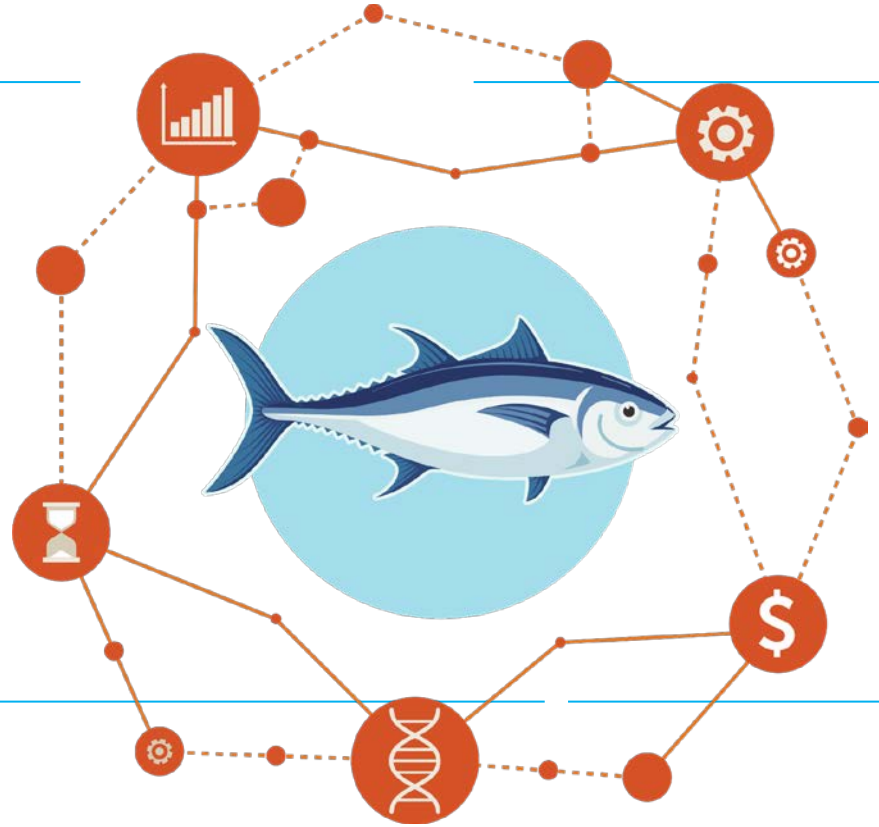
Évaluation de la stratégie de gestion (MSE) pour le thon rouge (BFT)

Matériel supplémentaire

Réunion intersessions de la Sous-commission 2
14 octobre 2022



Références

1. Page de garde: Https://iccat.github.io/abft-mse/ : application Shiny et diagrammes patchwork
2. Guide de décision (PA2_BFT_MSE_OCT_02_FRA) pour la MSE thon rouge de l'Atlantique – Résultats finaux & Guide de décision
3. SCRS_2022_169. Résultats, aspects saillants et interprétations des quatre procédures de gestion potentielles de la MSE pour le thon rouge

Autres diapositives

BR

Primary Performance Quilt Plot

CSV Excel

CMP	Type	Tuning	Variant	West					East					Tot
				PGK (Mean)	AvC10 (50%)	AvC30 (50%)	VarC (50%)	LD (15%)	PGK (Mean)	AvC10 (50%)	AvC30 (50%)	VarC (50%)	LD (15%)	
BR5a	BR	5	a	0.6	2.77	2.43	8.81	0.42	0.6	51.97	41.42	15.6	0.45	0.27
BR6a	BR	6	a	0.71	2.57	2.2	8.21	0.45	0.7	46.49	38.13	14.63	0.51	0.27
BR5c	BR	5	c	0.6	2.74	2.46	10.49	0.4	0.6	48.37	41.28	18.65	0.41	0.68
BR6b	BR	6	b	0.7	2.55	2.18	9.75	0.43	0.7	43.27	37.2	17.14	0.44	0.71
BR5b	BR	5	b	0.6	2.7	2.4	10.37	0.4	0.6	47.75	41.17	17.96	0.38	0.72

Secondary Performance Quilt Plot (East / Eastern)

CSV Excel

CMP	Type	Tuning	Variant	East										Tot
				C1 (50%)	AvC20 (50%)	AvgBr (50%)	Br20 (50%)	Br30 (5%)	LD (5%)	LD (10%)	POF (Mean)	PNRK (Mean)	OFT (P>0)	
BR5a	BR	5	a	40.57	47.63	1.21	1.15	0.44	0.27	0.38	0.11	0.93	0.88	0.52
BR6a	BR	6	a	40.57	44.29	1.34	1.29	0.58	0.33	0.43	0.06	0.97	0.92	0.13
BR5c	BR	5	c	40.57	48.45	1.25	1.21	0.33	0.21	0.33	0.13	0.89	0.85	0.67
BR6b	BR	6	b	40.57	41.81	1.38	1.35	0.42	0.25	0.36	0.08	0.93	0.87	0.41
BR5b	BR	5	b	40.57	48.09	1.26	1.22	0.25	0.17	0.3	0.15	0.87	0.82	0.82

Secondary Performance Quilt Plot (West / Western)

CSV Excel

CMP	Type	Tuning	Variant	West										Tot
				C1 (50%)	AvC20 (50%)	AvgBr (50%)	Br20 (50%)	Br30 (5%)	LD (5%)	LD (10%)	POF (Mean)	PNRK (Mean)	OFT (P>0)	
BR5a	BR	5	a	2.69	2.46	1.37	1.33	0.46	0.2	0.29	0.18	0.86	0.85	0.66
BR6a	BR	6	a	2.69	2.38	1.5	1.47	0.54	0.2	0.3	0.09	0.94	0.92	0.1
BR5c	BR	5	c	2.69	2.64	1.4	1.37	0.43	0.19	0.27	0.18	0.87	0.83	0.72
BR6b	BR	6	b	2.69	2.11	1.53	1.51	0.46	0.18	0.28	0.09	0.94	0.92	0.31
BR5b	BR	5	b	2.69	2.43	1.42	1.39	0.38	0.17	0.27	0.17	0.87	0.84	0.82

FO

Primary Performance Quilt Plot

CSV Excel

CMP	Type	Tuning	Variant	West					East					Tot
				PGK (Mean)	AvC10 (50%)	AvC30 (50%)	VarC (50%)	LD (15%)	PGK (Mean)	AvC10 (50%)	AvC30 (50%)	VarC (50%)	LD (15%)	
FO5a	FO	5	a	0.61	2.89	2.59	14.86	0.4	0.6	46.88	37.19	16.68	0.45	0.28
FO6a	FO	6	a	0.71	2.66	2.37	15.03	0.41	0.7	42.71	33.46	16.45	0.52	0.37
FO5c	FO	5	c	0.62	2.59	2.51	17.41	0.42	0.62	47.15	37.75	19.85	0.41	0.54
FO6b	FO	6	b	0.71	2.43	2.3	17.27	0.42	0.7	43.08	34.46	19.13	0.46	0.66
FO5b	FO	5	b	0.61	2.59	2.51	17.12	0.4	0.6	47.15	38.29	19.35	0.37	0.7

Secondary Performance Quilt Plot (East / Eastern)

CSV Excel

CMP	Type	Tuning	Variant	East										Tot
				C1 (50%)	AvC20 (50%)	AvgBr (50%)	Br20 (50%)	Br30 (5%)	LD (5%)	LD (10%)	POF (Mean)	PNRK (Mean)	OFT (P>0)	
FO5a	FO	5	a	38.29	43.88	1.39	1.35	0.3	0.25	0.36	0.25	0.8	0.83	0.65
FO6a	FO	6	a	38.29	38.87	1.52	1.49	0.45	0.34	0.45	0.13	0.9	0.89	0.11
FO5c	FO	5	c	38.29	44.51	1.39	1.35	0.25	0.21	0.33	0.22	0.81	0.81	0.69
FO6b	FO	6	b	38.29	40.19	1.49	1.46	0.35	0.26	0.37	0.13	0.89	0.87	0.3
FO5b	FO	5	b	38.29	44.97	1.36	1.33	0.18	0.16	0.28	0.24	0.78	0.79	0.88

Secondary Performance Quilt Plot (West / Western)

CSV Excel

CMP	Type	Tuning	Variant	West										Tot
				C1 (50%)	AvC20 (50%)	AvgBr (50%)	Br20 (50%)	Br30 (5%)	LD (5%)	LD (10%)	POF (Mean)	PNRK (Mean)	OFT (P>0)	
FO5a	FO	5	a	2.96	2.81	1.37	1.31	0.37	0.16	0.25	0.19	0.86	0.88	0.74
FO6a	FO	6	a	2.96	2.55	1.48	1.45	0.42	0.16	0.25	0.08	0.94	0.93	0.28
FO5c	FO	5	c	2.96	2.68	1.4	1.36	0.38	0.18	0.27	0.17	0.87	0.88	0.51
FO6b	FO	6	b	2.96	2.44	1.5	1.47	0.38	0.15	0.25	0.08	0.94	0.93	0.35
FO5b	FO	5	b	2.96	2.7	1.39	1.34	0.31	0.14	0.25	0.19	0.85	0.87	0.88

LW

Primary Performance Quilt Plot

CSV Excel

CMP	Type	Tuning	Variant	West					East					Tot
				PGK (Mean)	AvC10 (50%)	AvC30 (50%)	VarC (50%)	LD (15%)	PGK (Mean)	AvC10 (50%)	AvC30 (50%)	VarC (50%)	LD (15%)	
LW5a	LW	5	a	0.6	2.41	2.25	16.52	0.48	0.6	43.96	36.33	18.35	0.45	0.25
LW6a	LW	6	a	0.7	2.04	1.97	16.5	0.5	0.7	38.41	32.08	17.68	0.51	0.33
LW5c	LW	5	c	0.6	2.22	2.22	17.74	0.47	0.6	47.09	37.88	20.25	0.39	0.65
LW5b	LW	5	b	0.6	2.21	2.22	17.34	0.46	0.6	45.02	37.04	19.72	0.37	0.66
LW6b	LW	6	b	0.7	2.02	1.97	17.42	0.47	0.7	37.94	32.22	19.08	0.44	0.74

Secondary Performance Quilt Plot (East / Eastern)

CSV Excel

CMP	Type	Tuning	Variant	East										Tot
				C1 (50%)	AvC20 (50%)	AvgBr (50%)	Br20 (50%)	Br30 (5%)	LD (5%)	LD (10%)	POF (Mean)	PNRK (Mean)	OFT (P>0)	
LW5a	LW	5	a	43.2	40.46	1.33	1.3	0.41	0.27	0.37	0.18	0.87	0.87	0.61
LW6a	LW	6	a	43.2	34.79	1.48	1.47	0.51	0.32	0.43	0.09	0.94	0.91	0.13
LW5c	LW	5	c	43.2	43.16	1.29	1.24	0.31	0.19	0.3	0.16	0.87	0.85	0.8
LW5b	LW	5	b	43.2	41.73	1.3	1.26	0.28	0.18	0.28	0.17	0.86	0.84	0.88
LW6b	LW	6	b	43.2	35.78	1.46	1.42	0.41	0.23	0.35	0.07	0.94	0.89	0.34

Secondary Performance Quilt Plot (West / Western)

CSV Excel

CMP	Type	Tuning	Variant	West										Tot
				C1 (50%)	AvC20 (50%)	AvgBr (50%)	Br20 (50%)	Br30 (5%)	LD (5%)	LD (10%)	POF (Mean)	PNRK (Mean)	OFT (P>0)	
LW5a	LW	5	a	2.45	2.39	1.41	1.37	0.48	0.22	0.32	0.21	0.85	0.86	0.65
LW6a	LW	6	a	2.45	2.07	1.56	1.54	0.55	0.23	0.33	0.12	0.93	0.92	0.13
LW5c	LW	5	c	2.45	2.36	1.44	1.4	0.49	0.22	0.32	0.21	0.85	0.84	0.64
LW5b	LW	5	b	2.45	2.36	1.43	1.4	0.43	0.2	0.3	0.21	0.84	0.84	0.87
LW6b	LW	6	b	2.45	2.06	1.57	1.56	0.49	0.21	0.3	0.12	0.93	0.91	0.37

TC

CMP	Type	Tuning	Variant	West					East					Tot
				PGK (Mean)	AvC10 (50%)	AvC30 (50%)	VarC (50%)	LD (15%)	PGK (Mean)	AvC10 (50%)	AvC30 (50%)	VarC (50%)	LD (15%)	
TC5a	TC	5	a	0.6	2.67	2.4	7.51	0.4	0.6	41.07	36.18	10.01	0.41	0.28
TC6a	TC	6	a	0.71	2.37	2.13	7.09	0.45	0.7	36.33	32.27	9.41	0.49	0.3
TC6c	TC	6	c	0.71	2.33	2.1	8.24	0.43	0.71	36.25	32	11.11	0.44	0.67
TC6b	TC	6	b	0.71	2.33	2.1	8.22	0.43	0.71	35.89	31.69	11.05	0.43	0.68
TC5c	TC	5	c	0.6	2.6	2.39	8.53	0.37	0.6	40.4	36.01	11.9	0.35	0.69
TC5b	TC	5	b	0.61	2.59	2.38	8.49	0.37	0.6	40.12	35.76	11.84	0.34	0.71

Secondary Performance Quilt Plot (East / Eastern)

CSV Excel

CMP	Type	Tuning	Variant	East										Tot
				C1 (50%)	AvC20 (50%)	AvgBr (50%)	Br20 (50%)	Br30 (5%)	LD (5%)	LD (10%)	POF (Mean)	PNRK (Mean)	OFT (P>0)	
TC5a	TC	5	a	41.28	39.02	1.38	1.36	0.38	0.24	0.35	0.18	0.85	0.83	0.67
TC6a	TC	6	a	38.91	34.38	1.52	1.51	0.49	0.32	0.42	0.09	0.93	0.89	0.17
TC6c	TC	6	c	38.5	34.24	1.55	1.54	0.43	0.26	0.36	0.08	0.93	0.87	0.27
TC6b	TC	6	b	38.29	33.86	1.56	1.55	0.42	0.25	0.35	0.07	0.93	0.87	0.27
TC5c	TC	5	c	40.94	38.74	1.41	1.39	0.3	0.18	0.27	0.17	0.84	0.81	0.81
TC5b	TC	5	b	40.78	38.43	1.42	1.39	0.26	0.16	0.26	0.17	0.84	0.81	0.85

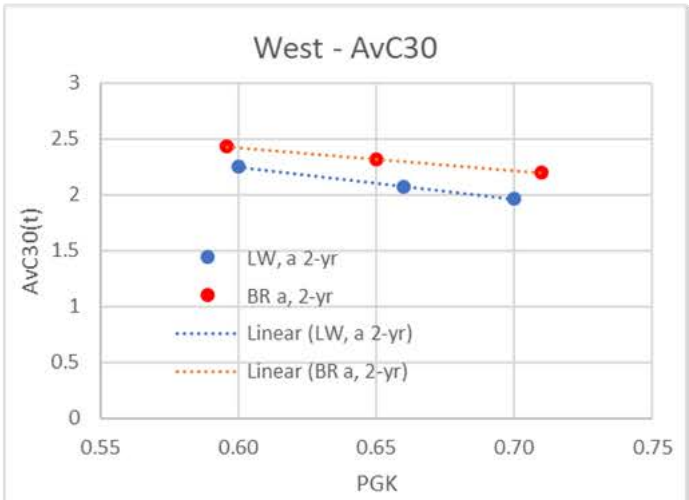
Secondary Performance Quilt Plot (West / Western)

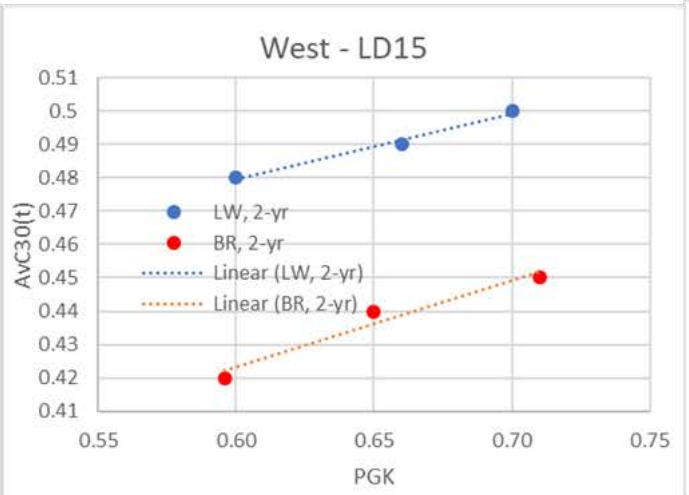
CSV Excel

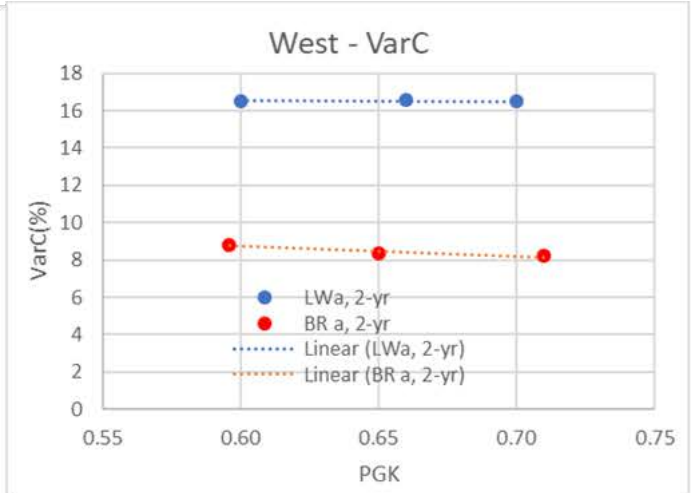
CMP	Type	Tuning	Variant	West										Tot
				C1 (50%)	AvC20 (50%)	AvgBr (50%)	Br20 (50%)	Br30 (5%)	LD (5%)	LD (10%)	POF (Mean)	PNRK (Mean)	OFT (P>0)	
TC5a	TC	5	a	2.65	2.53	1.44	1.43	0.35	0.17	0.26	0.24	0.81	0.87	0.74
TC6a	TC	6	a	2.5	2.23	1.56	1.57	0.46	0.21	0.3	0.12	0.91	0.92	0.2
TC6c	TC	6	c	2.47	2.2	1.59	1.59	0.4	0.19	0.28	0.1	0.93	0.93	0.21
TC6b	TC	6	b	2.46	2.2	1.59	1.6	0.4	0.18	0.28	0.11	0.92	0.93	0.24
TC5c	TC	5	c	2.62	2.5	1.46	1.45	0.3	0.14	0.23	0.22	0.83	0.87	0.81
TC5b	TC	5	b	2.62	2.49	1.46	1.45	0.28	0.13	0.23	0.22	0.83	0.87	0.84

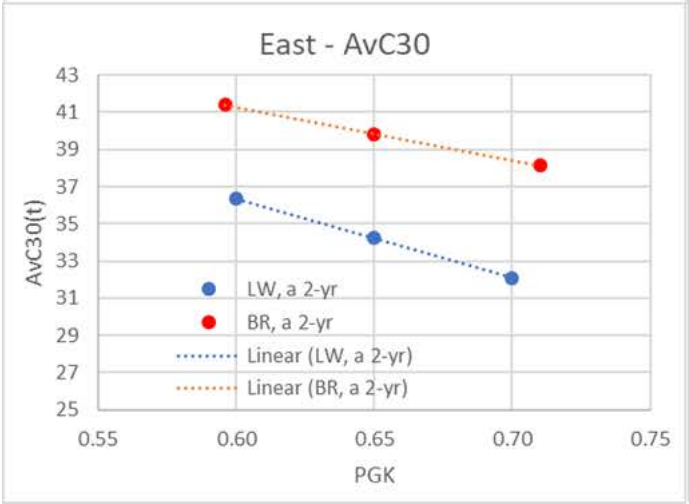
Point de décision n°2 : La performance de PGK65% se situe entre 60 et 70%.

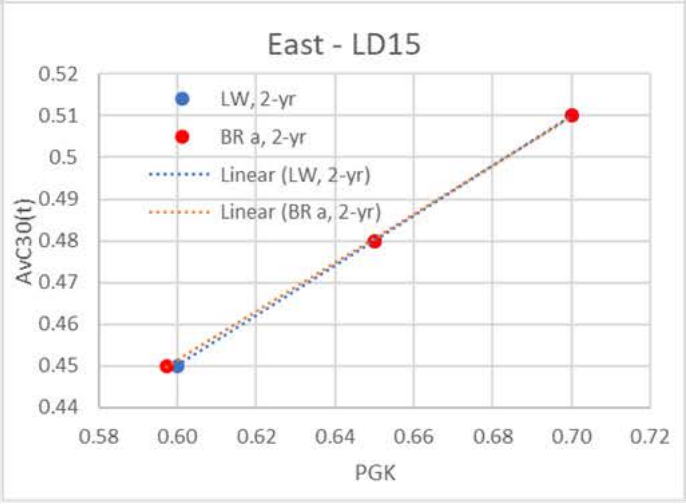
La relation entre PGK et les principales statistiques de performance est linéaire et PGK65 est presque à mi-chemin entre PGK60 et PGK70 pour BR (2 ans) et LW. Pour BR avec un intervalle de 3 ans, les résultats sont similaires.

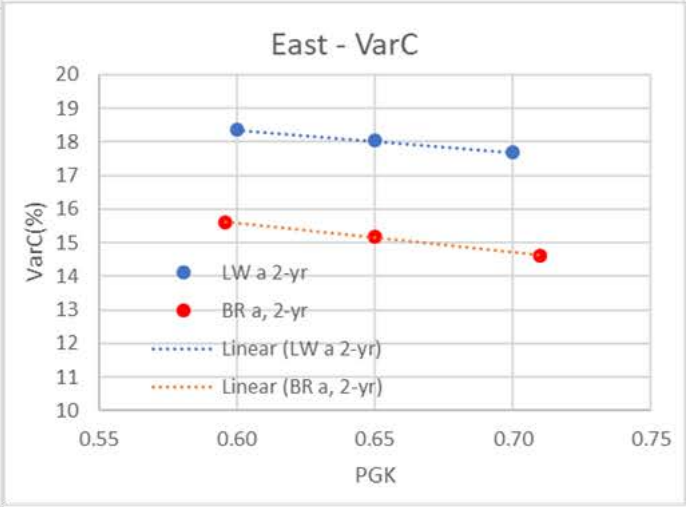












La Sous-commission 2 peut choisir entre 60 et 70, les résultats peuvent être vus par interpolation.

Point de décision supplémentaire éventuel: Modification minimale du TAC

BR a été testé avec une modification minimale du TAC de 100 t (Ouest) et 1.000 t (Est).

La Sous-commission 2 peut choisir n'importe quelle modification minimale du TAC ou aucune, elle pourrait être différente entre l'Est et l'Ouest; les résultats seront presque identiques à ceux des MP existantes, à l'exception d'une VarC plus élevée.

	TAC inter.	PKG	Br30	LD*15%	LD*10%	AvC30	C1	VarC
EAST								
New package - 0.6 vs 0.7 PKG and 2 vs 3 yr intervals								
BR5a	2	**0.60**	1.17 (0.44; 2.15)	0.45	0.38	41.42 (12.29; 75.35)	40.57	15.60 (8.73; 22.76)
BR5b	3	**0.60**	1.17 (0.25; 2.22)	0.38	0.30	41.17 (13.20; 71.21)	40.57	17.96 (10.00; 25.71)
BR6a	2	**0.70**	1.32 (0.58; 2.34)	0.51	0.43	38.13 (11.77; 68.21)	40.57	14.63 (7.55; 22.58)
BR6b	3	**0.70**	1.34 (0.42; 2.42)	0.44	0.36	37.20 (12.73; 64.07)	40.57	17.14 (8.29; 25.78)
WITH MIN CHANGE = 1000mt								
BR5a	2	0.60	1.18 (0.44; 2.16)	0.45	0.38	41.33 (11.24; 75.38)	40.57	15.98 (8.95; 26.12)
BR5b	3	0.60	1.16 (0.25; 2.22)	0.38	0.29	41.17 (12.99; 71.21)	40.57	18.31 (10.03; 26.66)
BR6a	2	0.70	1.32 (0.58; 2.34)	0.51	0.43	38.08 (10.95; 68.21)	40.57	15.18 (7.68; 25.78)
BR6b	3	0.70	1.34 (0.41; 2.43)	0.44	0.36	37.28 (12.65; 64.07)	40.57	17.57 (8.33; 27.37)
Percentage change								
BR5a	2	0.00	-0.85 (0.00; -0.47)	0.00	0.00	0.22 (8.54; -0.04)	0.00	-2.44 (2.52; -14.76)
BR5b	3	0.00	0.85 (0.00; 0.00)	0.00	3.33	0.00 (1.59; 0.00)	0.00	-1.95 -(0.30; -3.70)
BR6a	2	0.00	0.00 (0.00; 0.00)	0.00	0.00	0.13 (6.97; 0.00)	0.00	-3.76 -(1.72; -14.17)
BR6b	3	0.00	0.00 (2.38; -0.41)	0.00	0.00	-0.22 (0.63; 0.00)	0.00	-2.51 -(0.48; -6.17)
WEST								
New package - 0.6 vs 0.7 PKG and 2 vs 3 yr intervals								
BR5a	2	**0.60**	1.25 (0.46; 2.37)	0.42	0.29	2.43 (0.90; 3.60)	2.69	8.81 (4.95; 21.38)
BR5b	3	**0.60**	1.28 (0.38; 2.40)	0.40	0.27	2.40 (0.94; 3.53)	2.69	10.37 (5.51; 24.16)
BR6a	2	**0.71**	1.41 (0.54; 2.53)	0.45	0.30	2.20 (0.87; 3.27)	2.69	8.21 (4.72; 21.07)
BR6b	3	**0.70**	1.45 (0.46; 2.57)	0.43	0.28	2.18 (0.91; 3.20)	2.69	9.75 (5.20; 24.86)
WITH MIN CHANGE = 100mt								
BR5a	2	**0.60**	1.25 (0.46; 2.37)	0.42	0.28	2.44 (0.81; 3.61)	2.73	10.00 (4.70; 30.00)
BR5b	3	**0.61**	1.27 (0.38; 2.40)	0.40	0.26	2.41 (0.91; 3.54)	2.73	10.95 (4.79; 28.94)
BR6a	2	**0.71**	1.42 (0.55; 2.53)	0.45	0.29	2.20 (0.81; 3.27)	2.73	9.61 (4.28; 30.00)
BR6b	3	**0.70**	1.44 (0.45; 2.58)	0.43	0.27	2.19 (0.91; 3.20)	2.73	10.97 (4.40; 30.00)
Percentage change								
BR5a	2	0.00	0.00 (0.00; 0.00)	0.00	3.45	-0.41 (0.00; -0.28)	-1.49	-13.51 (5.05; -40.32)
BR5b	3	-1.67	0.78 (0.00; 0.00)	0.00	3.70	-0.42 (0.19; -0.28)	-1.49	-5.59 (3.07; -19.78)
BR6a	2	0.00	-0.71 -(1.85; 0.00)	0.00	3.33	0.00 (6.90; 0.00)	-1.49	-17.05 (9.32; -42.38)
BR6b	3	0.00	0.69 (2.17; -0.39)	0.00	3.57	-0.46 (0.00; 0.00)	-1.49	-12.51 (15.38; -20.68)

Pourcentage d'années pour lesquelles la variation du TAC est supérieure à 30% (pour 60% PGK et +20/-35)

	E	W
BR5c	6,5%	1,9%
FO5c	6,3%	4,8%
TC5c	2,0%	0,6%
LW5c	7,4%	4,3%

East

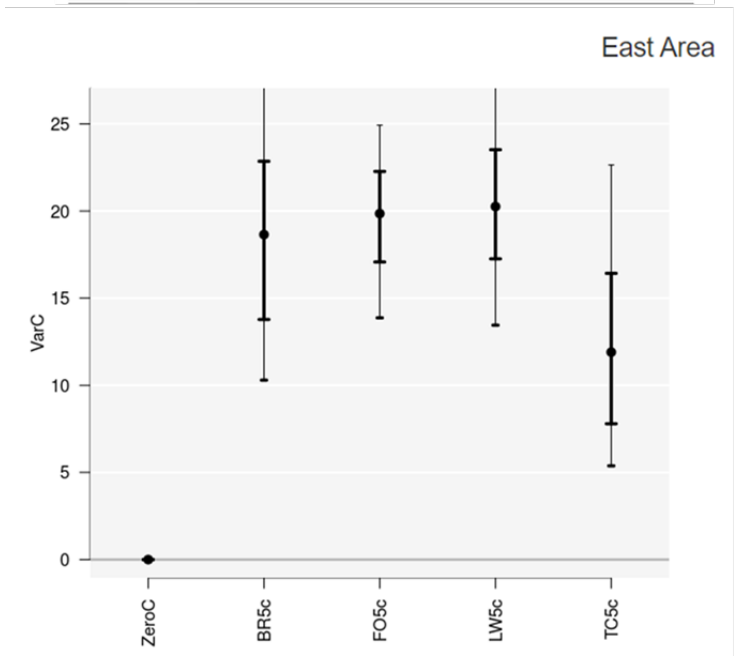
CSV Excel

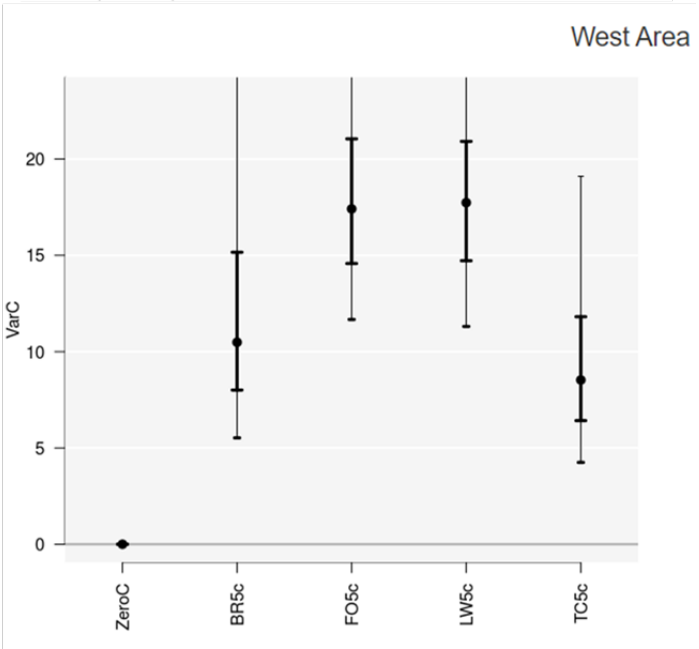
	VarC 2.5 %	VarC 50 %	VarC 97.5 %
ZeroC	0	0	0
BR5c	9.52	18.65	28.96
FO5c	12.97	19.85	25.97
LW5c	12.42	20.25	28.76
TC5c	4.67	11.9	23.85

West

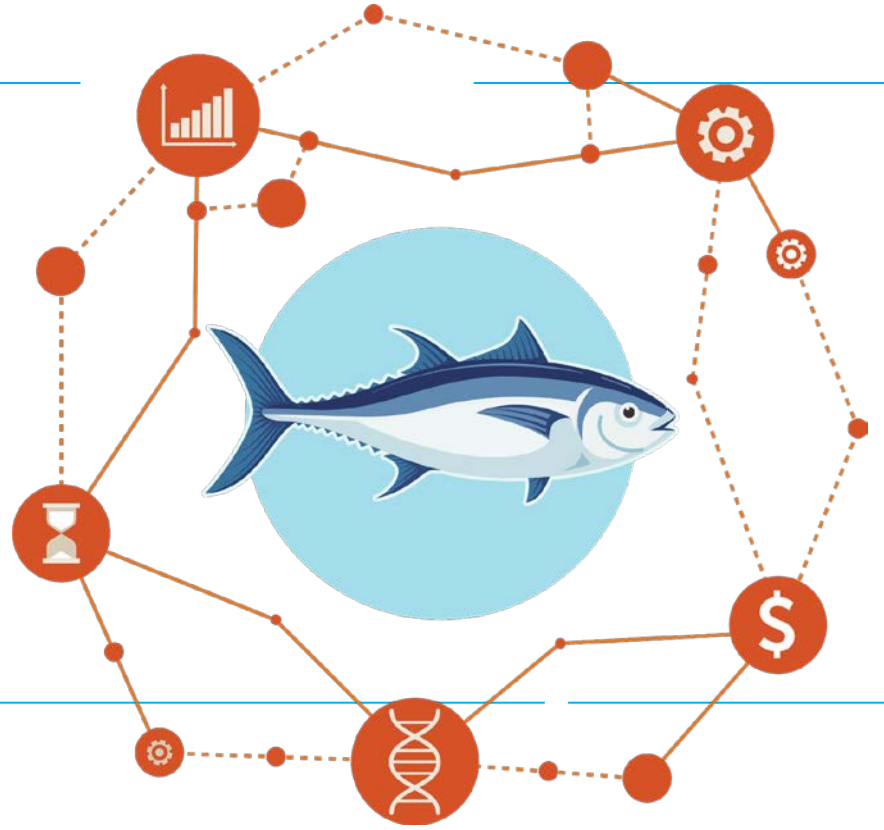
CSV Excel

	VarC 2.5 %	VarC 50 %	VarC 97.5 %
ZeroC	0	0	0
BR5c	4.99	10.49	26.32
FO5c	10.87	17.41	26.64
LW5c	10.42	17.74	26.62
TC5c	3.72	8.53	21.19





BFT Management Strategy Evaluation (MSE)



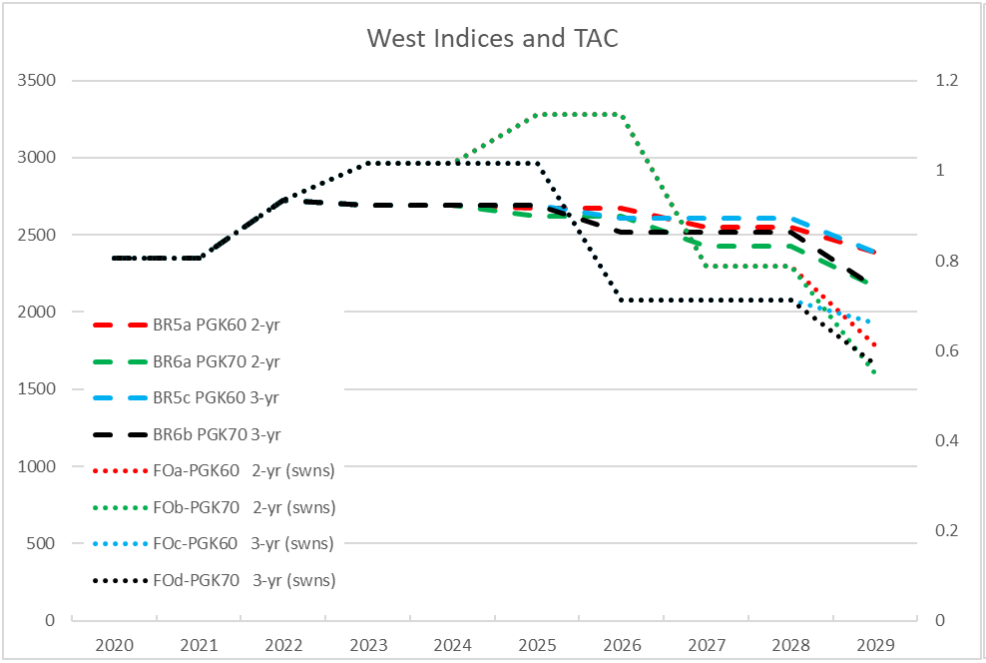
Additional material
Panel 2 Intersessional
14 October 2022

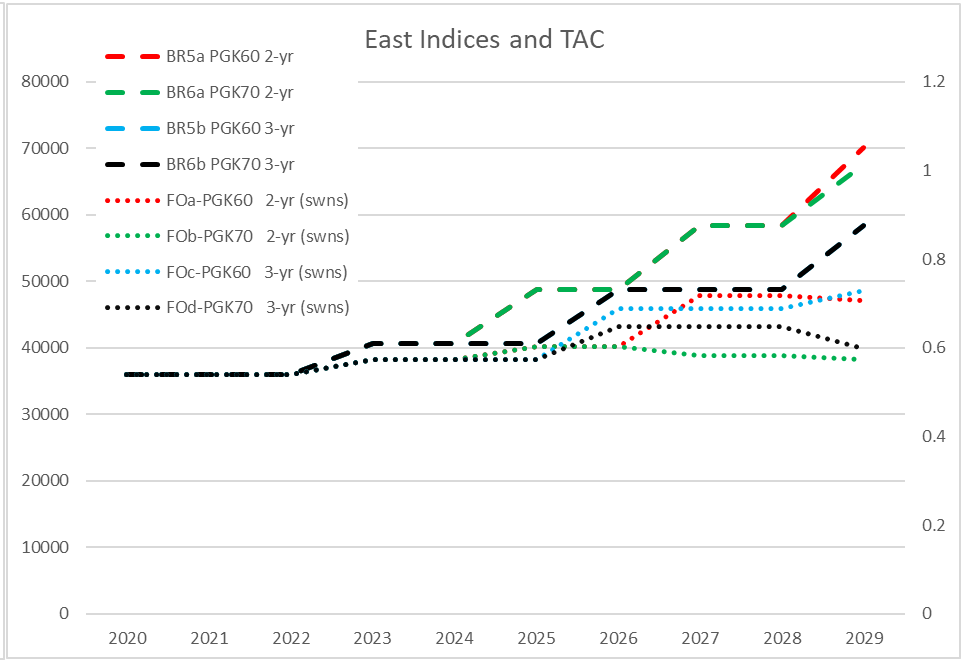
References

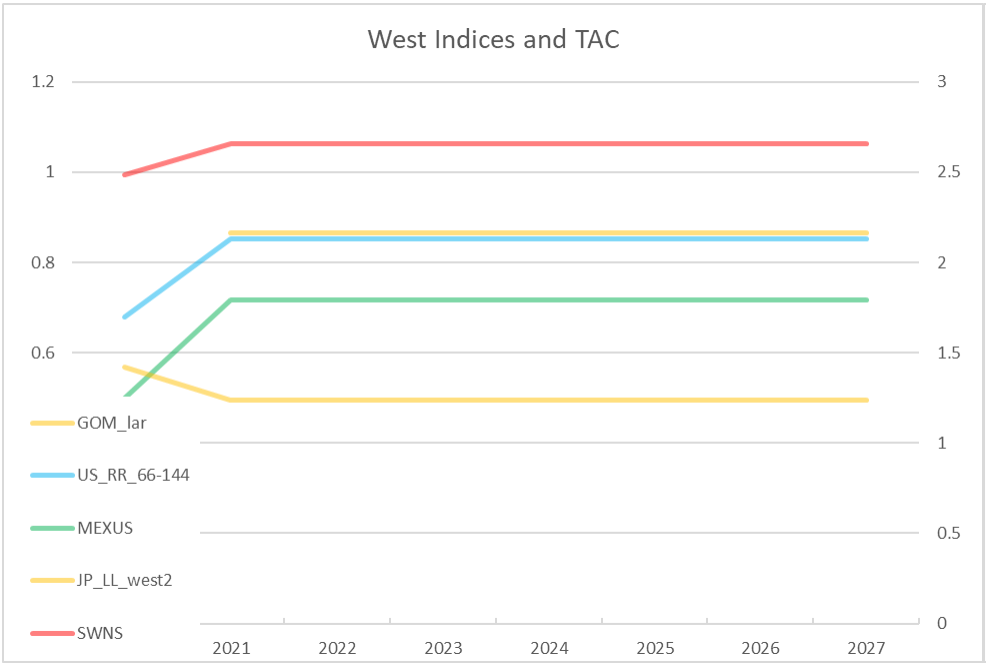
1. Splash Page: https://iccat.github.io/abft-mse/ with Shiny Apps and quilt plots
2. Decision Guide (PA2_BFT_MSE_OCT_02_ENG) Atlantic Bluefin Tuna MSE – Final Results & Decision Guide Package
3. SCRS_2022_169. Results, features, and interpretations of the four remaining BFT MSE candidate management procedures

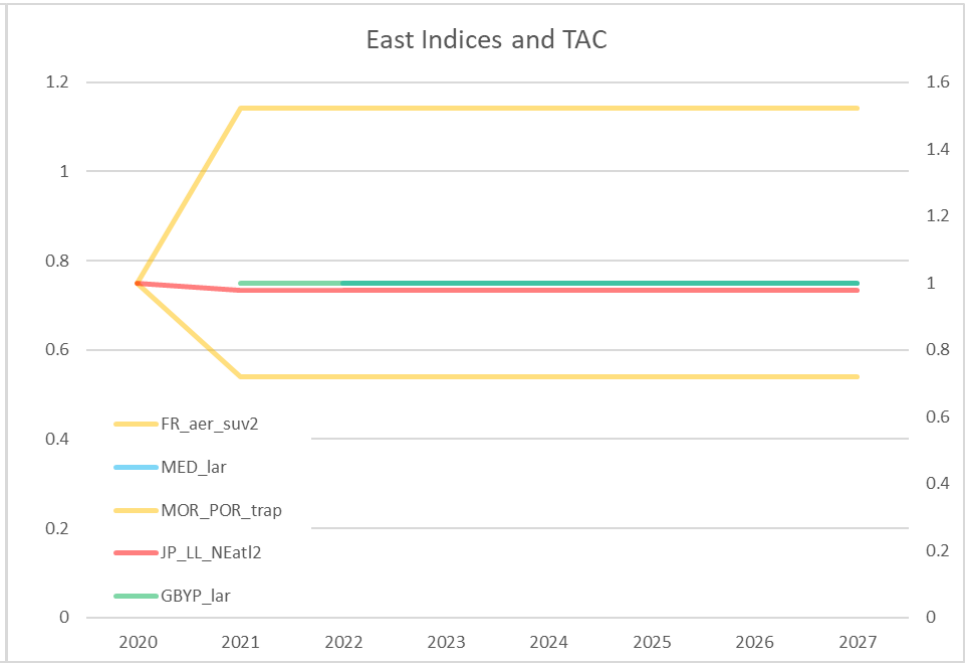
Other Slides/
Autres diapositives/
Otras diapositivas

Constant indices

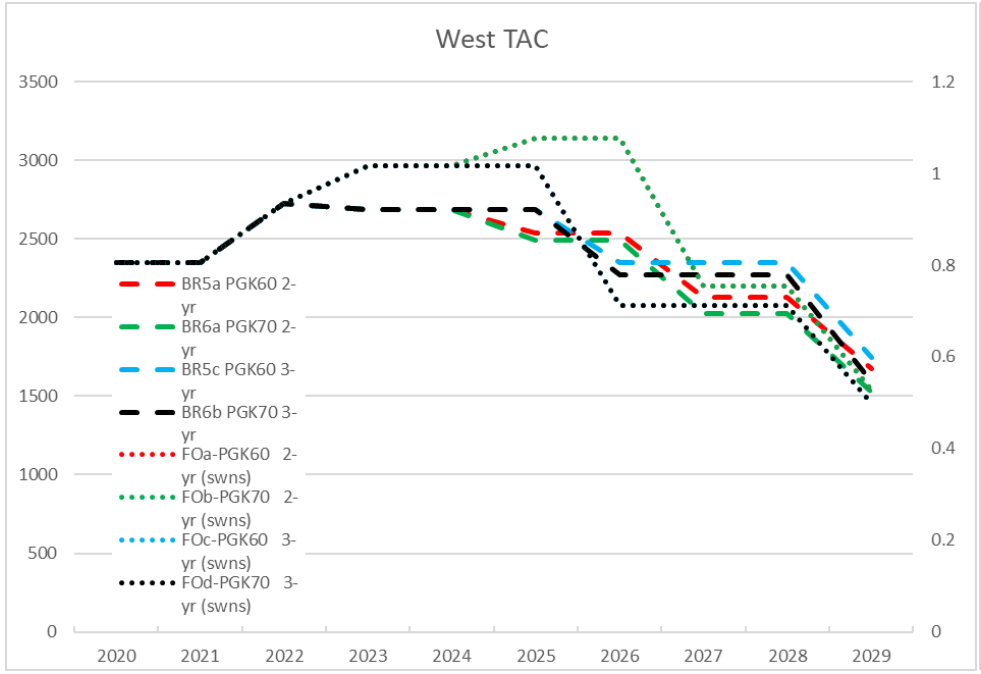


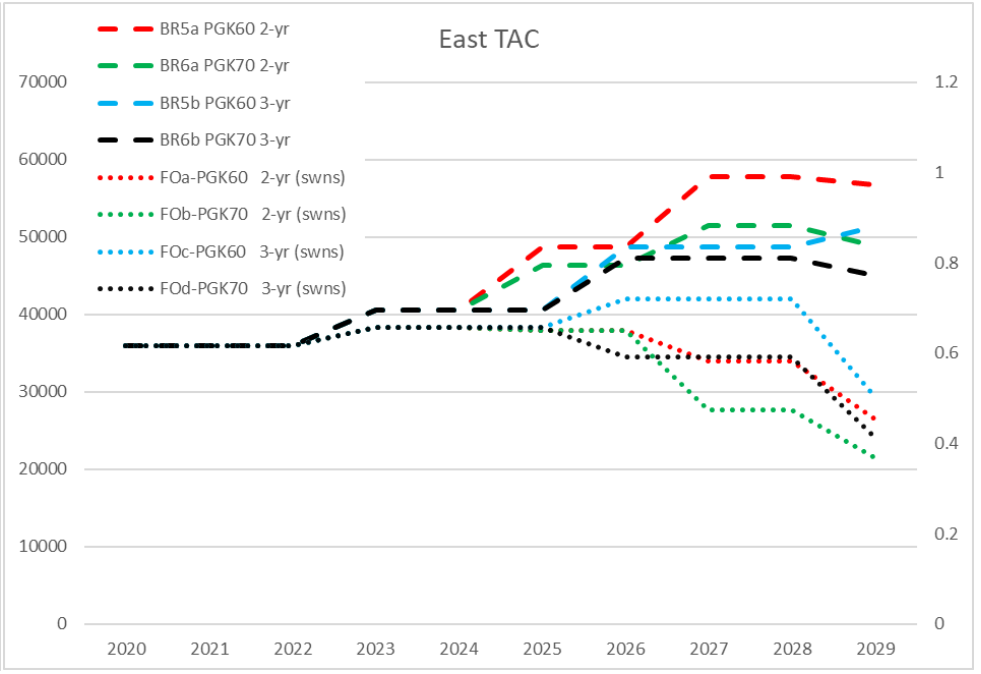


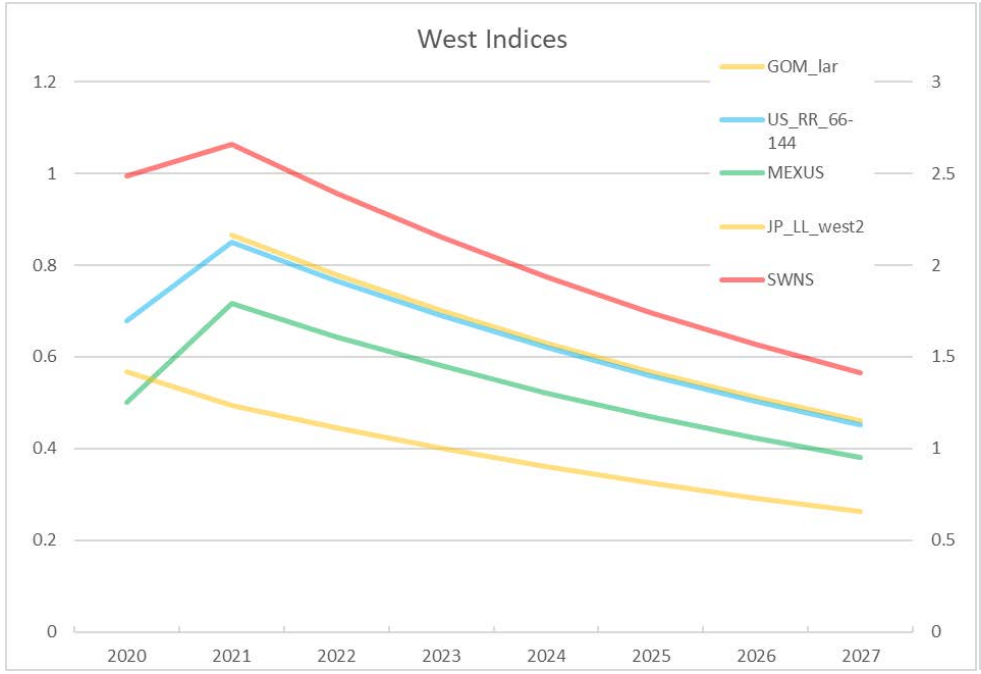


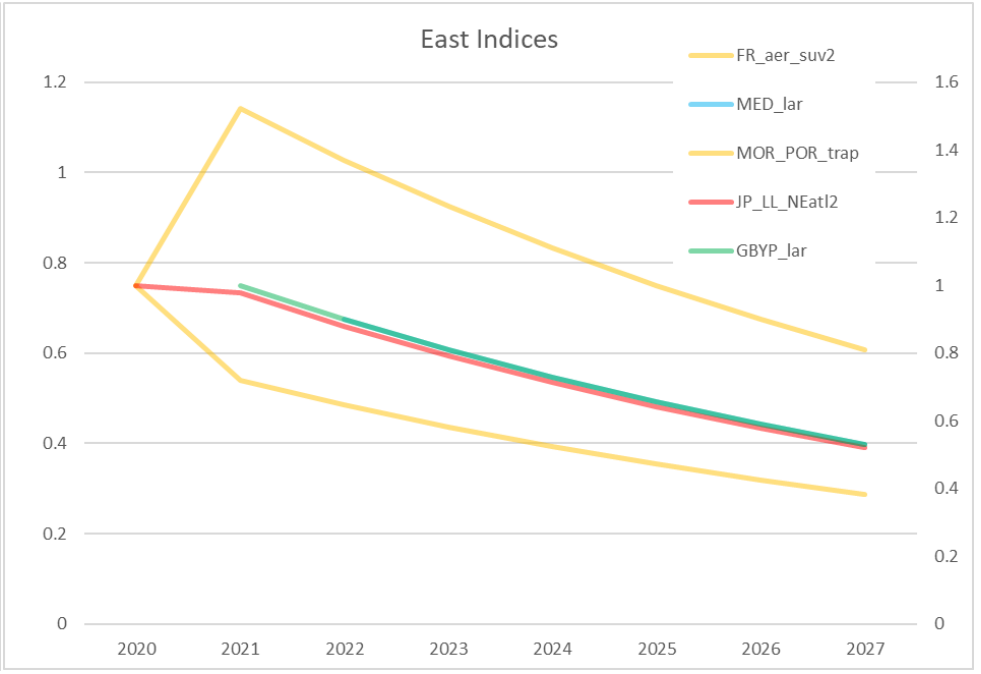


Decreasing indices – 10% decrease each year

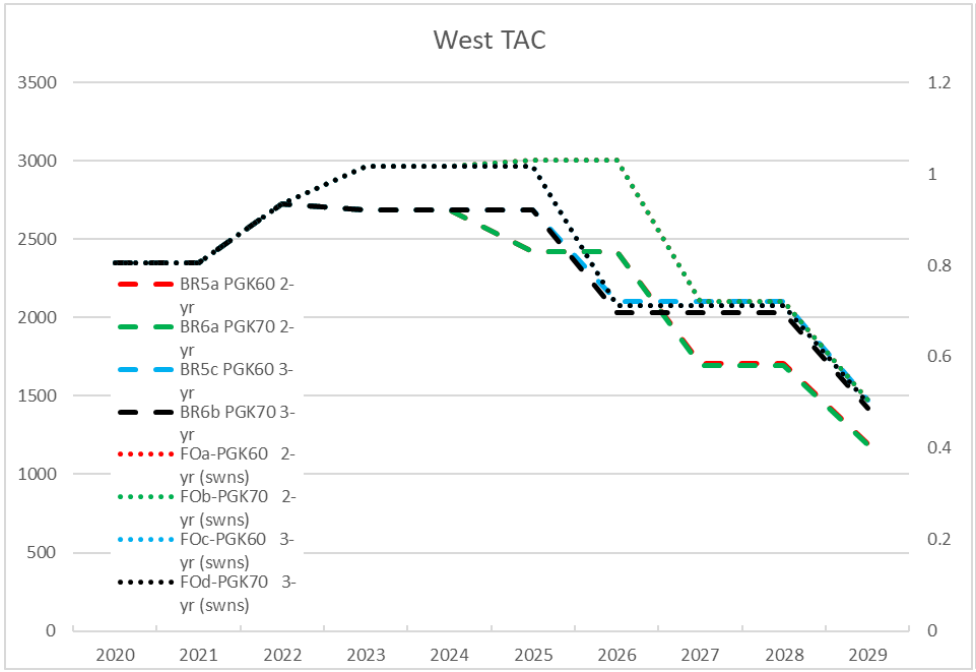


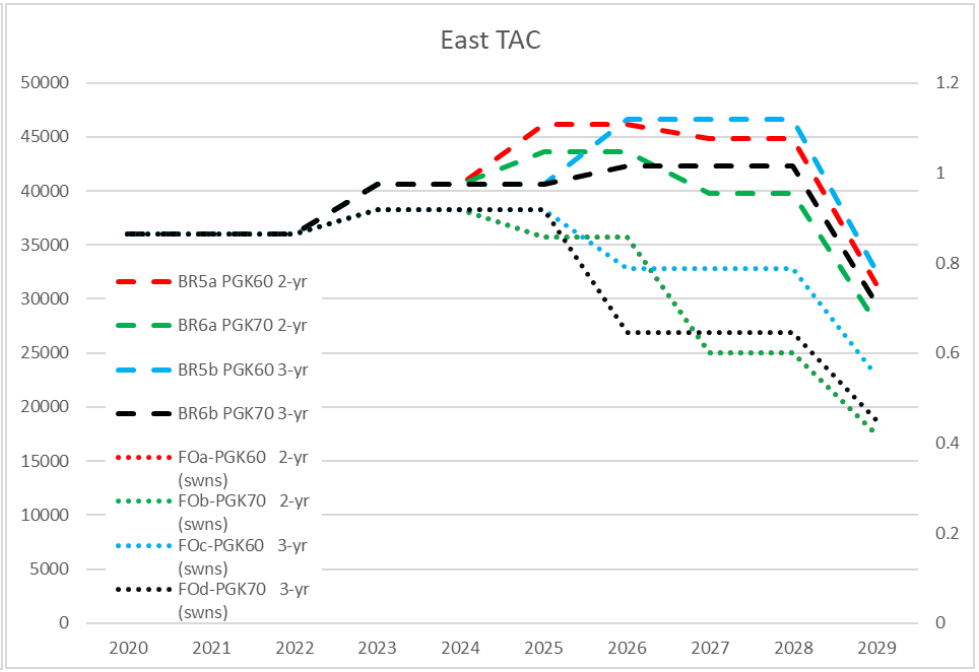


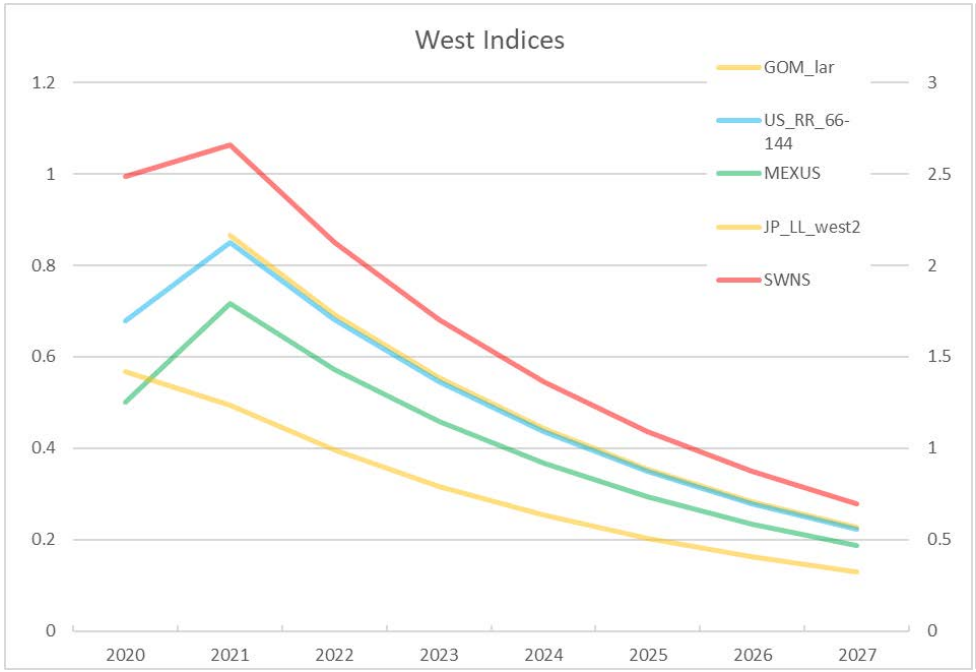


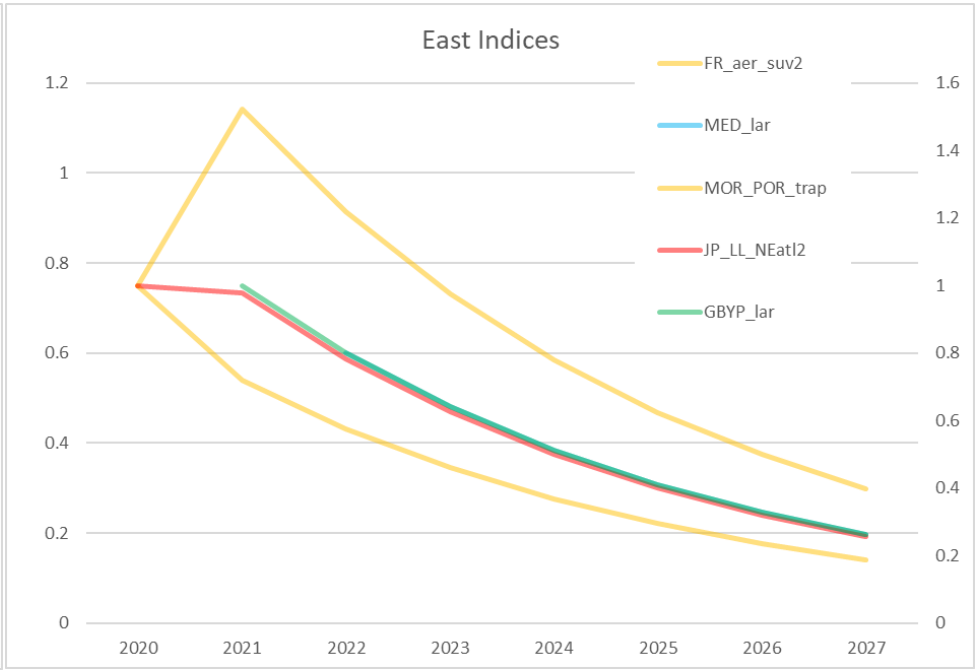


Decreasing indices – 20% decrease each year

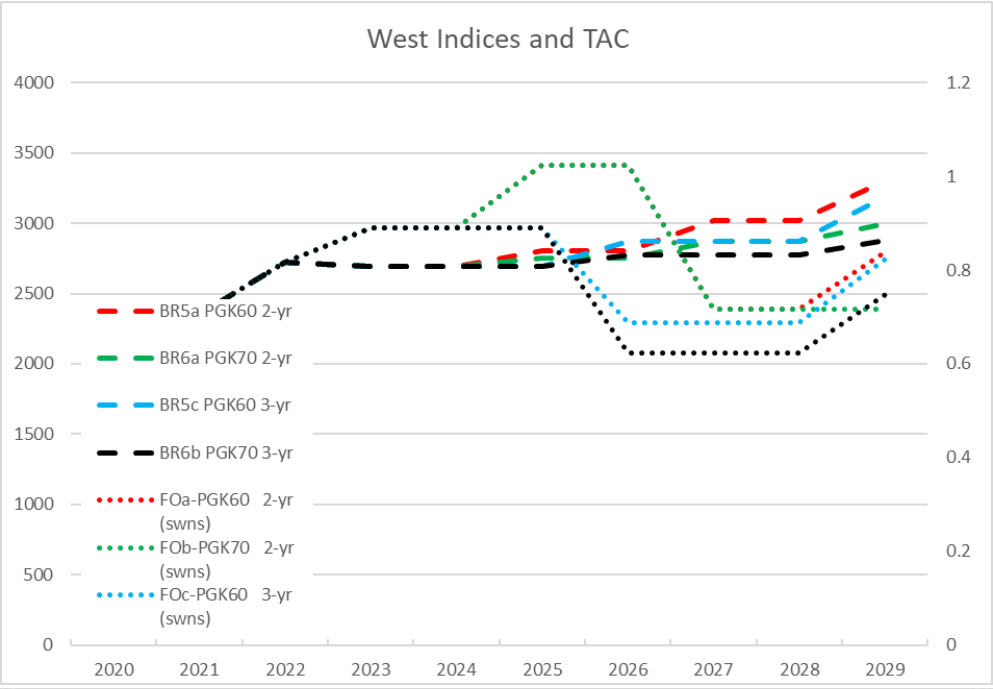


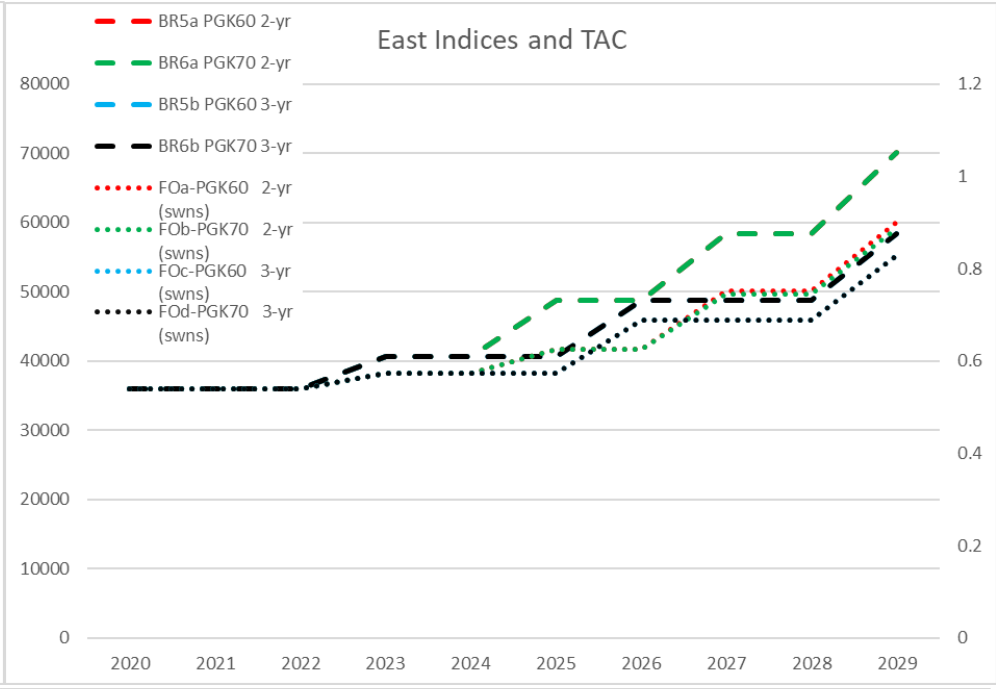


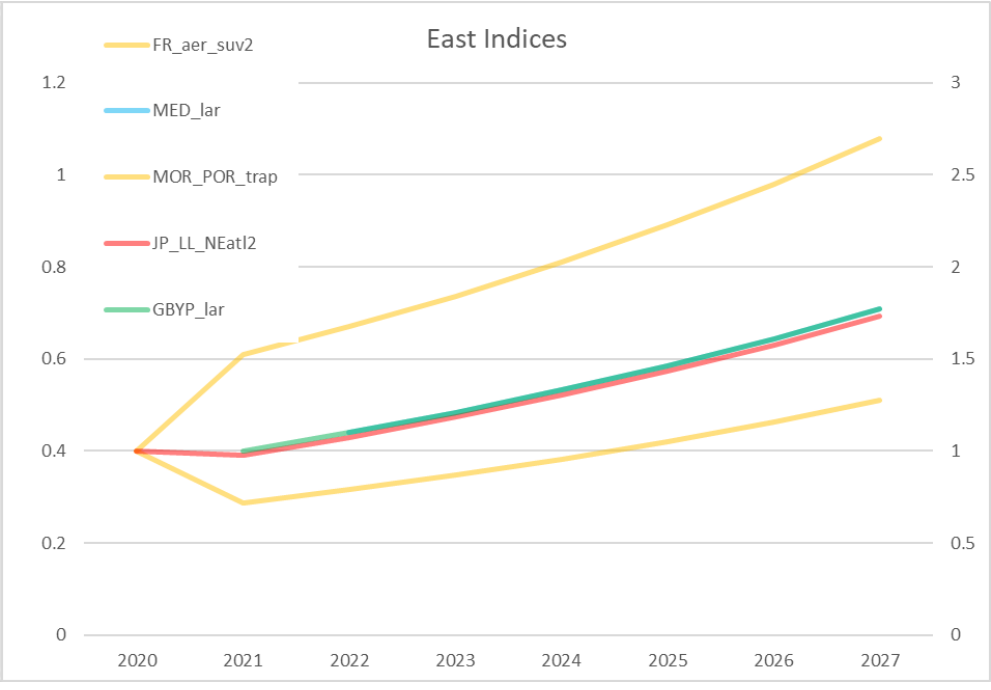




Decreasing indices – 10% increase each year

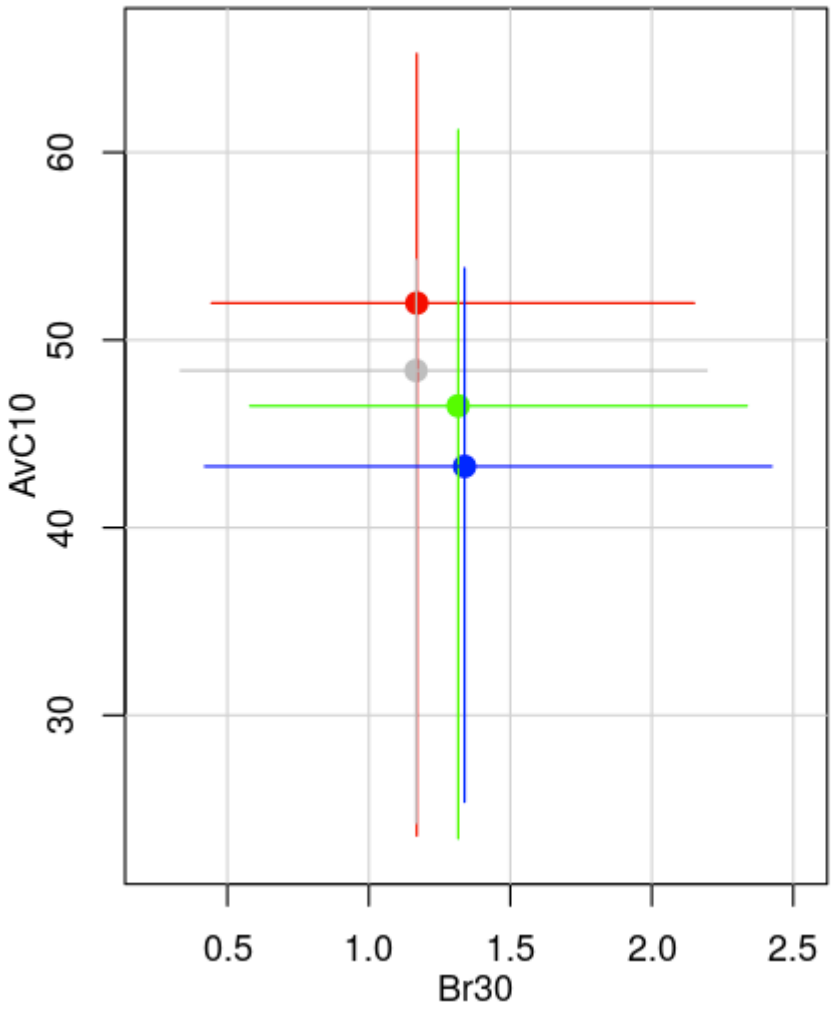






Compromis entre Br30 et AvC10 pour BR CMP

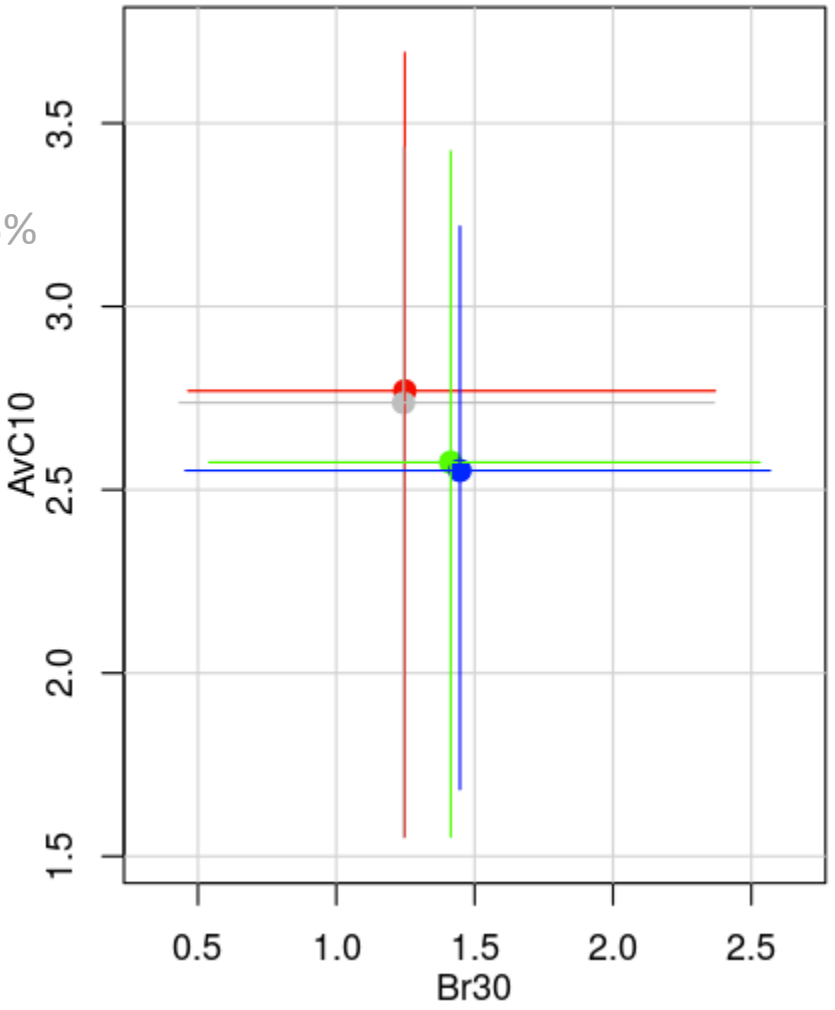
East



PGK60, 2-yr
PGK60, 3-yr, -35%
PGK70, 2-yr
PGK70, 3-yr

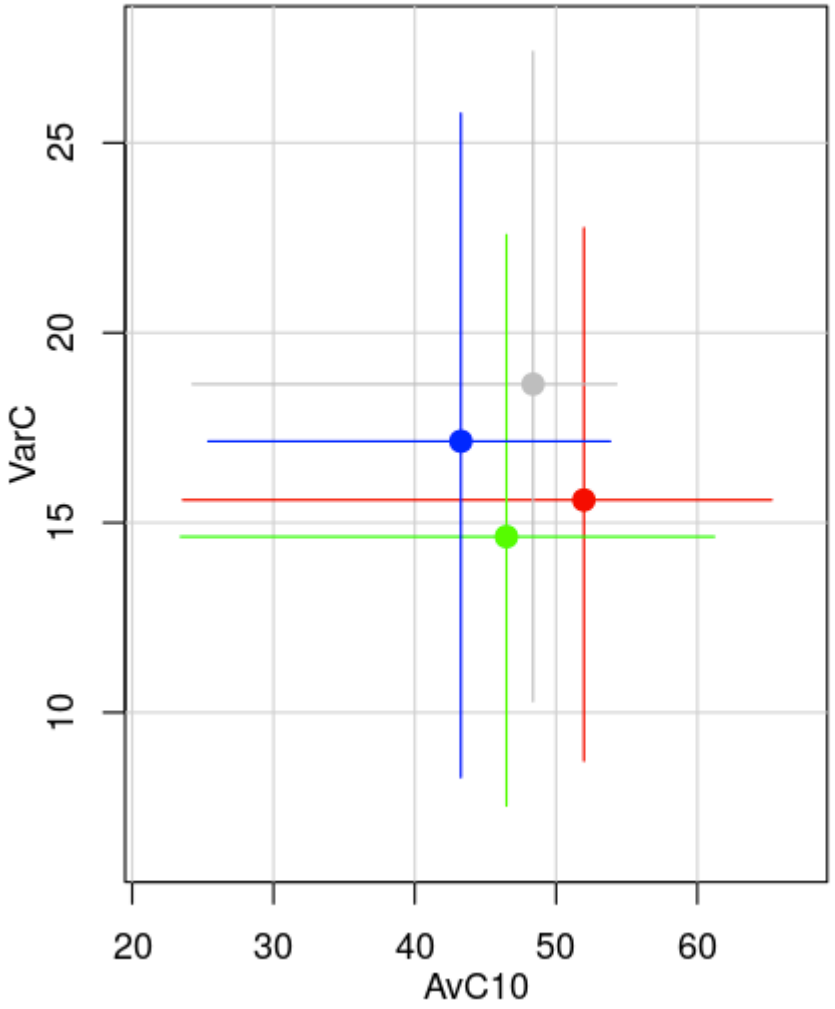
BR5a
BR5c
BR6a
BR6b

West



Compromis entre AvC10 et VarC pour BR CMP

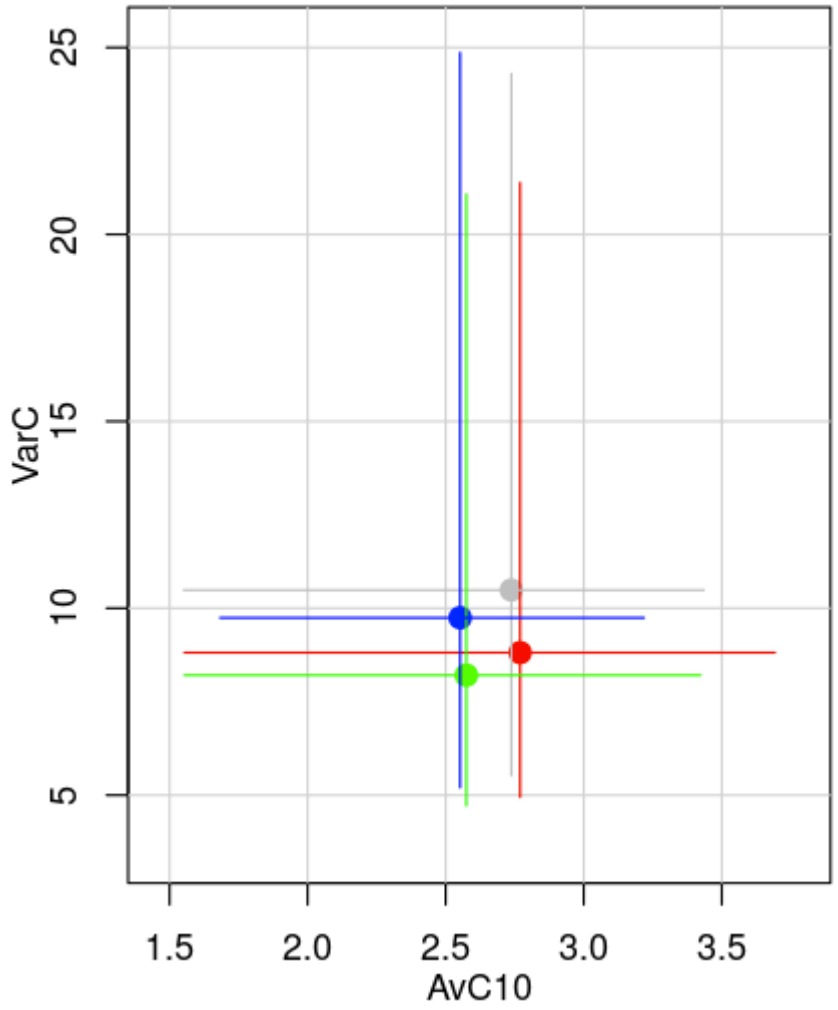
East



PGK60, 2-yr
PGK60, 3-yr, -35%
PGK70, 2-yr
PGK70, 3-yr

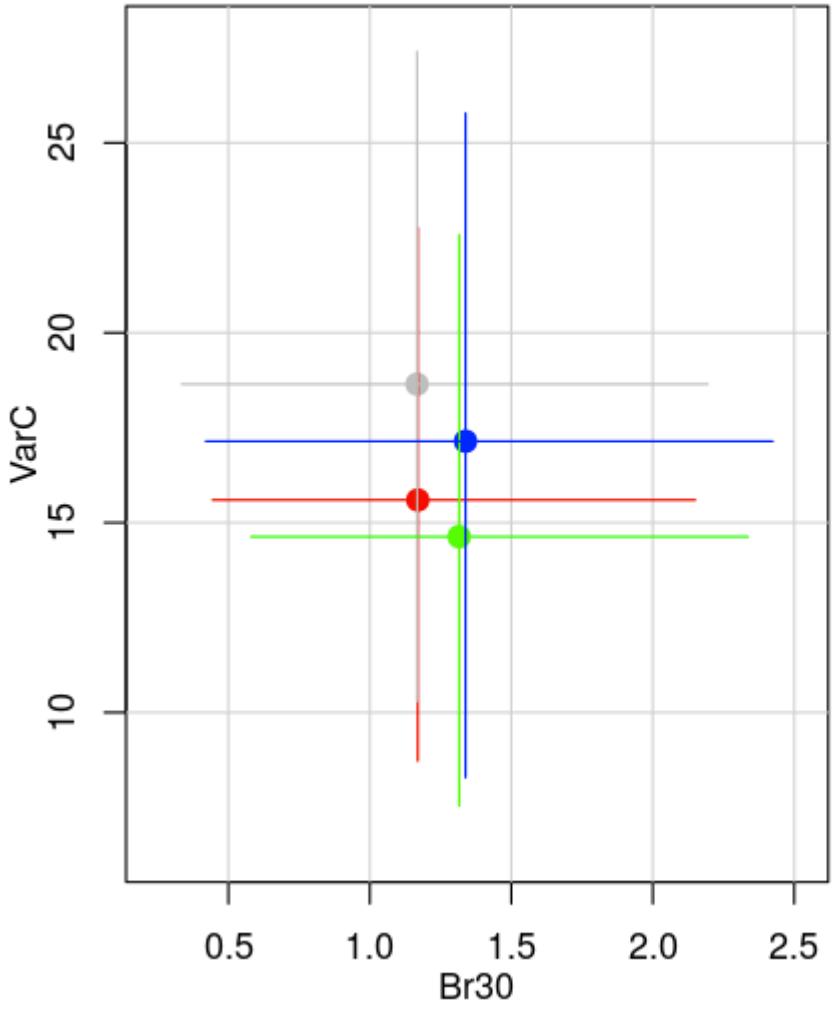
BR5a
BR5c
BR6a
BR6b

West



Compromis entre Br30 et VarC pour BR CMP

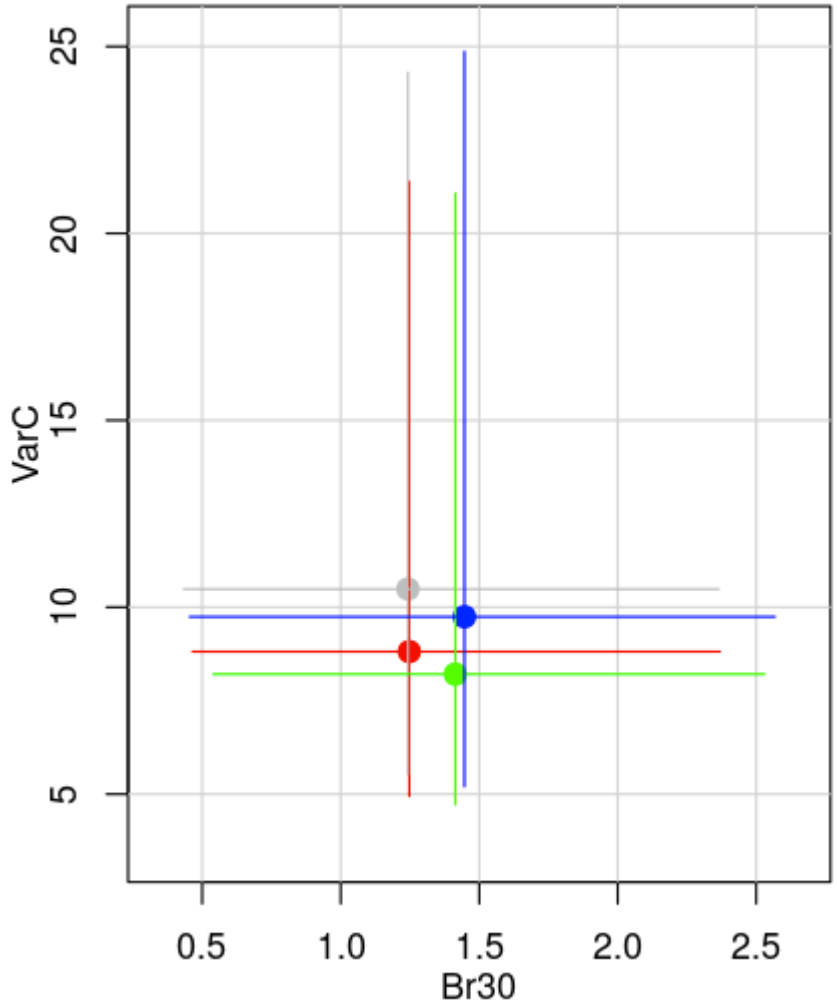
East



PGK60, 2-yr
PGK60, 3-yr, -35%
PGK70, 2-yr
PGK70, 3-yr

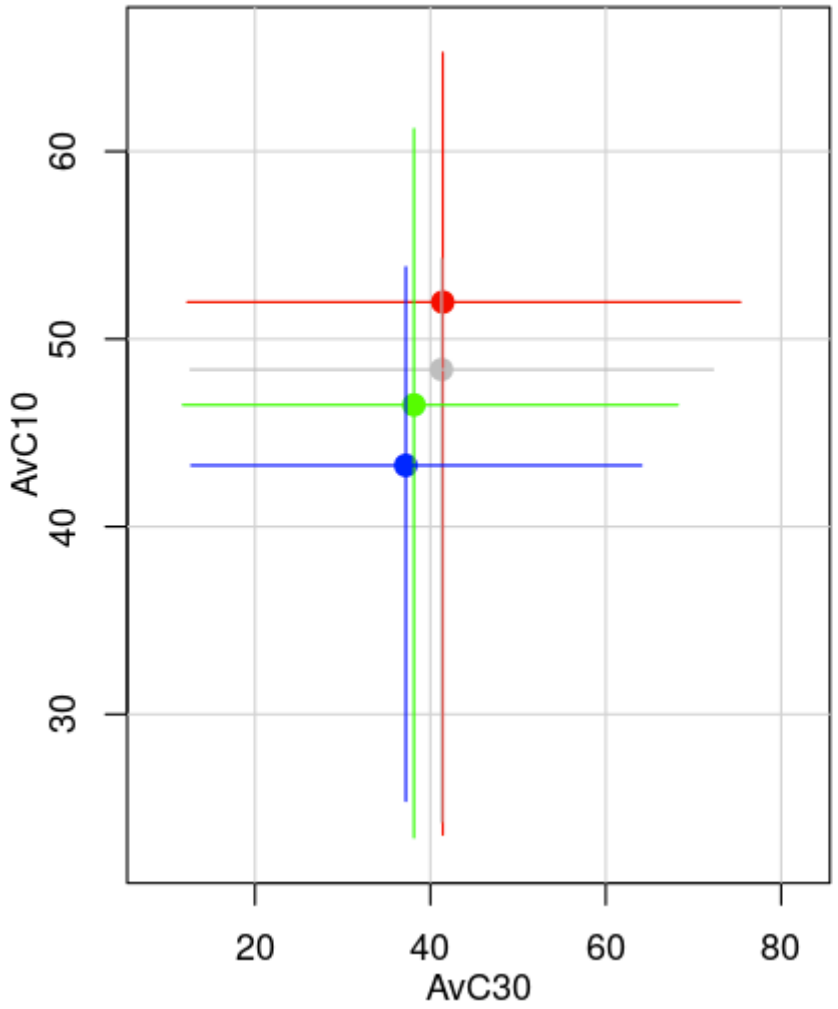
BR5a
BR5c
BR6a
BR6b

West



Compromis entre AvC30 et AvC10 pour BR CMP

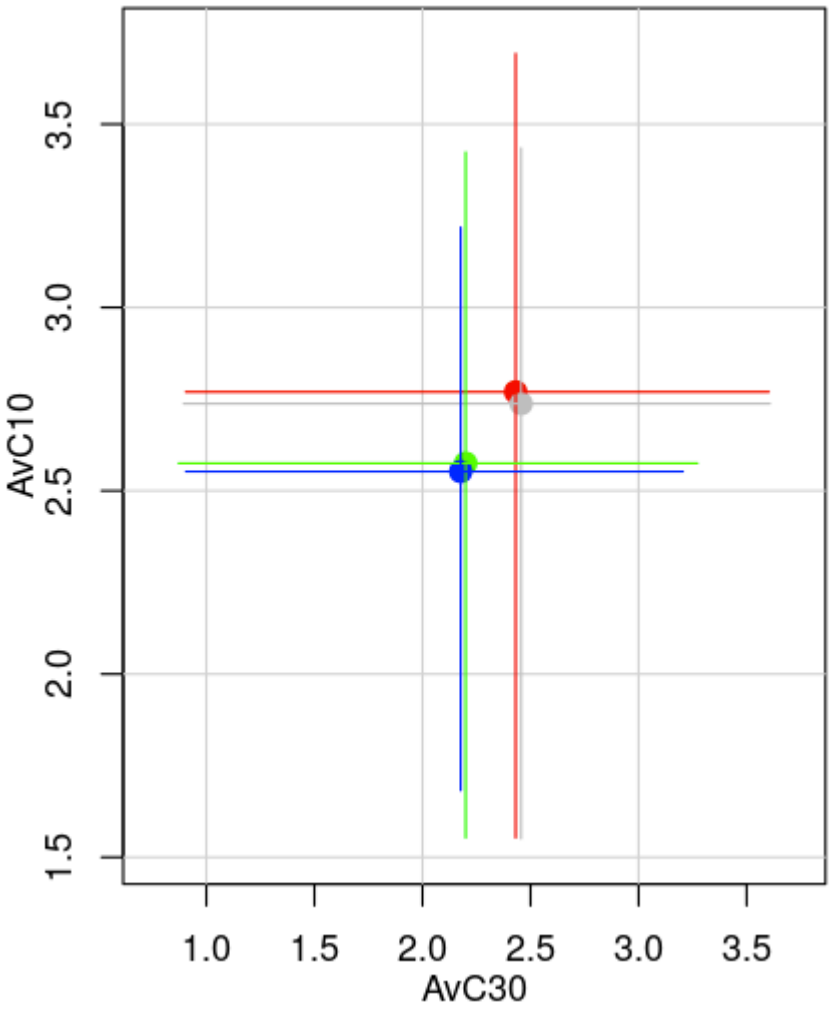
East



PGK60, 2-yr
PGK60, 3-yr, -35%
PGK70, 2-yr
PGK70, 3-yr

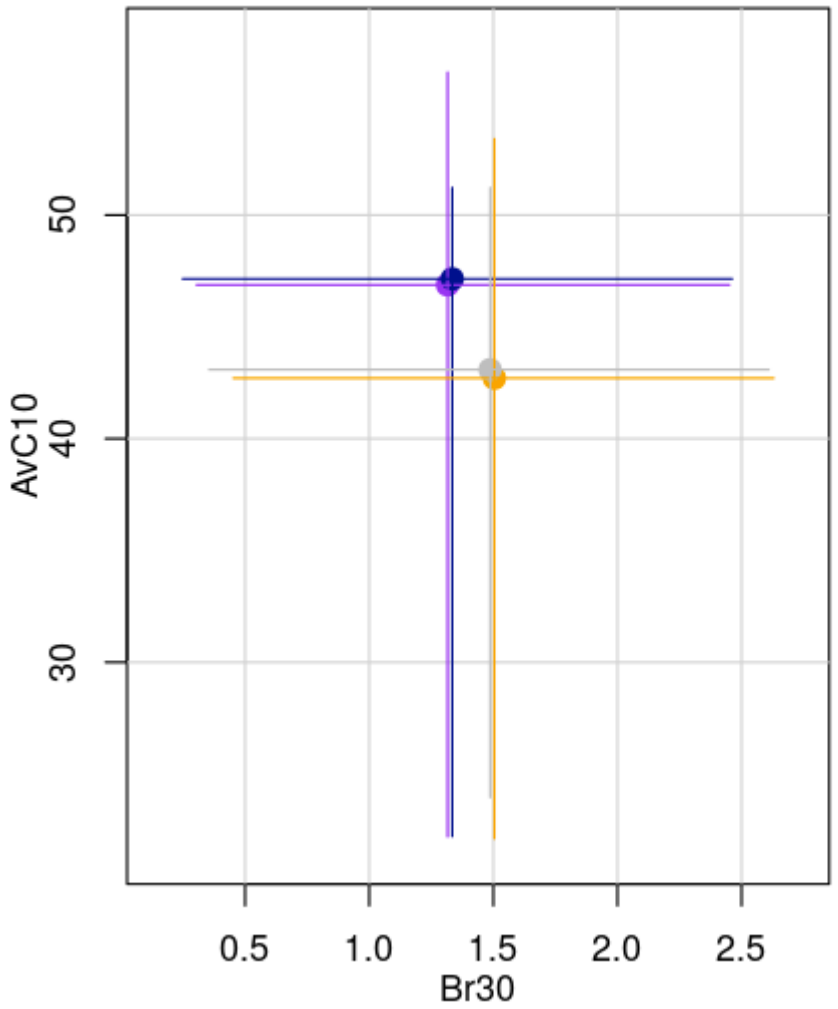
BR5a
BR5c
BR6a
BR6b

West



Compromis Br30 vs AvC10 pour FO CMP

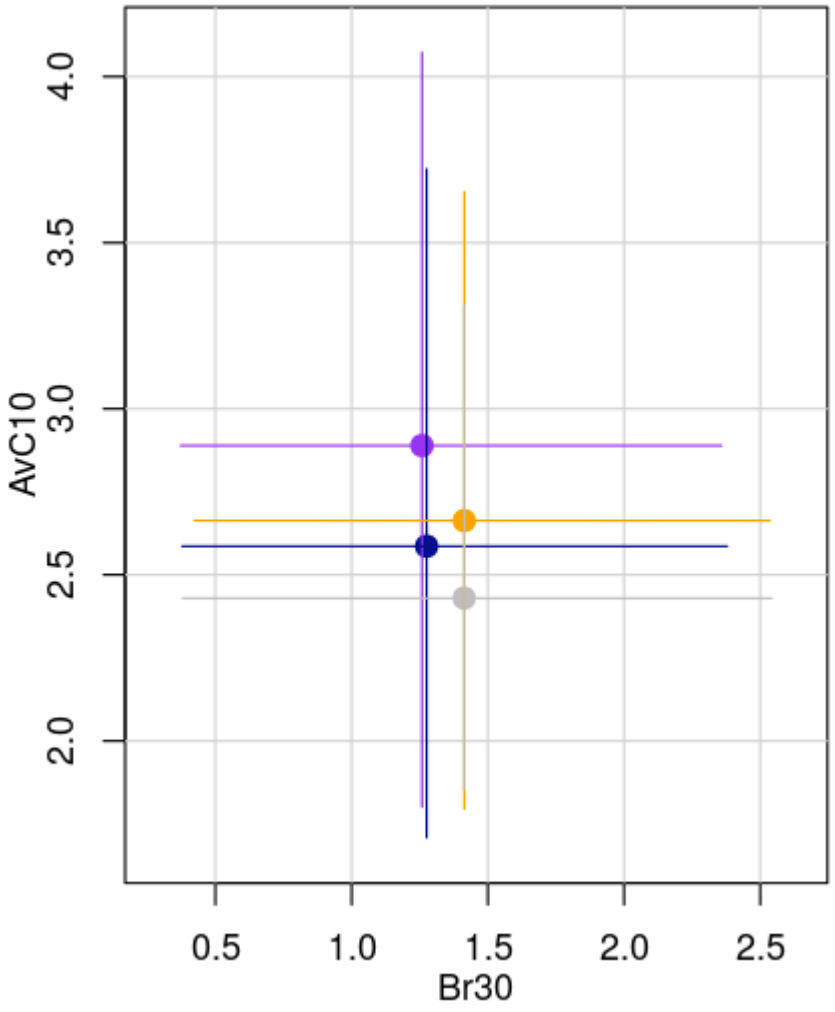
East



PGK60, 2-yr
PGK60, 3-yr, -35%
PGK70, 2-yr
PGK70, 3-yr

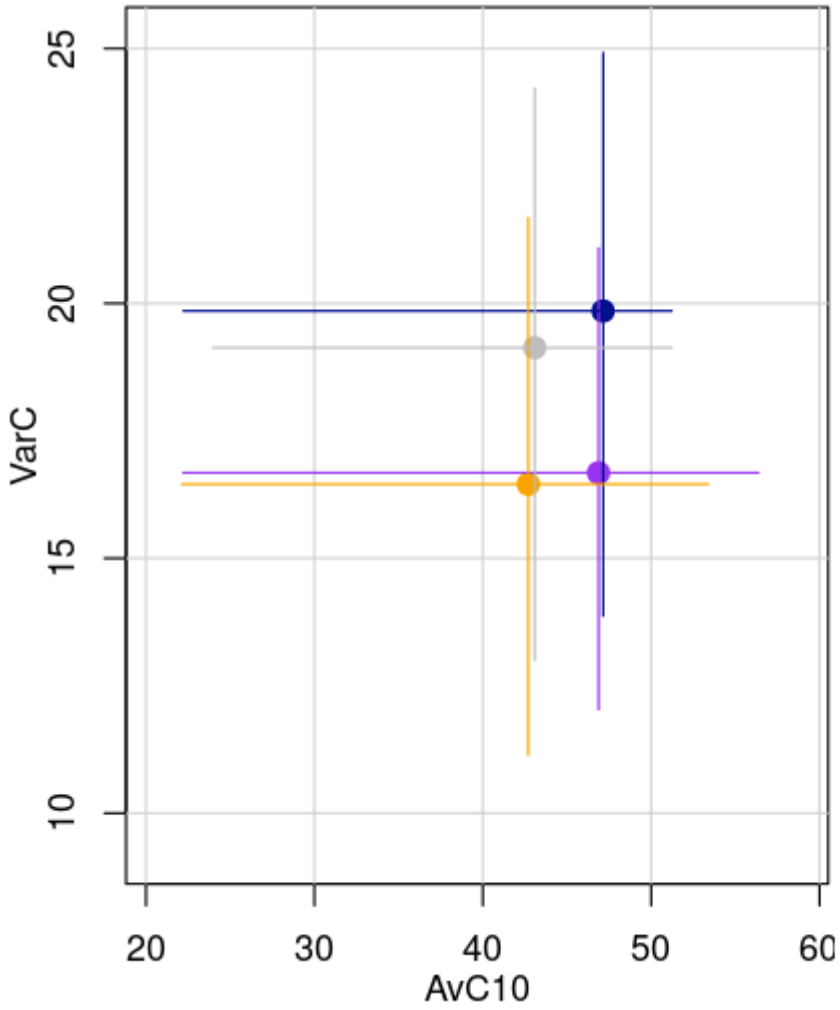
FO5a
FO5c
FO6a
FO6b

West



Compromis AvC10 vs VarC pour FO CMP

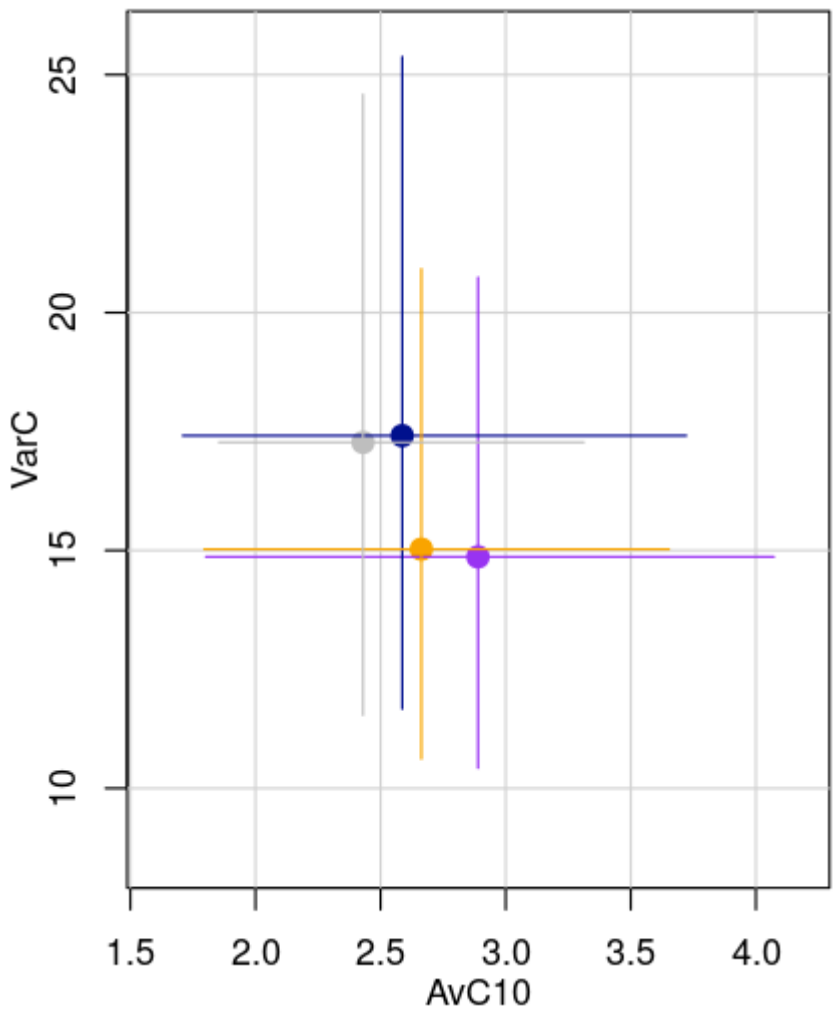
East



PGK60, 2-yr
PGK60, 3-yr, -35%
PGK70, 2-yr
PGK70, 3-yr

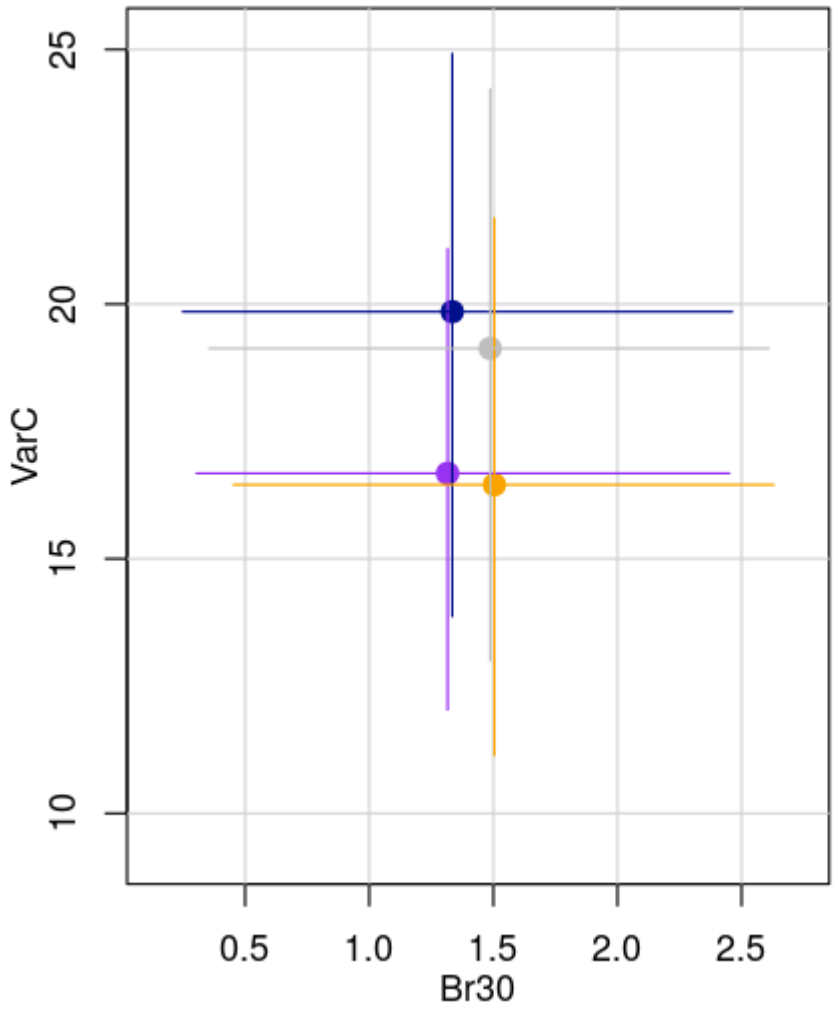
FO5a
FO5c
FO6a
FO6b

West



Compromis Br30 vs VarC pour FO CMP

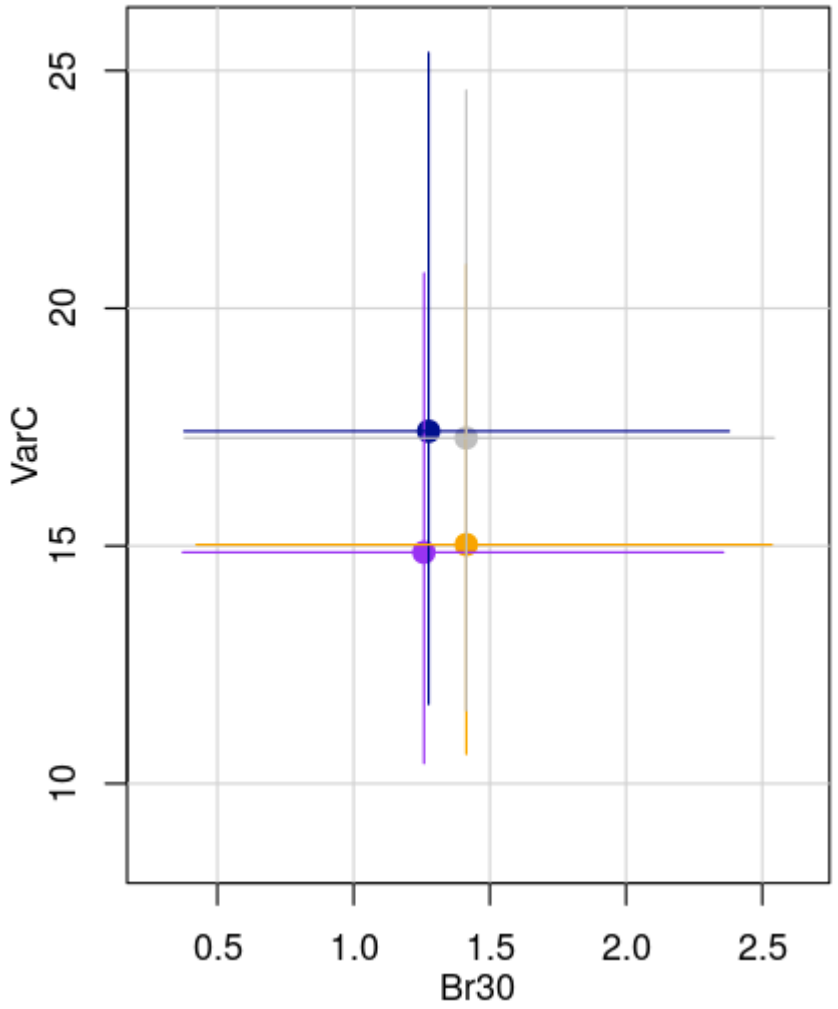
East



PGK60, 2-yr
PGK60, 3-yr, -35%
PGK70, 2-yr
PGK70, 3-yr

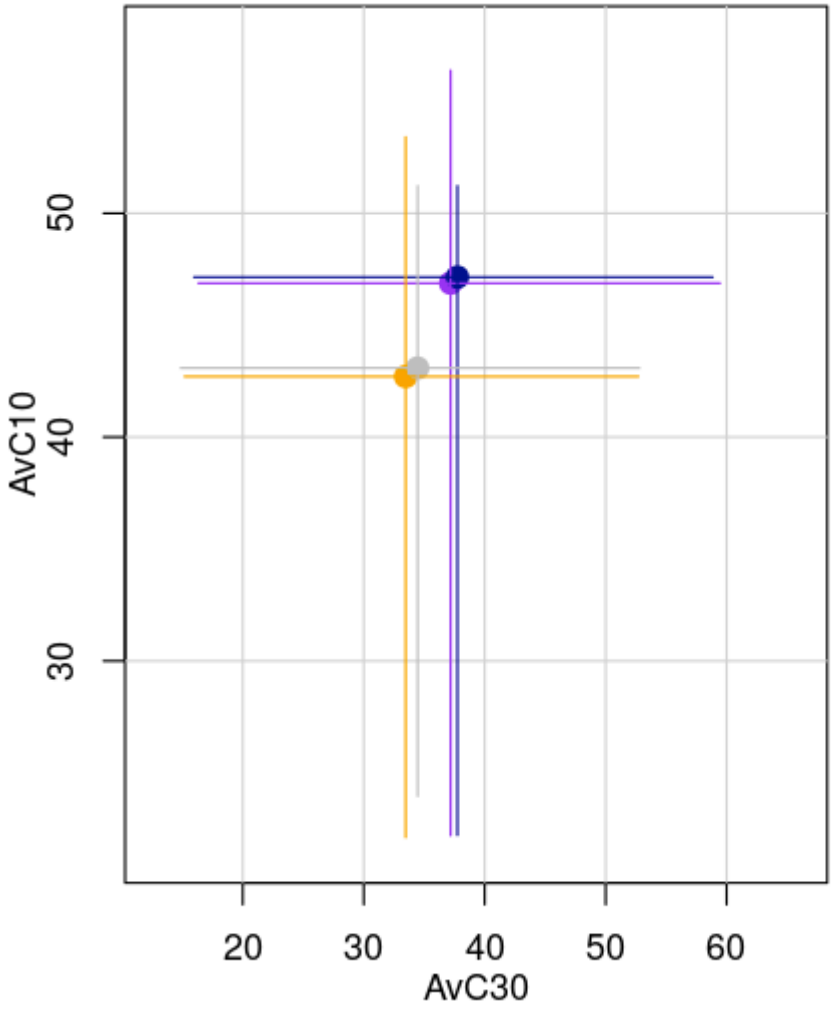
FO5a
FO5c
FO6a
FO6b

West



Compromis AvC30 vs AvC10 pour FO CMP

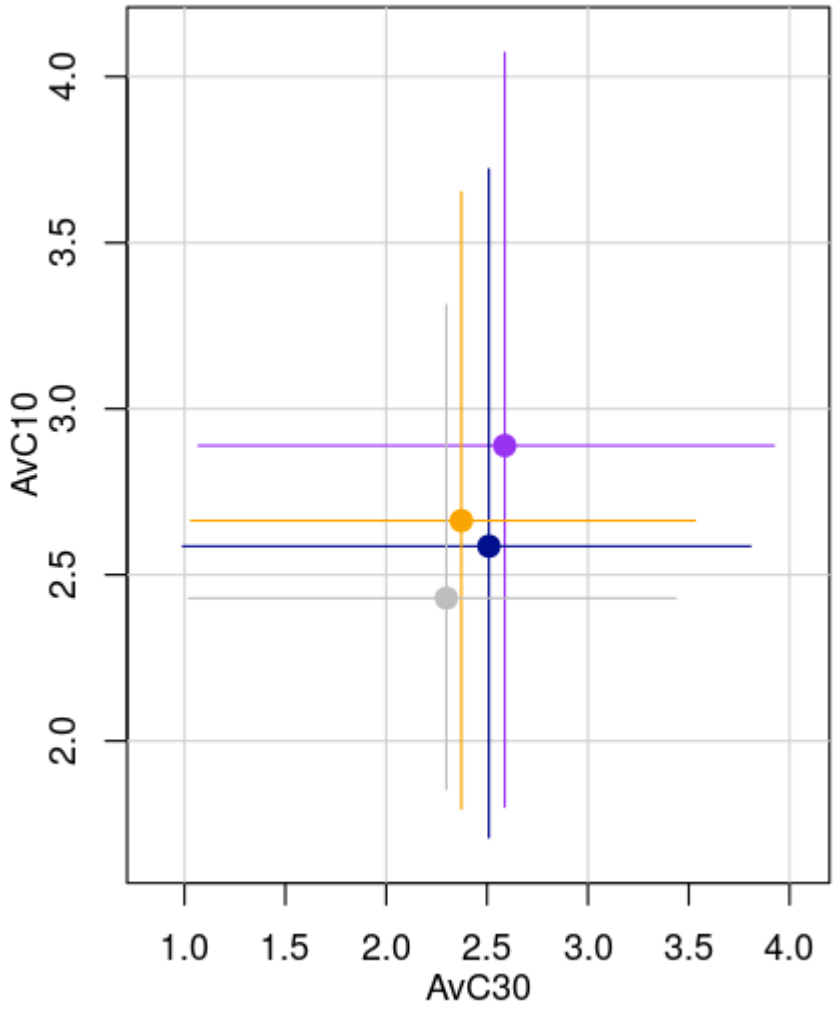
East



PGK60, 2-yr
PGK60, 3-yr, -35%
PGK70, 2-yr
PGK70, 3-yr

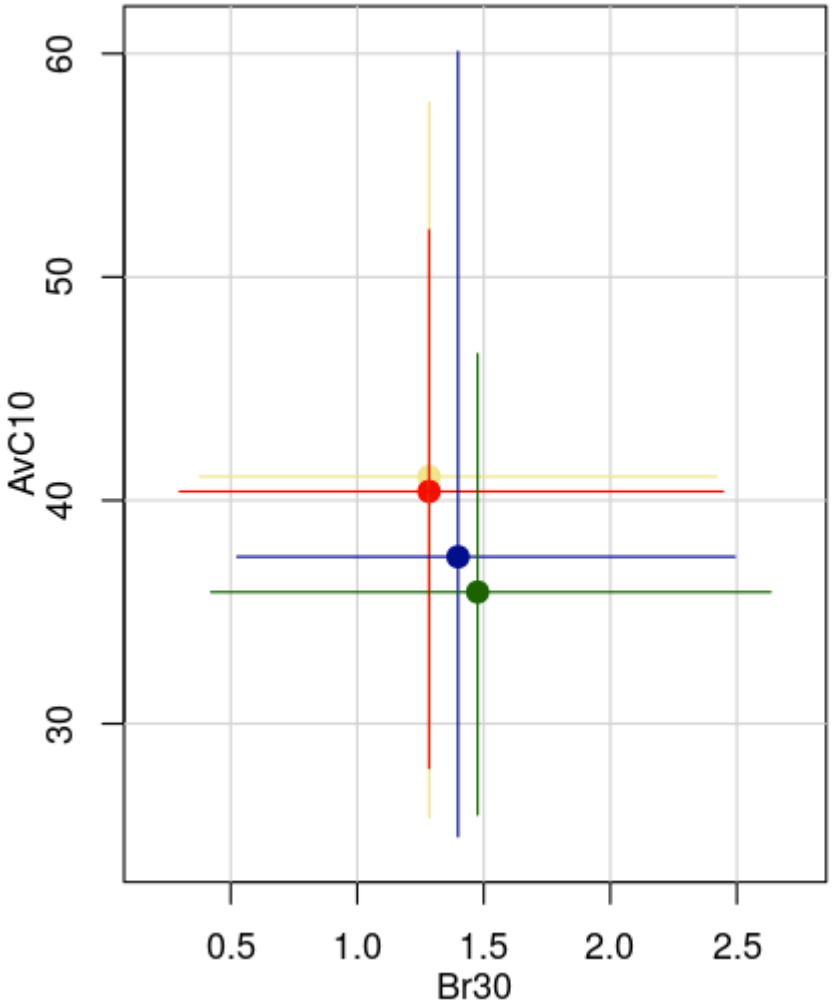
FO5a
FO5c
FO6a
FO6b

West



Compromis entre Br30 et AvC10 pour TC CMP

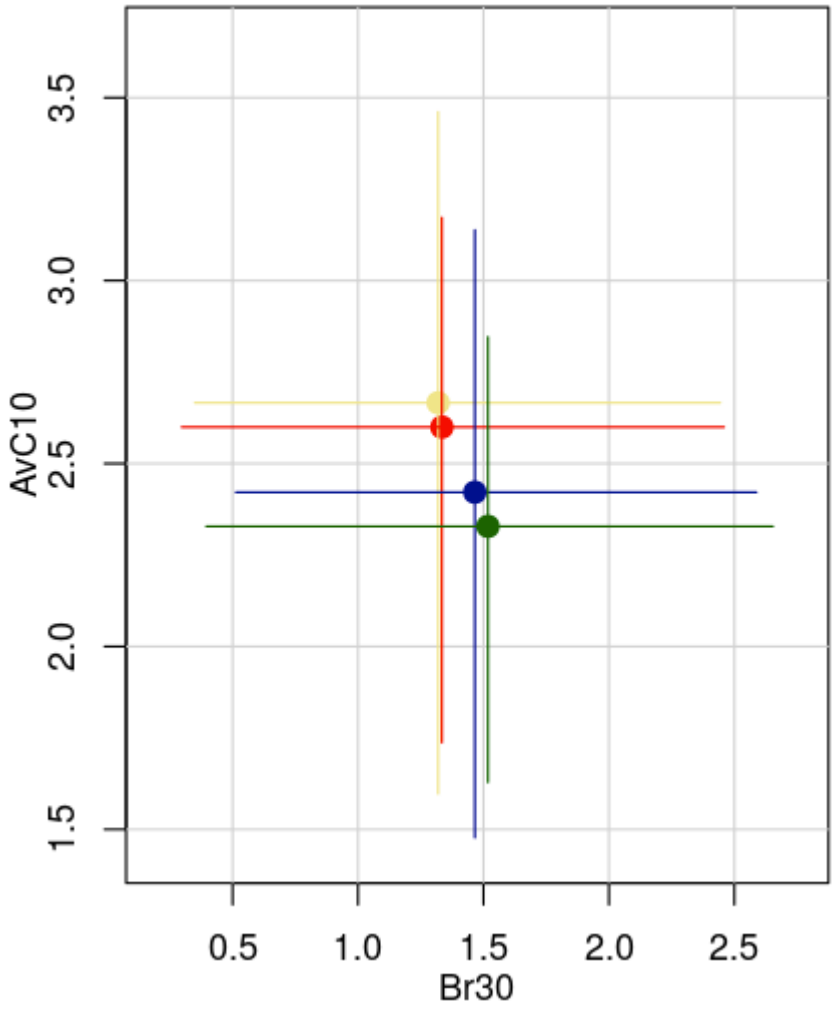
East



PGK60, 2-yr
PGK60, 3-yr, -35%
PGK70, 2-yr
PGK70, 3-yr

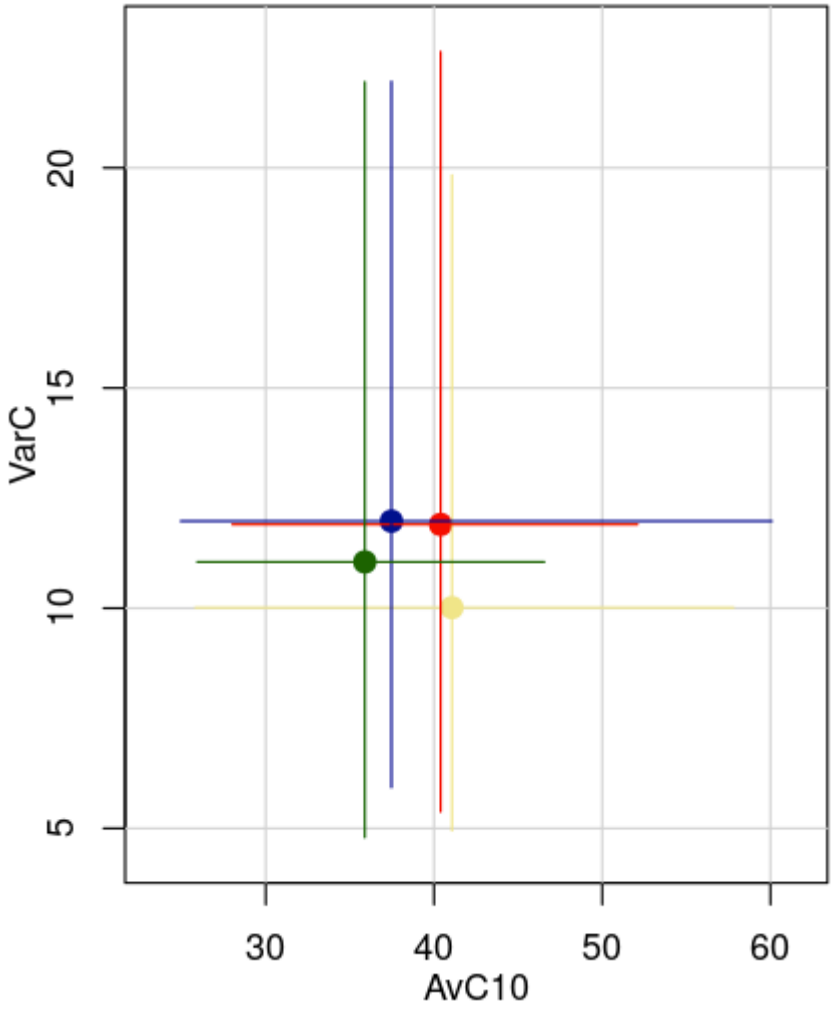
TC5a
TC5c
TK6a
TC6b

West



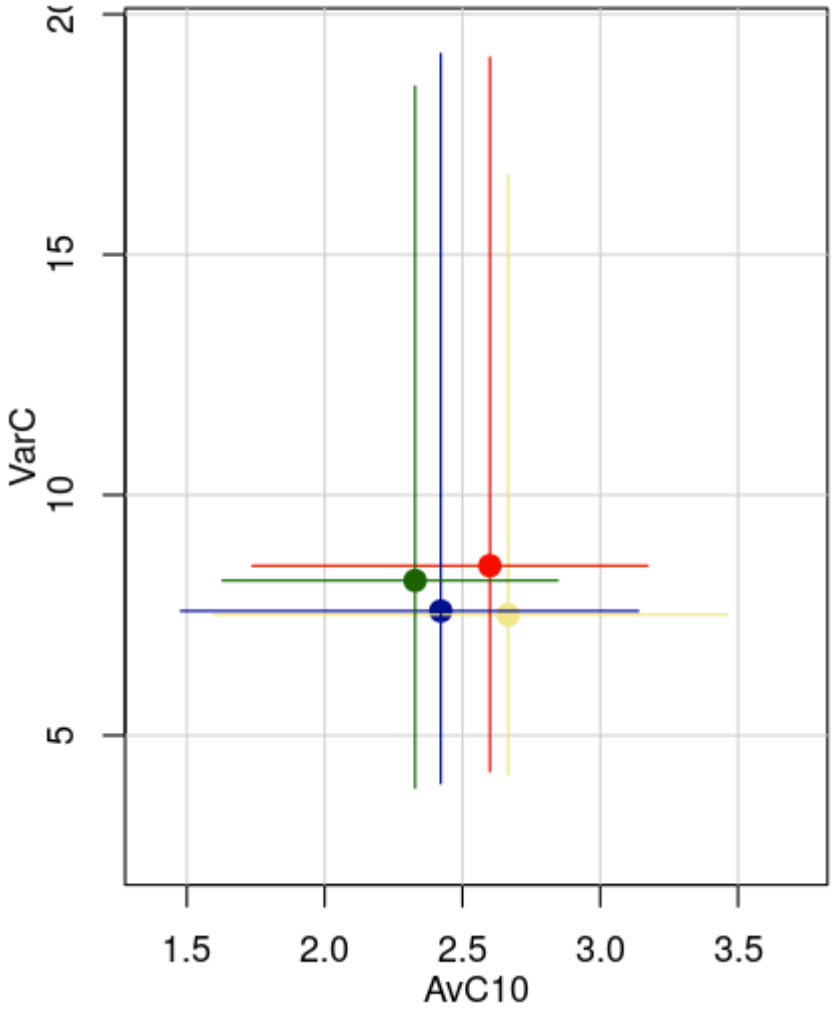
Compromis entre AvC10 et VarC pour TC CMP

East



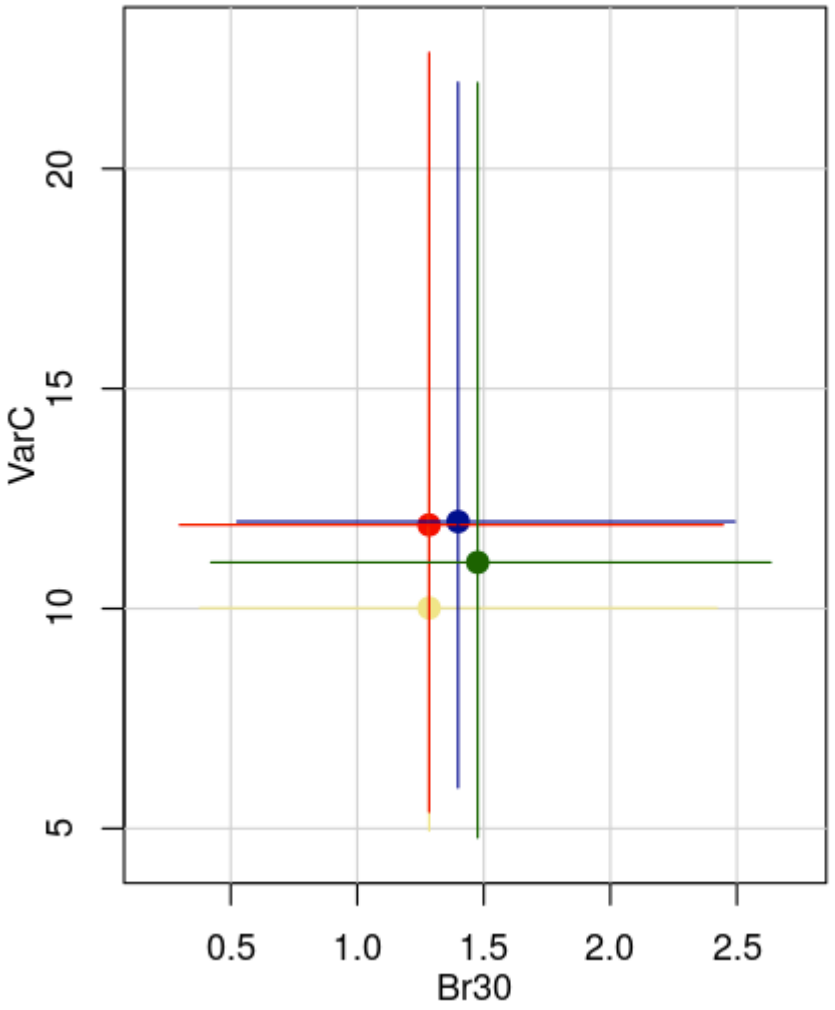
PGK60, 2-yr
PGK60, 3-yr, -35%
PGK70, 2-yr
PGK70, 3-yr

West



Compromis Br30 vs VarC pour TC CMP

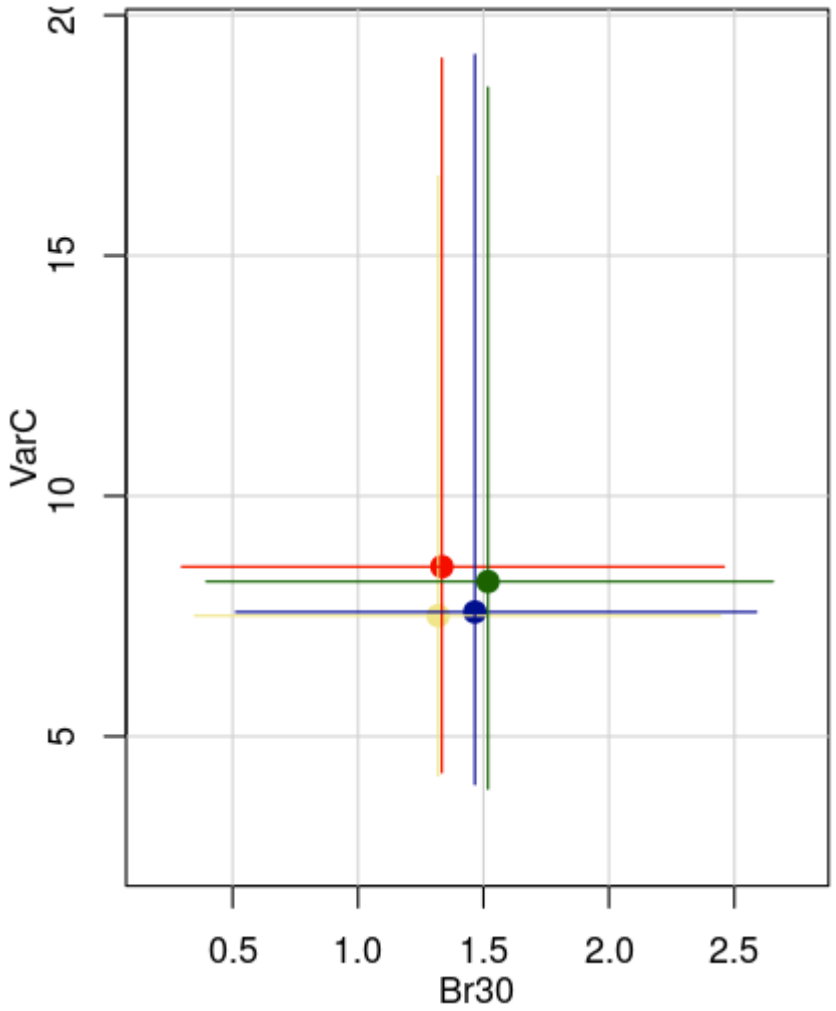
East



PGK60, 2-yr
PGK60, 3-yr, -35%
PGK70, 2-yr
PGK70, 3-yr

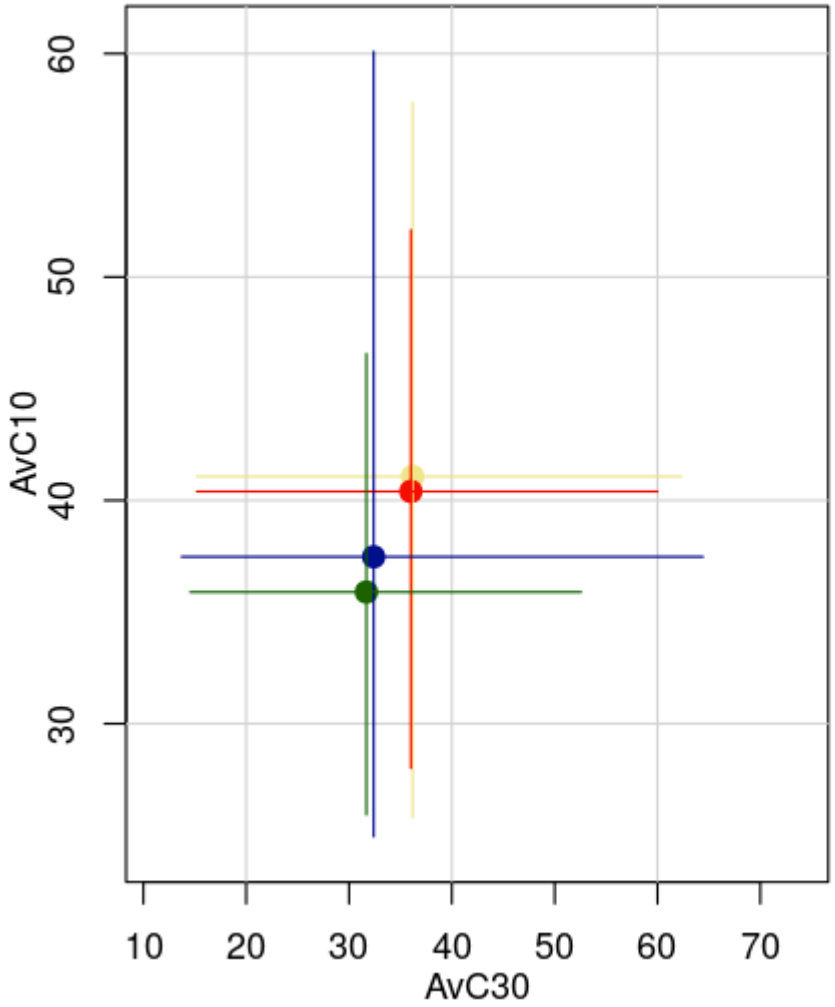
TC5a
TC5c
TK6a
TC6b

West



Compromis entre AvC30 et AvC10 pour TC CMP

East



PGK60, 2-yr
PGK60, 3-yr, -35%
PGK70, 2-yr
PGK70, 3-yr

TC5a
TC5c
TK6a
TC6b

West