

# **Simultaneous traits selection strategies applied to genomic wide selection to identification of superior genotypes**

**Table S1.** Selection coincidence analysis of the selected individuals in decreasing order of estimated GEBVs by each selection index and the individuals selected by the highest true genetic values, for the simulated traits C1, C2, C3, and C4.

Indexes*	Traits			
	C1	C2	C3	C4
<b>MMg</b>	57.88	52.88	50.00	53.63
<b>MMp</b>	43.75	39.13	39.00	43.38
<b>IRRblup</b>	49.13	35.63	44.25	76.75
<b>IMpls</b>	50.00	36.75	46.13	72.13
<b>IRbcp</b>	22.75	23.75	23.63	16.75
<b>Iplcp</b>	10.63	7.00	26.25	27.63
<b>IRbmed</b>	58.13	54.38	51.88	53.75
<b>IPlmed</b>	52.13	47.25	43.75	45.75
<b>MMRb</b>	56.75	50.63	48.75	52.75
<b>MMPI</b>	50.88	46.50	46.13	46.75
<b>IndRb</b>	55.75	49.50	52.00	57.63
<b>IndPI</b>	47.63	41.50	43.63	49.50

\* MMg: Mulamba and Mock Index applied to true genetic values; MMp: Mulamba and Mock Index applied to phenotypic values; IRRblup: Index weighted by the residual variance through RRblup; IMpls: Index weighted by the residual variance through Mpls; IRbcp: Index effects of coded and standardized markers through RRblup; Iplcp: Index effects of coded and standardized markers through Mpls; IRbmed: Average index of marker effects through RRblup; IPlmed: Average index of marker effects through Mpls; MMRb: Mulamba and Mock Index applied to GEBVs through RRblup; MMPI: Mulamba and Mock Index applied to GEBVs through Mpls; IndRb: Index phenotypic values coded and standardized through RRblup; IndPI: Index of phenotypic values coded and standardized through Mpls.

**Table S2.** Coincidence of the selected individuals in decreasing order of GEBVs for traits C1, C3 and C4 and in ascending order for trait C2, estimated by each selection index and the individuals selected, following the same criteria, by true genetic values.

Indexes	Traits			
	C1	C2	C3	C4
<b>MMg</b>	43.00	3.38	41.13	56.13
<b>MMp</b>	26.13	3.75	32.13	36.75
<b>IRRblup</b>	44.13	0.63	41.75	79.00
<b>IMpls</b>	43.25	0.88	43.75	74.00
<b>IRbcp</b>	16.38	22.13	17.00	27.25
<b>Iplcp</b>	8.75	18.88	22.63	29.13
<b>IRbmed</b>	40.63	2.75	43.63	59.25
<b>IPlmed</b>	32.75	4.63	33.13	42.13
<b>MMRb</b>	39.13	2.13	38.75	56.75
<b>MMPI</b>	30.25	3.63	35.38	43.75
<b>IndRb</b>	41.50	1.88	45.75	64.13
<b>IndPI</b>	29.38	3.88	35.00	45.50

\* MMg: Mulamba and Mock Index applied to true genetic values; MMp: Mulamba and Mock Index applied to phenotypic values; IRRblup: Index weighted by the residual variance through RRblup; IMpls: Index weighted by the residual variance through Mpls; IRbcp: Index effects of coded and standardized markers through RRblup; Iplcp: Index effects of coded and standardized markers through Mpls; IRbmed: Average index of marker effects through RRblup; IPlmed: Average index of marker effects through Mpls; MMRb: Mulamba and Mock Index applied to GEBVs through RRblup; MMPI: Mulamba and Mock Index applied to GEBVs through Mpls; IndRb: Index phenotypic values coded and standardized through RRblup; IndPI: Index of phenotypic values coded and standardized through Mpls.