-Speaking a common language

Questions

• During the coffee brake...please prepare questions for the panel.



Speaking the same language....

Temperament test ...

... when recruiting dogs from vendors and private dog owner

...when selecting new breeders and working dogs within a breeding program

... for progeny testing and when calculating EBV