



IRISH CATTLE BREEDING FEDERATION

ICBF Herdbook Technical Meetings.

26th June 2012.

Agenda

- ICBF weight recording service – Update.
 - Predicting weights – birth weights & live-weight.
 - Operation of service & integration with GROW service.
- Decisions from last ICBF board meeting and actions/progress thereof.
 - Implementation of beef Euro-Stars – Update.
 - GEN€ IRELAND beef program, including Tully – Update.
- Stock bull functionality – Update.
- Feedback from ICAR.
 - Access to international data.
- ICBF Best Practice document & new data quality index – Update.
- AOB



IRISH CATTLE BREEDING FEDERATION

Weight Predictions. Birth, live-weight & slaughter.

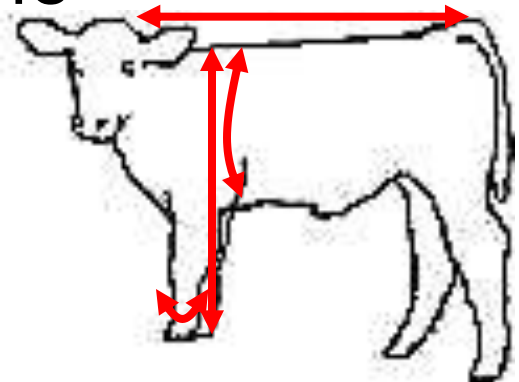
26th June 2012.

Birth weight predictions

Predicting birth weights from
linear measurements taken
at calving

Data

- Birth weights (BW) and linear measurements recorded on farm
 - 819 usable records to date
 - Linear measures = chest circumference, canon bone circumference, height at length of back



Descriptive stats

Breed		
	N	% Xbred
LM	245	71%
CH	194	84%
BB	89	81%
SI	78	67%
HE	73	29%
AA	46	28%
PT	36	78%
BA	16	100%
SA	16	0%
FR	15	87%
ZZ	6	100%
HO	5	100%
Total	819	69%

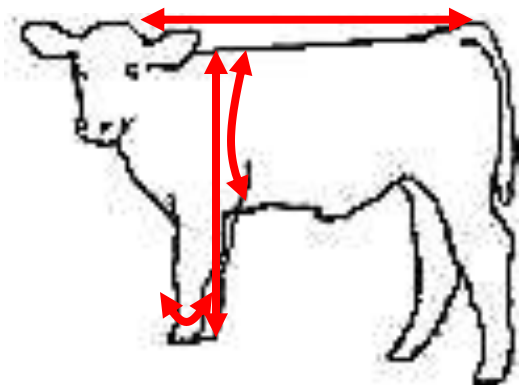
Correlation between linears				
	Chest	Canon	Should.	Length
Chest	1.00			
Canon	0.53	1.00		
Should.	0.61	0.45	1.00	
Length	0.32	0.39	0.33	1.00

Calving scores	Count	%
1	607	74
2	114	14
3	32	4
4	13	2
Missing	53	6

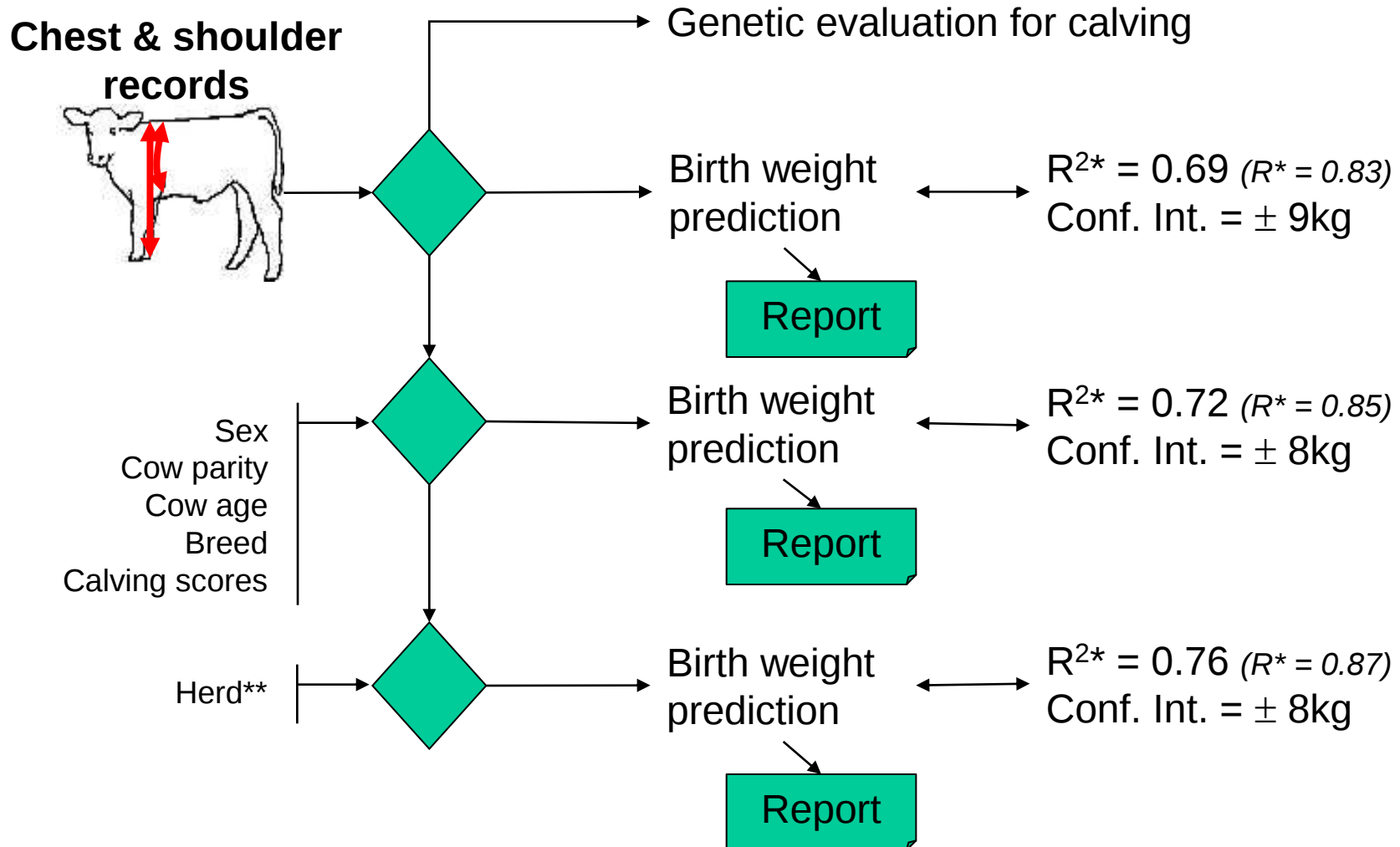
Correlations linears / BW

- Collecting 4 measurements
 - Probably too much
- Minimum recordings 2 / 4 measurements
 - Chest circumference
 - Height at shoulder

Linears	R ² *	Confidence interval
Chest	0.64	± 9kg
Shoulder	0.46	± 11kg
Canon	0.24	± 14kg
Length of back	0.15	± 14kg



Predicting birth weights



** need some true BW to estimate herd solution

Live weight predictions

Predicting live weights to a specific age
Or predicting age to a specific weight

Reference population

- To model growth curve from birth to 900days
 - Animals with at least 3 weightings
 - 27,017 weights from 8,568 animals

Validation test

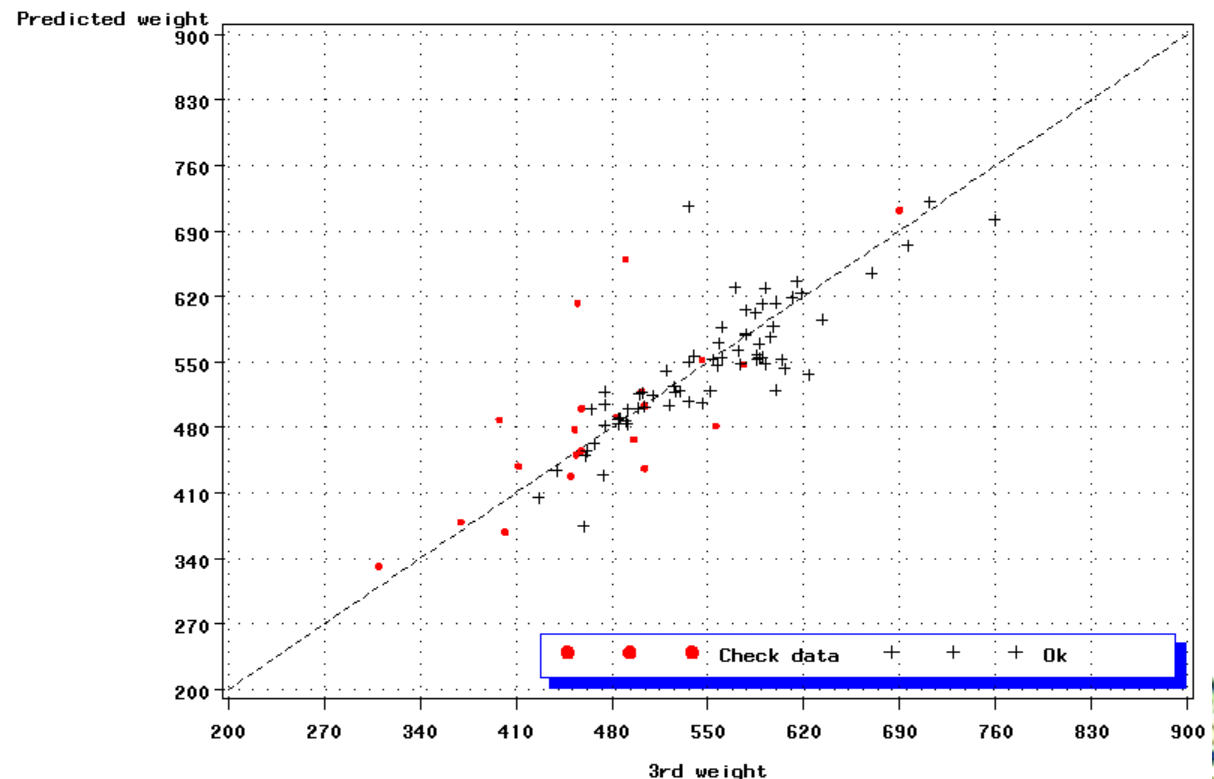
- Data from 15 Better Farms
- From animals born after 2008
- Animals where $ADG < 0.200$ kg/day or $ADG > 2.000$ kg/day were kept in the file but flagged.
- The first 2 weightings were used as predictors weights ($n = 178$ records)
- The target weight was the first weight taken after 550 days of age ($n = 89$ records)

Validation test

$$R^2 = 0.69 \text{ (} R = 0.83 \text{)}$$

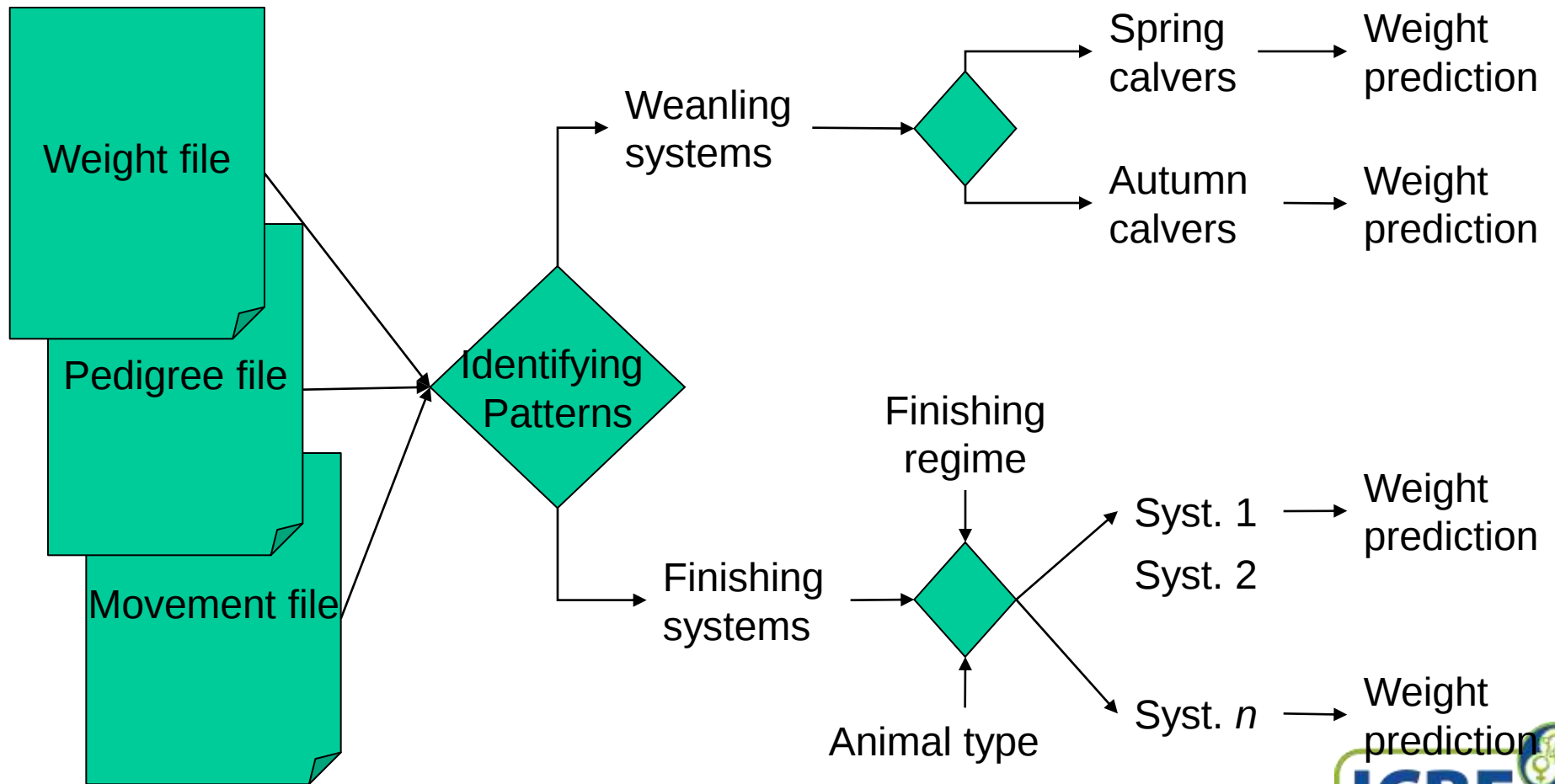
Correlation True weight — Predicted weight
2 weight(s) to predict 3

Quantile of difference (true - predicted weight)	
Quantile	Estimate
100% Max	87
99%	87
95%	67
90%	45
75% Q3	25
50% Median	1
25% Q1	-16
10%	-35
5%	-59
1%	-180
0% Min	-180



Current investigations

- Creating farm systems

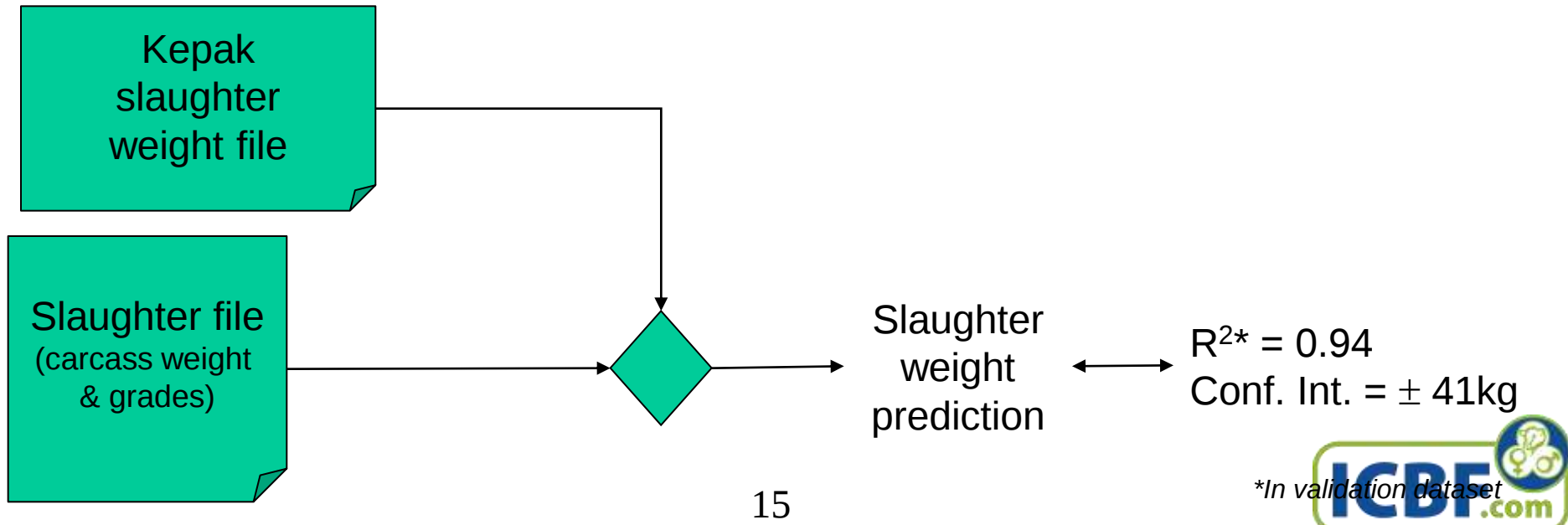


Live weight at slaughter predictions

Predicting live weights at
slaughter

Kepak farm data

- +7,000 heifers & young bulls
- Finished on the same farm
- Weighed prior to slaughter





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ICBF Weight recording service.

26th June 2012.

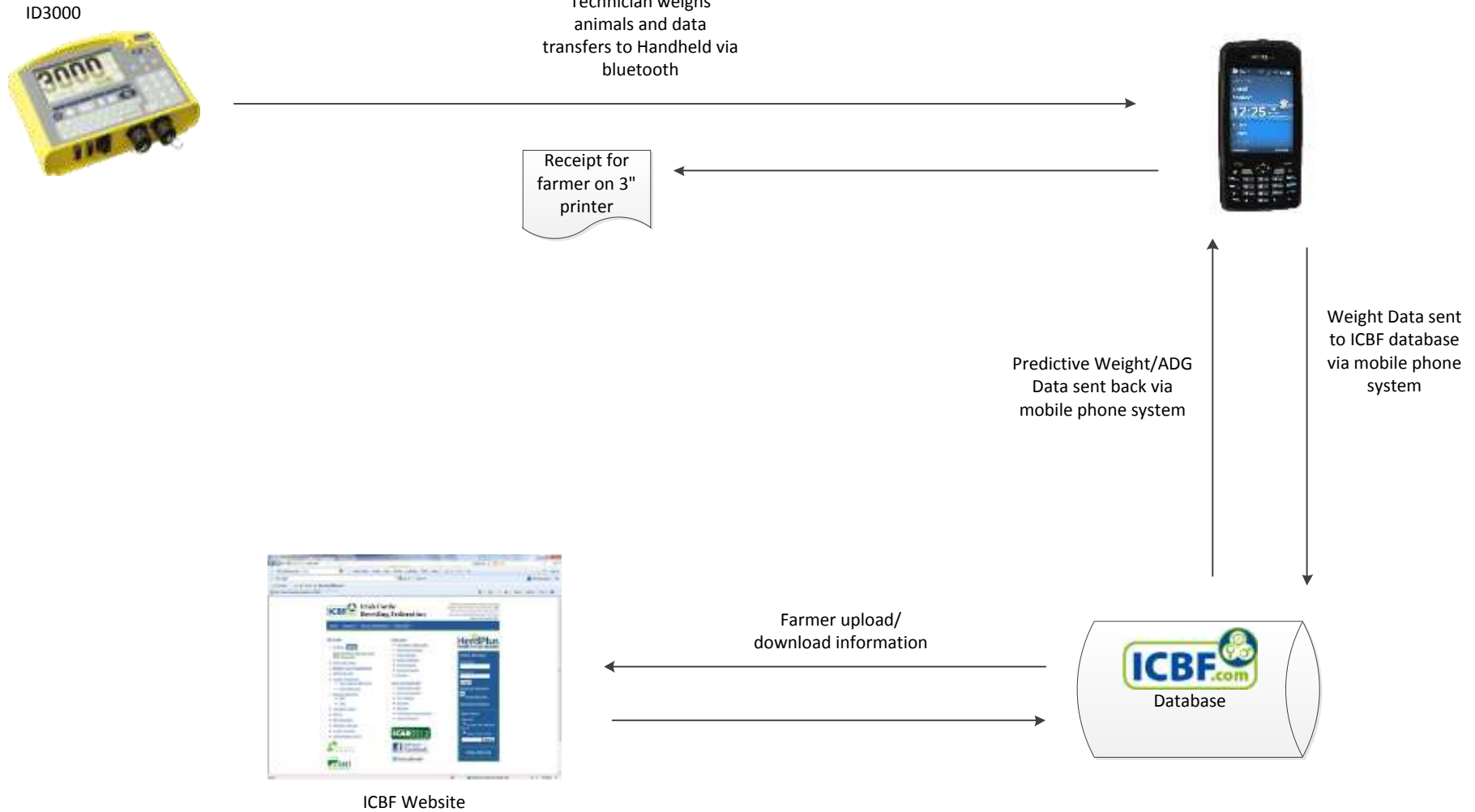
Prerequisites

- The farmer is a member of Herdplus
- The farmer signs up for the ICBF weighing service
- Pays by direct debit / credit card

The Technology

- Trutest ID3000 indicator with bluetooth capability.
- Trutest weigh beams
- Split platform
- Psion EP10 handheld
- Intermec 3'' printer

The Process



Process

- Farmer signs up for Weighing Service
- Allocated to a technician depending on area
- Farmer/Technician provided with Optimum Weighing dates
- Technician weighs animals
- On day of weighing farmer is provided with print out showing predicted weights and ADG
- Online reports are available on Herdplus website

The Outputs

- 3" till receipt printed on farm – with weight/ADG/forecast weight
- On-line reports available
- Printed report

3" Receipt

On-Farm Weighing Printout

TEAGASC
TEAGASC DAIRY HUSBANDARY, MOOREPARK, FERMOY
BTE: D3641083
Print Date: 26-Mar-2012 16:56:45
Cell id: 62221203261534174

Group: 1 Prediction: 01-Jul-12

Tag	Sex	Age	Wt.	ADG	Pred	No.
		Mts	Kgs	Birth	Kgs	*
22435	F	235	554	0.19	0	149
23689	F	162	596	0.30	0	104
42924	F	203	562	0.22	0	117
43996	F	136	618	0.38	0	104
52264	F	237	584	0.20	0	164
61104	F	191	588	0.25	0	150
64105	F	134	522	0.32	0	93
84008	F	135	512	0.31	0	86
92953	F	196	562	0.23	0	143
93282	F	177	596	0.28	0	97

Avg:

On-Farm Weighing Printout

SEAMUS GALVIN
BANOGUE, CROOM, CO LIMERICK,
BTE: M1581619
Print Date: 26-Mar-2012 11:02:15
Call id: 62221203231649539

Group: 0
Desc: None Prediction: 23-Mar-12

Tag	Sex	Age	Wt.	ADG	Pred	No.
		Mts	Kgs	Birth	Kgs	*
24061	F	60	486	0.68	384	2
50522	M	79	512	0.54	491	2
Avg:		69	499	0.61	438	2

Group: 1 Prediction: 01-Jul-12

Tag	Sex	Age	Wt.	ADG	Pred	No.
		Mts	Kgs	Birth	Kgs	*
74025	F	71	458	0.61	468	2
91614	F	70	452	0.61	517	1
94225	F	44	489	1.14	523	1
44014	F	73	542	0.70	529	2

Avg: 64 485 0.77 509 1

* More weights recorded = more accurate predictions.
**NA = Predicted Weight not possible.

On-line Report

The “Weight Recording Detail” screen gives a breakdown for each animal of the weight for the latest recording along with the “ADG from birth”. Click on the jumbo or animal number for more details.

Firefox | ICBF | Weight Event | lindev/taurus/weight_animal_summary.php | Google

ICBF Web Application | Niall Naughton | Logged in at : 09-May-2012 13:18

HERDPLUS | TAURUS | SERVICES | GENE IRELAND | LOG OFF

BACK

WEIGHING DETAILS

Weight | Calc Latest Summary

Print | Download

Click Column Heading to sort by that attribute. Number of Animals Displayed : 64 | Reset

FB Jumbo	Animal Number	Date of Birth	Breed	Sex	Last Weight Date	Last Weight (Kgs)	A.D.G from Birth (Kgs)
207	IE201357910207	23-JAN-11	LM (76%), BB (13%)	F	29-FEB-12	317	.68
	IE201357960211	18-APR-11	LM (72%), CH (19%)	M	29-FEB-12	328	.89
213	IE201357980213	08-MAY-11	LM (86%), SH (9%)	F	29-FEB-12	336	.99
LM539	IE371199830539	19-APR-09	LM (100%)	M	09-FEB-10	342	1
201	IE201357940201	11-JAN-11	LM (94%)	F	29-FEB-12	346	.74
	IE201357950210	15-MAR-11	LM (83%), BB (22%)	M	29-FEB-12	400	1
209	IE201357930209	13-MAR-11	LM (84%), CH (13%)	F	29-FEB-12	400	1.01
198	IE201357910198	30-DEC-10	LM (94%)	F	29-FEB-12	440	.93
	IE201357920208	24-FEB-11	LM (91%)	M	29-FEB-12	448	1.08
200	IE201357930200	06-JAN-11	LM (50%), CH (34%)	F	29-FEB-12	452	.96
	IE201357990197	29-DEC-10	LM (94%)	M	29-FEB-12	508	1.07
	IE201357950202	17-JAN-11	LM (84%), CH (13%)	M	29-FEB-12	510	1.13
	IE201357980205	20-JAN-11	LM (97%)	M	29-FEB-12	524	1.18
	IE201357970212	08-APR-11	LM (94%)	M			
	IE201357910216	24-DEC-11	LM (97%)	M			
	IE201357920216	27-DEC-11	LM (94%)	M			
	IE201357940218	28-DEC-11	LM (78%), BB (13%)	M			
	IE201357980221	08-FEB-12	LM (94%)	M			
	IE201357980222	12-FEB-12	LM (97%), SH (3%)	M			
	IE201357930225	17-FEB-12	LM (94%)	M			
	IE201357940226	20-FEB-12	LM (50%), CH (34%)	M			

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Post-Weighing Report

		Weight Recording Summary		 LoCall 1850 600 900	
INCH	Herd Owner:	KEITH MEREDITH			
BALLYLINAN	Herd No:	IE2213218			
ATHY CO KILDARE	Print Date:	09/05/2012			
	Weigh Date:	09/05/2012			
1(1)					

Animal Performance						
Groups	No. of Animals	Avg. Age & Weight	A.D.G Birth	No. Matched from last Weighing*	A.D.G from last Weight	Days since Last Weight
HEIFERS	15	13.38mts /426Kgs	.93			
ALL	15	13.38mts /426Kgs	.93			

Dam's Progeny Performance						
Groups	1st Calvers	2nd Calvers	3rd Calvers	4th Calvers	5th Calvers	6th Calvers +
	NBR/Age Weight / A.D.G	NBR/Age Weight / A.D.G	NBR/Age Weight / A.D.G	NBR/Age Weight / A.D.G	NBR/Age Weight / A.D.G	NBR/Age Weight / A.D.G
ALL						
HEIFERS		1/ 13.39mts/ 417Kgs/ .91		5/ 13.41mts/ 436Kgs/ .96	1/ 13.52mts/ 427Kgs/ .93	1/ 13.58mts/ 462Kgs/ 1.01

Sire's Progeny Performance							
Sires		No. of Progeny	Avg. Age & Weight	A.D.G - Birth	No. Matched from last Weighing	A.D.G from last Weight	Days since last Weight
Tag Number	Breed						
IE24140 1380068	CH	31	11.97mts /467Kgs	1.16			
IE24124 1610892	LM	1	14.74mts /465Kgs	.94			
IE37149 0410279	LM	9	11.57mts /424Kgs	1.08			
IE22106 2770496	LM	2	12.62mts /437Kgs	1.03	2	.52	139
RHI	CH	1	10.11mts /410Kgs	1.00			

Weight Recording Animal



LoCall 1850 600 900

INCH
BALLYLINAN
ATHY CO KILDARE

Herd Owner: KEITH MEREDITH
Herd No: IE2213218
Print Date: 09/05/2012
Weigh Date: 09/05/2012

1(2)

HEIFERS

Animal Details		Animal Weights				Weight Predictor		
Animal ID I&R Tag Sire Dam	DOB Sex	Weighing Details	Weighing Dates			09/07/2012		
			2nd Last Weight	Last Weight	09/05/2012			
0944 IE221321810944 IE351079221136 IE221321890308	13/04/2011 Female	Weight /Age A.D.G - Birth A.D.G - Last Wgt			382Kgs /12.87mts .86	426Kgs		
0903 IE221321810903 IE301104050669 IE221408510265	15/03/2011 Female	Weight /Age A.D.G - Birth A.D.G - Last Wgt			488Kgs /13.81mts 1.05	527Kgs		
0899 IE221321860899 IE351079221136 IE221321860643	14/03/2011 Female	Weight /Age A.D.G - Birth A.D.G - Last Wgt			440Kgs /13.84mts .94	480Kgs		
0916 IE221321860916 IE351079221136 IE221408590297	23/03/2011 Female	Weight /Age A.D.G - Birth A.D.G - Last Wgt			408Kgs /13.55mts .87	447Kgs		
0950 IE221321880950 IE351079221136 IE221321830665	21/04/2011 Female	Weight /Age A.D.G - Birth A.D.G - Last Wgt			418Kgs /12.61mts .97	461Kgs		
0930 IE221321840930 IE351079221136 IE221321830302	30/03/2011 Female	Weight /Age A.D.G - Birth A.D.G - Last Wgt			400Kgs /13.32mts .87	442Kgs		
0912 IE221321820912 IE351079221136 IE221321870173	21/03/2011 Female	Weight /Age A.D.G - Birth A.D.G - Last Wgt			403Kgs /13.61mts .86	445Kgs		
0894 IE221321810894 IE351079221136 IE221321880208	11/03/2011 Female	Weight /Age A.D.G - Birth A.D.G - Last Wgt			455Kgs /13.94mts .96	495Kgs		

Operation of service.

- System now fully tested.
 - Monaghan & Kildare.
- Team of operators identified.
 - Initially 10 people covering West.
- Strong interest in service.
- Keenly priced.
 - €60 for herd call-out (includes first 15 animals free). €2.50/animal thereafter.
- Launch in early July.

Integration with GROW.

- Seem-less integration.
- Pedigree breeders will continue to use GROW service (linear scoring & weight recording).
- New systems will promote 3 weights in animals life-time.
 - Birth (farmer), pre-weaning (farmer/weight recorder) & post-weaning (GROW).



IRISH CATTLE BREEDING FEDERATION

Implementation of Beef €uro - Stars.

26th June 2012.

Update.

- First meeting of implementation group has taken place.
- Three sub-groups established.
 - Research.
 - Presentation of material.
 - Implementation plan.
- Implementation from end-August (new proofs “live”).
 - Not all systems will be complete. Phased development & roll-out.

Research Sub-group.

- Undertake analysis to establish accuracy of new indexes.
 - Correlation between milk yield in Derrypatrick herd and new maternal weaning weight = 0.56 (expected to be 0.26).
 - New proofs for “own herds”.
- Identify issues for further investigation.
 - Age at first calving (definition of contemporary group).
 - Maternal milk – 1st crosses from dairy herd.
 - Others.....

Presentation of material.

- Priority work areas;
 - ICBF bull search (& link to HB on-line).
 - Catalogue page.
- Sub-group has met. Group update this afternoon.
 - Meeting with stakeholder in July re: propositions (including feedback).

Implementation Plan.

- Key elements.
 - Teagasc/ICBF Suckler cow conference (early October).
 - BTAP program.
 - Linking in with marts (display boards, catalogues.....).
 - Media campaign.
 - Others.....



IRISH CATTLE BREEDING FEDERATION

**New GEN~~€~~N~~€~~IR~~€~~LAND
maternal beef breeding
program.**

26th June 2012.

New GENE IRELAND maternal beef breeding program

1. Bull breeder herds

- ✓ Best practice for herds
- ✓ Benefits to the breeder

2. Bulls in AI

- ✓ Selection
- ✓ Collection and distribution of semen
- ✓ Purchase and sale of bulls

3. GENE IRELAND progeny test

- Progeny test structure
 - ✓ On-farm
 - ✓ Tully

1. Bull breeder herds

- ❖ GEN€ IRELAND (GI) prepares terms and conditions
- ❖ GI recruits the herds
 - Voluntary program
- ❖ GI provides a range of services
 - Mating advice for elite cows
 - Access to stored semen from GI AI bulls
- ❖ GI gives guidance on best practice for:
 - Data collection
 - Herd health
 - Genetics
 - Rearing

1. Bull breeder herds

- ❖ Access to information quality
 - Data herd quality index
- ❖ GI determines if the herd has complied with best practice
 - Herd score annually
 - GI stamp
- ❖ Fee
 - €250 per annum
 - Consultation visit (linear score & weight recording).

2. GI AI bulls

❖ GI decides selection

- New maternal index
- Relatedness to Irish herd
- Disease status

❖ GI purchases the bull

- 5k on average
- Other ownership options (AI company and/or breeder).

❖ 1000 doses of semen collected

- 500 doses for progeny test
- 500 doses retained for elite mating's
 - ✓ GI herds have access to this semen

❖ Bulls sold

- AI (first option) then commercial herds
- GI ownership (short period of time)

3. GI Progeny Test Herds

- ❖ GI produces the catalogue
- ❖ GI recruits herds to use the semen
 - Test herd participation rules
 - Semen distributed through AI field service providers
 - Monitor test herds to ensure best practice
- ❖ GI purchases progeny to be evaluated at Tully
 - Feed intake/efficiency
 - Carcass/meat eating quality
 - Health/disease traits

Ownership & Direction

- ❖ GI program approved by ICBF board
 - Tully progeny test program
- ❖ Funded from ICBF's annual budget.
- ❖ Program would be “owned” by ICBF.
- ❖ Technical direction provided by stakeholder group.
 - Breed working groups especially for larger breeds.
 - Technical working group (ICBF, Teagasc & HB) + “sounding board” (bull breeders, Commercial farmers & AI companies) to give direction.
- ❖ Reporting to ICBF board.

Where to next?

- ❖ Develop and finalise material
 - ❖ Bull breeder herds
- ❖ Meet with stakeholders
- ❖ Update at the next Industry meeting
 - 25th July
- ❖ Move to implementation
 - Autumn 2012
- ❖ Feedback welcome



IRISH CATTLE BREEDING FEDERATION

Tully Central Progeny Test Centre.

26th June 2012.

Selection Process

- ❖ Capacity for 250 animals per intake at present
- ❖ Initial selection: (database)
 - ✓ Progeny from GENÉ IRELAND bulls
 - ✓ Based on age (gender)
 - ✓ Bulls (n = 80)
 - ✓ Sire & MGS recorded
- ❖ Further selection: (on-farm)
 - ✓ Based on weight & health
- ❖ Additional selection criteria:
 - ✓ 10-15 progeny per sire
 - ✓ Higher numbers for recording female fertility traits
 - ✓ Adequate semen availability

Progeny available

- ❖ GI Bulls <90% reliability on SBV
 - ✓ Currently 42 GI Bulls
 - ✓ 29 have progeny (1st Aug 11 to 30th Sep 11)
- ❖ Proposed edits:
 - ✓ Only target animals with <100% breed fraction
 - ✓ Remove all animals with a pedigree name
 - ✓ Only include animals with a MGS recorded
- ❖ 344 male progeny (162 after edits)

Progeny available

- ❖ Reference sires
 - ✓ Create good genetic links
- ❖ 14 GI Bulls >90% reliability for SBV
 - ✓ 536 male progeny
 - 1st Aug 2011 and 30th Sep 2011
 - 210 after edits
- ❖ 12 bulls on the Active Bull List
 - ✓ Adequate semen available
 - ✓ CH = MVO (65 progeny)
 - ✓ LM = CVV (110 progeny)
 - ✓ SI = DRU (70 progeny)

Purchasing of animals

❖ Purchasing Information:

- ✓ Displayed on the ICBF website
- ✓ Based on market value for 5 star progeny
- ✓ Updated every week
- ✓ Minimum of 3 animals per farm
- ✓ Work with group of 25-35 herds initially
- ✓ Subject to parentage testing for sire

Potential dates

- ❖ 2nd July: Contact farmers with eligible animals
- ❖ 9th July: Start on-farm purchasing/inspections
- ❖ 30th July: Start adoption period at Tully
- ❖ 30th August : Start performance test
- ❖ 30th November 2011: Finish performance test
- ❖ End of test : Animals sent to the factory

Management

❖ Health:

- ✓ IBR, BVD, RSV, PI3, Pasteurella, Blackleg & other clostridia diseases
- ✓ Export T.B test – on-farm

❖ Diet:

- ✓ Standard commercial diet to include roughage



Measurements

- ❖ 90-day testing period
- ❖ Traits recorded:
 - ✓ Average daily gain (kg/day)
 - ✓ Feed conversion efficiency (DMI/ADG)
 - ✓ Linear scores
 - ✓ Scanned muscle and fat depth (mm)
 - ✓ Scrotal circumference (cm)
 - ✓ Carcass grades
 - ✓ Genomics

Novel traits

- ❖ Meat eating quality
 - ✓ Colour, pH, tenderness, taste etc
- ❖ Health traits
 - ✓ Disease resistance
- ❖ Potential female fertility traits?



Overall Benefits

- ❖ Increased reliability & accuracy in proofs of AI sires
 - ✓ Pedigree mating are 70% AI
- ❖ Renewed role in demonstration & education
- ❖ Additional data collected
- ❖ Validate genomics in Beef
- ❖ Increased profit for farmers

Where to next

- ❖ Collaborating with Teagasc and UCD
 - 3 working groups
 - ✓ Feed intake/efficiency
 - ✓ Carcass and meat eating quality
 - ✓ Health traits
- ❖ Moved to implementation
 - Purchasing 80 bulls
- ❖ Feedback welcome



IRISH CATTLE BREEDING FEDERATION

Stock Bull functionality.

26th June 2012.

Background.

- Purchasing a stock bull – major investment for beef farmers.
- Are there differences between bulls in “stock bull functionality”.
- Range of traits being considered.
 - Number of progeny conceived when the bull is 2-3 years of age. After accounting for “available” cows.
 - Analysis restricted to high data quality herds.
- Objective: to establish a new trait for genetic evaluation.

Farmer survey.

- In addition to analysis of existing data, survey of farmers re: stock bull satisfaction.
- Current & former stock bulls.
- Score bull 1-5 (1=v poor & 5=v good) for range of traits.
 - Docility (of bull & his progeny), calving difficulty, quality of calves, male fertility, lameness, longevity, overall satisfaction...
 - Circle “primary” reason for culling (if dead).
- Plan to post letters over next few weeks.
- Update at next industry meeting.



IRISH CATTLE BREEDING FEDERATION

ICAR Feedback

26th June 2012.

Thoughts/feedback.

- International data & evaluations.
Where next?



IRISH CATTLE BREEDING FEDERATION

Best Practice Document and Data Herd Quality Index Update.

26th June 2012.

Best practice document

❖ Objective:

1. Interpret Euro-Star indexes on beef cattle.
2. Ensure accurate Euro-Star indexes through data recording.

❖ Available on the ICBF website

- Updated in line with the new index change

❖ How do we roll it out to all breeders and when?

- Important part of data collection for new GI program

❖ Feedback welcome

Data Herd Quality Index (HDQI)

- ❖ Objective: An index to help breeders improve quality of data for beef breeding
- ❖ Design and spec are now finalised
- ❖ Development stage
 - Completed Autumn 2012
- ❖ Trail in pedigree herds
 - Feedback from pedigree breeders
- ❖ Move to implementation