

# Trait Correlations and 5-Year Expected Response Resulting from Average Selection Intensity for Lifetime Performance Index (LPI)

Lifetime Performance Index (LPI)		Holstein				Jersey				Ayrshire							
	PI	%	LPI Corr	5-Yr*			PI	%	LPI Corr	5-Yr*			PI	%	LPI Corr	5-Yr*	
Production	PI	40	0.83	534		48	PI	46	0.84	390		46	PI	46%	0.84	390	
Longevity & Type	L TI	32	0.69	42.1		30	L TI	30	0.66	19.5		30	L TI	30%	0.66	19.5	
Health & Welfare	HWI	8	0.57	0.29		10	HWI	4	0.20	0.07		4	HWI	4%	0.20	0.07	
Reproduction	RI	10	0.39	0.13		10	RI	9	0.10	0.04		9	RI	9%	0.10	0.04	
Milkability	MI	5	0.01	0.5		2	MI	11	0.23	0.7		11	MI	11%	0.23	0.7	
Environmental Impact	EI	5	0.00				EI						EI				
<b>Production Index (PI)</b>																	
Milk Yield			0.43		534				0.59		434				0.71		390
Fat Yield	60		0.81		42.1	50			0.74		22.6	60			0.83		19.5
Protein Yield	40		0.74		28.0	50			0.72		17.0	40			0.81		14.9
Fat Deviation			0.56		0.29				0.11		0.04				0.31		0.07
Protein Deviation			0.54		0.13				0.16		0.03				0.35		0.04
Lactation Persistency			0.10		0.5				0.37		1.2				0.27		0.7
<b>Longevity &amp; Type Index (L TI)</b>																	
Herd Life	20		0.64		3.4	20			0.24		0.8	40			0.57		1.7
Conformation			0.51		3.2				0.36		1.7				0.52		1.8
Mammary System	37		0.47		2.9	40			0.38		1.6	38			0.46		1.6
Feet & Legs	33		0.46		2.7	40			0.13		0.7	22			0.62		2.3
Dairy Strength	5		0.07		0.5				0.20		0.9				0.26		1.0
Rump	5		0.09		0.6				0.16		0.7				0.35		1.3
<b>Health &amp; Welfare Index (HWI)</b>																	
Mastitis Resistance	47		0.44		2.1	45			0.50		1.8	50			0.29		0.9
Somatic Cell Score			0.46		2.8				0.50		2.1				0.29		1.1
Metabolic Disease Resistance	27		0.40		2.1	40			0.19		0.4	30			0.06		0.2
Hoof Health	21		0.27		1.4				0.00		0.0				0.00		0.0
Cystic Ovaries	5		0.20		1.0	15			0.05		0.1	20			-0.02		0.0
Metritis			0.37		1.9				-0.03		-0.1				0.19		0.6
Retained Placenta			0.19		1.0				-0.04		-0.1				0.22		0.7
<b>Reproduction Index (RI)</b>																	
Daughter Fertility	90		0.32		1.6	90			0.27		0.9	90			0.10		0.2
Daughter Calving Ability	10		0.58		2.8	10			0.26		0.8	10			0.40		1.0
Calving Ability	0		0.34		1.9				-0.02		0.0				0.23		0.8
<b>Milkability Index (MI)</b>																	
Milking Speed	25		0.03		0.1	20			0.16		0.5	30			0.26		0.7
Temperament	18		0.10		0.5	20			0.18		0.5	20			0.30		1.0
Udder Depth	15		0.31		2.0	15	Shallow		0.06		0.3	10	Shallow		0.16		0.6
Udder Floor	-6		-0.01		-0.1	-10	Tilt		-0.25		-1.1	-6	Tilt		-0.18		-0.8
Teat Length	36		-0.19		-1.2	35	Short		-0.16		-0.6	34	Short		-0.15		-0.6
Rear Teat Placement			0.03		0.2		Close		0.35		1.4		Close		-0.02		-0.1
Fore Teat Placement			0.15		0.9		Close		0.26		1.0		Close		0.12		0.4
<b>Environmental Impact Index (EI)</b>																	
Methane Efficiency	37		0.19		0.9												
Feed Efficiency	25		0.09		0.5												
Body Maintenance Requirements	38		-0.16		-0.8												

\*5 Yr: Expected genetic gain in the next five years expressed in proof units (Production traits in kilograms, type traits in EBV, and other traits in RBV)