Table S1. Overview of selected neglected and underutilised crop varieties, models used to simulate crop growth and productivity, level of application, and the country where the simulations were performed.

Crop	Model	Level	Country/region	Reference
Amaranthus	AquaCrop	C, A	SSA	[1]
		C, A	South Africa	[2]
		C	South Africa	[3]
	LINTUL	A		[4]
Bambara groundnut (*Vigna subterranean)*	AquaCrop	C	South Africa	[5]
		C, A	SSA	[6]
		A	SSA	[7]
		C, A	South Africa	[8]
		A	Southern Africa	[9]
	BAMGRO	C, A		[10]
		C, A	Swaziland, Namibia	[11]
	CropBASE	C, A	SSA	[12]
	CROPSYST	C, A	Cameroon	[13,14]
		A	Cameroon	[15]
Cassava (*Manihot esculenta)*	agroecological zone crop simulation	C, A	Brazil	[16]
	AquaCrop	C, A	Vietnam	[17]
		C, A	Vietnam	[18]
		C, A	Colombia, Nigeria, Togo	[19]
	CSM		Thailand	[20]
		C, A	Thailand	[21]
	DSSAT	C, A	Rwanda	[22]
		C	Thailand	[23]·[24]
		-	Nigeria	[25]
		-	Thailand	[26]
	EPIC	C	Nigeria	[27,28]
	LINTUL	C, A	Togo	[29–31]
		C, A	Nigeria	[32–34]
	RegCM-DSSAT	C, A	Nigeria	[35]
	SIMCAS	C, V		[36]
	WOFOST	C, V	India	[37]
		C, A	India	[38]
	WOFOST, CROPWAT	C, A	India	[39]
Cowpea (Vigna unguiculata)	EPICSEAR	C, A	Brazil	[40]
	GPFARM	C, A	USA	[41]
	APSIM	C, V	South Africa	[42–44]
		C, V	Kenya	[45]
				[46]

		A	South Africa	[47]
		A	South Africa	[48]
	AquaCrop	C, A	-	[49]
		C, V		[50]
	DSSAT	C	Bahia	[51]
		C	Bahia	[52]
		C, V	Southern Africa	[53]
		C, A	Malawi	[49,54]
	INTERCOM	C	-	[55]
	RegCM3-GLAM	C	Nigeria	[56]
	SARRA	C	Brazil	[57]
	SM-legumes	C	East Africa	[58]
	STICS	C, V	SSA	[59]
Lablab (*Lablab purpureus*)	APSIM	C, V	Kenya	[45]
Millet (*Panicum miliaceum)*	APSIM	C, V		[60]
		C, V	Sudan	[61]
	CropBASE		SSA	[12]
	DSSAT	C, V	Nigeria	[25]
		C, A	Brazil	[62]
		C, V	Niger, USA	[63]
		C, A	Senegal, Burkina Faso	[64]
		C, V	Ghana	[65]
		C, A	Ethiopia	[66]
	EPIC	C, V	SSA	[67]
		C, V	Nigeria	[68]
	PhenologyMMS	C, V A	USA	[69]
	SARRA-H	C, V	Senegal	[70]
		C, A	SSA	[71]
		C, A	West Africa	[72]
		C, V	West Africa	[73]
Pearl Millet (*Pennisetum glaucum*)	APSIM	A	Sahel	[74,75]
	AquaCrop	C, V	South Africa	
	CYGMA	C, A	West Africa	[76–78]
	EPIC	C, A	Nigeria	[79,80]
	SARRA-H	C, A	Senegal, Mali, Burkina Faso and Niger	[74,75]
Pigeon pea (*Cajanus cajan*)	APSIM	C, V, A	Zimbabwe	[81]
		C	Malawi	[82]
	SM-legumes	C, V	East Africa	[58]
		C, A	Malawi	[83–85]

Quinoa (*Chenopodium quinoa*)	AquaCrop	C, V	Ethiopia	[86]
Sorghum *(Sorghum bicolor)*	ALMANAC	C, V	USA	[87]
			USA	[88]
	ALMANAC			[89]
	ALMANAC, SORKAM		USA	[90]
	APSIM	C, V, A	Zimbabwe	[81]
		C, A	South Africa	[91]
		C, V	West Africa	[92]
		C, A	Ghana	[93]
		C, V, A	Australia	[94]
		C, V	Sudan	[95]
		C, A	Mali	[96]
		C, V	Australia	[97]
		C, A	Argentina and Australia	[98]
		C, V	Australia	[99]
		C, V		[100]
		C, V	India	[101]
		C, V, A	Indiana	[102]
		C, V	Australia	[103]
		C, V	Australia	[104]
		C, V		[105]
		C, V	USA	[106]
		C, V	South Africa	[47]
		C, V	Sudan	[61]
	APSIM and SARRA-H	C, A	West Africa	[107]
	APSIM, DSSAT, Samara	C, V	West Africa	[108]
	APSIM, SARRA-H	C, V, A		[109]
	AquaCrop	C, V	South Africa	[110]
		C, A		[111]
		C, V	USA	[112]
		C, V	SSA	[113]
	AquaCrop, DSSAT	C, V	Ethiopia	[114]
	BioSTAR	C, V	German	[115] [116]
	CROPSYST	C, V	Cameroon	[117]
		C, A	Cameroon	[15]
	DSSAT	C, V		[118]
		A	Benin	[119]
		C, V	Benin	[120]
		C, V	India	[121]

			NA	[122]
		C, A	Ethiopia	[123,124]
		C, V	Brazil	[125]
		C, V	West Africa	[126]
		C, V	Ethiopia	[127]
			India	[128]
		C, V	Sudano-Sahelian zone	[129]
		C, A	USA	[130]
		C, V	India, Mali	[131]
		C, V	USA	[132]
		C, A	Ethiopia	[133]
	DSSAT, APSIM	C, V	Mali, Ghana	[134]
	DSSAT	C, V	Lesotho, Swaziland, Malawi	[135]
	Eco-crop	C, V		[136]
	EPIC	C, V	NA	[137]
		C, V	USA	[138]
		C, A		[139]
			USA	[140]
		C, V	New Zealand	[141]
		C, V	India	[142]
		C, V	Nigeria	[68]
	GPFARM	C, V	USA	[143]
	IMPACT	C, V	Africa, Asia	[144]
	PILOTE	C, V		[145]
	PILOTE-N	C, A	France	[146]
	SARRA-H	C, V	SSA	[71]
		C, V	Mali	[147]
		C, A	Kenya	[148]
	SARRA-H, APSIM	C, V, A	West Africa	[149]
	SORKAM	C, V	USA	[150]
		C, V		[151]
		C, V		[152]
		C, A	USA	[90]
	STICS	C, A	India SSA	[153],[154] [59]
	STICS, AqYield	C, V	France	[155]
	SWAT	C, V	USA	[156]
		C, A		[157]
	WOFOST	C, V	Burkina Faso	[158]
	WTGROWS	C, V	India	[159]
	AquaCrop	C, V	Caribbean	[160]

Sweet potato *(Ipomoea batatas)*	Madhuram	C, V	India	[161]
Taro (*Colocasia esculenta*)	AquaCrop	P, C, V	South Africa	[162]
		C, V	South Africa	[163]
Tef (*Eragrostis tef)*	AquaCrop	C, V	Ethiopia	[164]
		C, V	Ethiopia	[165]
		C, V	Ethiopia	[86]
		C, V	Ethiopia	[166]
	DSSAT	C, V	Ethiopia	[167]
		C, A	Ethiopia	[168]
Velvet bean (*Mucuna pruriens)*	CROPGRO, DSSAT	C, A	Mexico	[169]

1. Nyathi, M.K.; van Halsema, G.E.; Annandale, J.G.; Struik, P.C. Calibration and Validation of the AquaCrop Model for Repeatedly Harvested Leafy Vegetables Grown under Different Irrigation Regimes. *Agric Water Manag* **2018**, *208*, 107–119, doi:10.1016/j.agwat.2018.06.012 WE - Science Citation Index Expanded (SCI-EXPANDED).
2. Bello, Z.A.; Walker, S.; Bello, Z.A.; Walker, S. Calibration and Validation of AquaCrop for Pearl Millet (Pennisetum Glaucum). *Crop Pasture Sci* **2016**, *67*, 948–960, doi:10.1071/CP15226.
3. Walker, S.; Bello, Z.A.; Mabhaudhi, T.; Modi, A.T.; Beletse, Y.G.; Zuma-Netshiukhwi, G. Calibration of AquaCrop Model to Predict Water Requirements of Traditional African Vegetables. *II ALL AFRICA HORTICULTURE CONGRESS* 2013, *1007*, 943–949.
4. Gimplinger, D.M.; Kaul, H.P. Calibration and Validation of the Crop Growth Model LINTUL for Grain Amaranth (Amaranthus Sp.). *JOURNAL OF APPLIED BOTANY AND FOOD QUALITY* **2009**, *82*, 183-192 WE-Science Citation Index Expanded (SCI.
5. Mabhaudhi, T.; Chibarabada, T.P.; Chimonyo, V.G.P.; Modi, A.T. Modelling Climate Change Impact: A Case of Bambara Groundnut (Vigna Subterranea). *Physics and Chemistry of the Earth* **2018**, *105*, 25–31, doi:10.1016/j.pce.2018.01.003.
6. Karunaratne, A.S.; Azam-Ali, S. AquaCrop Model as a Tool to Disclose the Water Productivity of Bambara Groundnut Landraces for Rainfed Farming in Botswana. *II INTERNATIONAL SYMPOSIUM ON UNDERUTILIZED PLANT SPECIES: CROPS FOR THE FUTURE - BEYOND FOOD SECURITY* 2013, *979*, 401-406 WE-Conference Proceedings Citation Inde.
7. Karunaratne, A.S.; Azam-Ali, S.N.; Walker, S.; Ruane, A. Modelling the Productivity of Underutilised Crops for Climate Resilience. *XXIX INTERNATIONAL HORTICULTURAL CONGRESS ON HORTICULTURE: SUSTAINING LIVES, LIVELIHOODS AND LANDSCAPES (IHC2014): IV INTERNATIONAL SYMPOSIUM ON PLANT GENETIC RESOURCES* 2015, *1101*, 113–117.
8. Mabhaudhi, T.; Modi, A.T.; Beletse, Y.G. Parameterization and Testing of AquaCrop for a South African Bambara Groundnut Landrace. *Agron J* **2014**, *106*, 243–251,

doi:10.2134/agronj2013.0355 WE - Science Citation Index Expanded (SCI-EXPANDED).

9. Mabhaudhi, T.; Chibarabada, T.P.; Chimonyo, V.G.P.; Modi, A.T. Modelling Climate Change Impact: A Case of Bambara Groundnut (Vigna Subterranea). *PHYSICS AND CHEMISTRY OF THE EARTH* **2018**, *105*, 25–31, doi:10.1016/j.pce.2018.01.003 WE - Science Citation Index Expanded (SCI-EXPANDED) WE - Conference Proceedings Citation Index - Science (CPCI-S).

10. Karunaratne, A.; Crout, N.; Azam-Ali, S. SIMULATION OF WATER USE EFFICIENCY TO TACKLE THE DROUGHT. *PROCEEDINGS OF THE 24TH EUROPEAN CONFERENCE ON MODELLING AND SIMULATION ECMS 2010* 2010, 316-+ WE-Conference Proceedings Citation Index.

11. Karunaratne, A.S.; Azam-Ali, S.N.; Al-Shareef, I.; Sesay, A.; Jorgensen, S.T.; Crout, N.M.J. Modelling the Canopy Development of Bambara Groundnut. *Agric For Meteorol* **2010**, *150*, 1007–1015, doi:10.1016/j.agrformet.2010.03.006 WE - Science Citation Index Expanded (SCI-EXPANDED).

12. Karunaratne, A.S.; Walker, S.; Azam-Ali, S.N. Assessing the Productivity and Resource-Use Efficiency of Underutilised Crops: Towards an Integrative System. *Agric Water Manag* **2015**, *147*, 129–134, doi:10.1016/j.agwat.2014.08.002 WE - Science Citation Index Expanded (SCI-EXPANDED).

13. Tingem, M.; Rivington, M.; Bellocchi, G.; Colls, J. Crop Yield Model Validation for Cameroon. *Theor Appl Climatol* **2009**, *96*, 275–280, doi:10.1007/s00704-008-0030-8.

14. Tingem, M.; Rivington, M.; Bellocchi, G.; Azam-Ali, S.; Colls, J. Effects of Climate Change on Crop Production in Cameroon. *Clim Res* **2008**, *36*, 65–77, doi:10.3354/cr00733.

15. Tingem, M.; Rivington, M.; Bellocchi, G.; Colls, J. Crop Yield Model Validation for Cameroon. *Theor Appl Climatol* **2009**, *96*, 275–280, doi:10.1007/s00704-008-0030-8 WE - Science Citation Index Expanded (SCI-EXPANDED).

16. Visses, F.D.; Sentelhas, P.C.; Pereira, A.B. Yield Gap of Cassava Crop as a Measure of Food Security - an Example for the Main Brazilian Producing Regions. *Food Secur* **2018**, *10*, 1191–1202, doi:10.1007/s12571-018-0831-2 WE - Science Citation Index Expanded (SCI-EXPANDED).

17. Lee, S.K.; Dang, T.A. Crop Calendar Shift as a Climate Change Adaptation Solution for Cassava Cultivation Area of Binh Thuan Province, Vietnam. *Pakistan Journal of Biological Sciences* **2020**, *23*, 946–952, doi:10.3923/pjbs.2020.946.952.

18. Van Hong, N.; Truong An, D. Potential Benefits of Altering the Cassava Farming Practices in the Water Shortage Regions of Vietnam. *Journal of Agrometeorology* **2021**, *23*, 396–401, doi:10.54386/jam.v23i4.143.

19. Wellens, J.; Raes, D.; Fereres, E.; Diels, J.; Coppye, C.; Adiele, J.G.; Ezui, K.S.G.; Becerra, L.A.; Selvaraj, M.G.; Dercon, G.; et al. Calibration and Validation of the FAO AquaCrop Water Productivity Model for Cassava (Manihot Esculenta Crantz). *Agric Water Manag* **2022**, *263*, doi:10.1016/j.agwat.2022.107491 WE - Science Citation Index Expanded (SCI-EXPANDED).

20. Phoncharoen, P.; Banterng, P.; Vorasoot, N.; Jogloy, S.; Theerakulpisut, P.; Hoogenboom, G. Identifying Suitable Genotypes for Different Cassava Production Environments-A Modeling Approach. *AGRONOMY-BASEL* **2021**, *11*, doi:10.3390/agronomy11071372 WE - Science Citation Index Expanded (SCI-EXPANDED).

21. Sawatraksa, N.; Banterng, P.; Jogloy, S.; Vorasoot, N.; Cadena, L.P.M.; Hoogenboom, G. Performance of a Model in Simulating Growth and Stability for Cassava Grown after Rice. *Agron J* **2021**, *113*, 2335–2348, doi:10.1002/agj2.20687.

22. Bidogeza, J.C.; Hoogenboom, G.; Berensten, P.B.M.; de Graaff, J.; Oude Lansink, A.G.J.M. Application of DSSAT Crop Models to Generate Alternative Production Activities Under Combined Use of Organic-Inorganic Nutrients in Rwanda. *J Crop Improv* **2012**, *26*, 346–363, doi:10.1080/15427528.2011.641140.

23. Kaweewong, J.; Tawornpruek, S.; Yampracha, S.; Yost, R.; Kongton, S.; Kongkeaw, T. Cassava Nitrogen Requirements in Thailand and Crop Simulation Model Predictions. *Soil Sci* **2013**, *178*, 248–255, doi:10.1097/SS.0b013e31829a283f WE - Science Citation Index Expanded (SCI-EXPANDED).

24. Moreno-Cadena, L.P.; Hoogenboom, G.; Fisher, M.J.; Ramirez-Villegas, J.; Prager, S.D.; Lopez-Lavalle, L.A.B.; Pypers, P.; de Tafur, M.S.M.; Wallach, D.; Munoz-Carpena, R.; et al. Importance of Genetic Parameters and Uncertainty of MANIHOT, a New Mechanistic Cassava Simulation Model. *EUROPEAN JOURNAL OF AGRONOMY* **2020**, *115*, doi:10.1016/j.eja.2020.126031 WE - Science Citation Index Expanded (SCI-EXPANDED).

25. Mereu, V.; Carboni, G.; Gallo, A.; Cervigni, R.; Spano, D. Impact of Climate Change on Staple Food Crop Production in Nigeria. *Clim Change* **2015**, *132*, 321–336, doi:10.1007/s10584-015-1428-9 WE - Science Citation Index Expanded (SCI-EXPANDED).

26. Kumsueb, B.; Jintrawet, A. Recent Evaluations and Applications of a Cassava Model in Thailand: A Review. *Curr Appl Sci Technol* **2020**, *20*.

27. Adejuwon, J.O. Food Crop Production in Nigeria. II. Potential Effects of Climate Change. *Clim Res* **2006**, *32*, 229–245, doi:10.3354/cr032229.

28. Adejuwon, J.O. Assessing the Suitability of the Epic Crop Model for Use in the Study of Impacts of Climate Variability and Climate Change in West Africa. *Singap J Trop Geogr* **2005**, *26*, 44–60, doi:10.1111/j.0129-7619.2005.00203.x.

29. Ezui, K.S.; Leffelaar, P.A.; Franke, A.C.; Mando, A.; Giller, K.E. Simulating Drought Impact and Mitigation in Cassava Using the LINTUL Model. *Field Crops Res* **2018**, *219*, 256–272, doi:10.1016/j.fcr.2018.01.033.

30. Adiele, J.G.; Schut, A.G.T.; Ezui, K.S.; Giller, K.E. LINTUL-Cassava-NPK: A Simulation Model for Nutrient-Limited Cassava Growth. *Field Crops Res* **2022**, *281*, doi:10.1016/j.fcr.2022.108488.

31. Ezui, K.S.; Leffelaar, P.A.; Franke, A.C.; Mando, A.; Giller, K.E. Decision Support System for Site-Specific Fertilizer Recommendations in Cassava Production in Southern Togo. In *Improving the Profitability, Sustainability and Efficiency of Nutrients Through Site Specific Fertilizer Recommendations in West Africa Agro-Ecosystems*; Springer International Publishing, 2018; Vol. 2, pp. 125–138 ISBN 9783319587929.

32. Adiele, J.G.; Schut, A.G.T.; Ezui, K.S.; Giller, K.E. LINTUL-Cassava-NPK: A Simulation Model for Nutrient-Limited Cassava Growth. *Field Crops Res* **2022**, *281*, doi:10.1016/j.fcr.2022.108488 WE - Science Citation Index Expanded (SCI-EXPANDED).

33. Adiele, J.; Schut, A.; Ezui, K.; … P.P.-2019 A.-C.; 2019, undefined Simulating Cassava Growth Under Rain-Fed Conditions in Nigeria. *Research.Wur.Nl*.

34. Adiele, J.G.; Schut, A.G.T.; van den Beuken, R.P.M.; Ezui, K.S.; Pypers, P.; Ano, A.O.; Egesi, C.N.; Giller, K.E. A Recalibrated and Tested LINTUL-Cassava Simulation Model Provides Insight into the High Yield Potential of Cassava under Rainfed Conditions. *European Journal of Agronomy* **2021**, *124*, doi:10.1016/j.eja.2021.126242.

35. Olajire, M.A.; Matthew, O.J.; Omotara, O.A.; Aderanti, A. Assessment of Indigenous Climate Change Adaptation Strategies and Its Impacts on Food Crop Yields in Osun State, Southwestern Nigeria. *AGRICULTURAL RESEARCH* **2020**, *9*, 222–231, doi:10.1007/s40003-019-00424-8 WE - Emerging Sources Citation Index (ESCI).

36. Mithra, V.S.S.; Sreekumar, J.; Ravindran, C.S. Computer Simulation of Cassava Growth: A Tool for Realizing the Potential Yield. *Arch Agron Soil Sci* **2013**, *59*, 603–623, doi:10.1080/03650340.2011.653681 WE - Science Citation Index Expanded (SCI-EXPANDED).

37. Pushpalatha, R.; Kutty, G.; Gangadharan, B. Sensitivity Analysis of WOFOST for Yield Simulation of Cassava over the Major Growing Areas of India. *Journal of Agrometeorology* **2021**, *23*, 375–380, doi:10.54386/JAM.V23I4.140.

38. Pushpalatha, R.; Shiny, R.; Kutty, G.; Dua, V.K.; Sunitha, S.; Mithra, V.S.S.; Byju, G. Testing of Cassava (Manihot Esculenta) Varieties for Climate Resilience Under Kerala (India) Conditions. *AGRICULTURAL RESEARCH* **2022**, *11*, 24–31, doi:10.1007/s40003-021-00547-x.

39. Pushpalatha, R.; Gangadharan, B. Assessing the Influence of Climate Model Biases in Predicting Yield and Irrigation Requirement of Cassava. *Model Earth Syst Environ* **2021**, *7*, 307–315, doi:10.1007/s40808-020-01038-8.

40. de Barros, I.; Gaiser, T.; Lange, F.M.; Romheld, V. Mineral Nutrition and Water Use Patterns of a Maize/Cowpea Intercrop on a Highly Acidic Soil of the Tropic Semiarid. *Field Crops Res* **2007**, *101*, 26–36, doi:10.1016/j.fcr.2006.09.005 WE - Science Citation Index Expanded (SCI-EXPANDED).

41. Arshad, M. Fortnightly Dynamics and Relationship of Growth, Dry Matter Partition and Productivity of Maize Based Sole and Intercropping Systems at Different Elevations. *EUROPEAN JOURNAL OF AGRONOMY* **2021**, *130*, doi:10.1016/j.eja.2021.126377.

42. Chimonyo, V.G.P.; Modi, A.T.; Mabhaudhi, T. Water Use and Productivity of a Sorghum–Cowpea–Bottle Gourd Intercrop System. *Agric Water Manag* **2016**, *165*, 82–96, doi:10.1016/j.agwat.2015.11.014.

43. Chimonyo, V.G.P.; Modi, A.T.; Mabhaudhi, T. Simulating Yield and Water Use of a Sorghum–Cowpea Intercrop Using APSIM. *Agric Water Manag* **2016**, *177*, 317–328, doi:10.1016/j.agwat.2016.08.021.

44. Chimonyo, V.G.P.; Modi, A.T.; Mabhaudhi, T. Assessment of Sorghum–Cowpea Intercrop System under Water-Limited Conditions Using a Decision Support Tool. *Water SA* **2016**, *42*, 316–327, doi:10.4314/wsa.v42i2.15.

45. Sennhenn, A.; Njarui, D.M.G.; Maass, B.L.; Whitbread, A.M. Exploring Niches for Short-Season Grain Legumes in Semi-Arid Eastern Kenya - Coping with the Impacts of Climate Variability. *Front Plant Sci* **2017**, *8*, doi:10.3389/fpls.2017.00699 WE - Science Citation Index Expanded (SCI-EXPANDED).

46. Nelson, W.C.D.; Hoffmann, M.P.; Vadez, V.; Rötter, R.P.; Koch, M.; Whitbread, A.M. Can Intercropping Be an Adaptation to Drought? A Model-Based Analysis for Pearl Millet–Cowpea. *J Agron Crop Sci* **2021**, doi:10.1111/jac.12552.

47. Chimonyo, V.G.P.; Modi, A.T.; Mabhaudhi, T. Assessment of Sorghum-Cowpea Intercrop System under Water-Limited Conditions Using a Decision Support Tool. *WATER SA* **2016**, *42*, 316–327, doi:10.4314/wsa.v42i2.15 WE - Science Citation Index Expanded (SCI-EXPANDED).

48. Chimonyo, V.G.P.; Modi, A.T.; Mabhaudhi, T. Simulating Yield and Water Use of a Sorghum-Cowpea Intercrop Using APSIM. *Agric Water Manag* **2016**, *177*, 317–328, doi:10.1016/j.agwat.2016.08.021 WE - Science Citation Index Expanded (SCI-EXPANDED).

49. Nunes, H.G.G.C.H.G.G.C.; Sousa, D.P.; Moura, V.B.V.B.; Ferreira, D.P.D.P.; Pinto, J.V.N.; de Oliveira Vieira, I.C.I.C.; Farias, V.D.S.; Oliveira, E.C.; de Souza, P.J.O.P.; de Pinho Sousa, D.; et al. Performance of the AquaCrop Model in the Climate Risk Analysis and Yield Prediction of Cowpea ('Vigna Unguiculatta'L. Walp). *Aust J Crop Sci* **2019**, *13*, 1105, doi:10.21475/ajcs.19.13.07.p1590.

50. Kanda, E.K.; Senzanje, A.; Mabhaudhi, T. Calibration and Validation of the AquaCrop Model for Full and Deficit Irrigated Cowpea (Vigna Unguiculata (L.) Walp). *PHYSICS AND CHEMISTRY OF THE EARTH* **2021**, *124*, doi:10.1016/j.pce.2020.102941.

51. Lima Filho, A.F.; Coelho Filho, M.A.; Heinemann, A.B. Calibration and Evaluation of CROPGRO Model for Cowpea in Recôncavo of Bahia - Brazil . *Revista Brasileira de Engenharia Agricola e Ambiental* **2013**, *17*, 1286–1293, doi:10.1590/S1415-43662013001200006.

52. Lima, A.F.; Coelho, M.A.; Heinemann, A.B.; Lima Filho, A.F.; Coelho Filho, M.A.; Heinemann, A.B. Determining the Optimum Sowing Dates for Cowpea Based on CROPGRO Model in Recôncavo of Bahia - Brazil . *REVISTA BRASILEIRA DE ENGENHARIA AGRICOLA E AMBIENTAL* **2013**, *17*, 1294–1300, doi:10.1590/S1415-43662013001200007 WE - Science Citation Index Expanded (SCI-EXPANDED).

53. Ngwira, A.R.; Aune, J.B.; Thierfelder, C. DSSAT Modelling of Conservation Agriculture Maize Response to Climate Change in Malawi. *Soil Tillage Res* **2014**, *143*, 85–94, doi:10.1016/j.still.2014.05.003 WE - Science Citation Index Expanded (SCI-EXPANDED).

54. Ngwira, A.R.; Aune, J.B.; Thierfelder, C. DSSAT Modelling of Conservation Agriculture Maize Response to Climate Change in Malawi. *Soil Tillage Res* **2014**, *143*, 85–94, doi:10.1016/j.still.2014.05.003.

55. Wang, G.; McGiffen Jr, M.E.; Lindquist, J.L.; Ehlers, J.D.; Sartorato, I. Simulation Study of the Competitive Ability of Erect, Semi-erect and Prostrate Cowpea (Vigna Unguiculata) Genotypes. *Weed Res* **2007**, *47*, 129–139.

56. Matthew, O.J.; Abiodun, B.J.; Salami, A.T. Modelling the Impacts of Climate Variability on Crop Yields in Nigeria: Performance Evaluation of RegCM3-GLAM System. *METEOROLOGICAL APPLICATIONS* **2015**, *22*, 198–212, doi:10.1002/met.1443 WE - Science Citation Index Expanded (SCI-EXPANDED).

57. de Nóvoa Pinto, J. V; Sousa, D.P.; Nunes, H.G.G.C.; de Souza, E.B.; de Melo-Abreu, J.P.; Sousa, A.M.L.; de Souza, P.J.O.P. Impacts of Climate Changes on Risk Zoning for Cowpea in the Amazonian Tropical Conditions. *Bragantia* **2021**, *80*, doi:10.1590/1678-4499.20210118.

58. van Loon, M.P.; Deng, N.Y.; Grassini, P.; Edreira, J.I.R.; Wolde-Meskel, E.; Baijukya, F.; Marrou, H.; van Ittersum, M.K. Prospect for Increasing Grain Legume Crop Production in East Africa. *EUROPEAN JOURNAL OF AGRONOMY* **2018**, *101*, 140–148, doi:10.1016/j.eja.2018.09.004 WE - Science Citation Index Expanded (SCI-EXPANDED).

59. Traoré, A.; Falconnier, G.N.; Ba, A.; Sissoko, F.; Sultan, B.; Affholder, F. Modeling Sorghum-Cowpea Intercropping for a Site in the Savannah Zone of Mali: Strengths and Weaknesses of the Stics Model. *Field Crops Res* **2022**, *285*, doi:10.1016/j.fcr.2022.108581.

60. Nelson, W.C.D.; Hoffmann, M.P.; Vadez, V.; Rotter, R.P.; Koch, M.; Whitbread, A.M. Can Intercropping Be an Adaptation to Drought? A Model-Based Analysis for Pearl Millet-Cowpea. *J Agron Crop Sci*, doi:10.1111/jac.12552.

61. Martinez, M.J.; Furst, C.; Martínez, M.J.; Fürst, C. Simulating the Capacity of Rainfed Food Crop Species to Meet Social Demands in Sudanian Savanna Agro-Ecologies.

Land (Basel) **2021**, *10*, doi:10.3390/land10080827 WE - Social Science Citation Index (SSCI).

62. Santos, R.D.; Boote, K.J.; Sollenberger, L.E.; Neves, A.L.A.; Pereira, L.G.R.; Scherer, C.B.; Goncalves, L.C. Simulated Optimum Sowing Date for Forage Pearl Millet Cultivars in Multilocation Trials in Brazilian Semi-Arid Region. *Front Plant Sci* **2017**, *8*, doi:10.3389/fpls.2017.02074 WE - Science Citation Index Expanded (SCI-EXPANDED).

63. Soler, C.M.T.; Maman, N.; Zhang, X.; Mason, S.C.; Hoogenboom, G. Determining Optimum Planting Dates for Pearl Millet for Two Contrasting Environments Using a Modelling Approach. *JOURNAL OF AGRICULTURAL SCIENCE* **2008**, *146*, 445–459, doi:10.1017/S0021859607007617 WE - Science Citation Index Expanded (SCI-EXPANDED).

64. Jha, P.K.; Araya, A.; Stewart, Z.P.; Faye, A.; Traore, H.; Middendorf, B.J.; Prasad, P.V. V Projecting Potential Impact of COVID-19 on Major Cereal Crops in Senegal and Burkina Faso Using Crop Simulation Models. *Agric Syst* **2021**, *190*, doi:10.1016/j.agsy.2021.103107.

65. MacCarthy, D.S.; Adiku, S.G.K.; Freduah, B.S.; Gbefo, F.; Kamara, A.Y. Using CERES-Maize and ENSO as Decision Support Tools to Evaluate Climate Sensitive Farm Management Practices for Maize Production in the Northern Regions of Ghana. *Front Plant Sci* **2017**, *8*, doi:10.3389/fpls.2017.00031 WE - Science Citation Index Expanded (SCI-EXPANDED).

66. Yang, M.J.; Wang, G.L.; Ahmed, K.F.; Adugna, B.; Eggen, M.; Atsbeha, E.; You, L.Z.; Koo, J.; Anagnostou, E. The Role of Climate in the Trend and Variability of Ethiopia's Cereal Crop Yields. *SCIENCE OF THE TOTAL ENVIRONMENT* **2020**, *723*, doi:10.1016/j.scitotenv.2020.137893 WE - Science Citation Index Expanded (SCI-EXPANDED).

67. Kamali, B.; Jahanbakhshi, F.; Dogaru, D.; Dietrich, J.; Nendel, C.; AghaKouchak, A. Probabilistic Modeling of Crop-Yield Loss Risk under Drought: A Spatial Showcase for Sub-Saharan Africa. *ENVIRONMENTAL RESEARCH LETTERS* **2022**, *17*, doi:10.1088/1748-9326/ac4ec1 WE - Science Citation Index Expanded (SCI-EXPANDED).

68. Adejuwon, J.O. Assessing the Suitability of the Epic Crop Model for Use in the Study of Impacts of Climate Variability and Climate Change in West Africa. *Singap J Trop Geogr* **2005**, *26*, 44–60, doi:10.1111/j.0129-7619.2005.00203.x WE - Social Science Citation Index (SSCI).

69. McMaster, G.S.; Ascough, J.C.; Edmunds, D.A.; Nielsen, D.C.; Prasad, P.V. V SIMULATING CROP PHENOLOGICAL RESPONSES TO WATER STRESS USING THE PHENOLOGYMMS SOFTWARE PROGRAM. *Appl Eng Agric* **2013**, *29*, 233-249 WE-Science Citation Index Expanded (SCI.

70. Affholder, F. Empirically Modelling the Interaction between Intensification and Climatic Risk in Semiarid Regions. *Field Crops Res* **1997**, *52*, 79–93, doi:10.1016/S0378-4290(96)03453-3 WE - Science Citation Index Expanded (SCI-EXPANDED).

71. Traoré, S.B.; Alhassane, A.; Muller, B.; Kouressy, M.; Somé, L.; Sultan, B.; Oettli, P.; Siéné Laopé, A.C.; Sangaré, S.; Vaksmann, M.; et al. Characterizing and Modeling the Diversity of Cropping Situations under Climatic Constraints in West Africa. *ATMOSPHERIC SCIENCE LETTERS* **2011**, *12*, 89–95, doi:10.1002/asl.295 WE - Science Citation Index Expanded (SCI-EXPANDED).

72. Sultan, B.; Roudier, P.; Quirion, P.; Alhassane, A.; Muller, B.; Dingkuhn, M.; Ciais, P.; Guimberteau, M.; Traore, S.; Baron, C. Assessing Climate Change Impacts on

Sorghum and Millet Yields in the Sudanian and Sahelian Savannas of West Africa. *ENVIRONMENTAL RESEARCH LETTERS* **2013**, *8*, doi:10.1088/1748-9326/8/1/014040 WE - Science Citation Index Expanded (SCI-EXPANDED).

73. Sultan, B.; Defrance, D.; Iizmui, T. Evidence of Crop Production Losses in West Africa Due to Historical Global Warming in Two Crop Models. *Sci Rep* **2019**, *9*, doi:10.1038/s41598-019-49167-0 WE - Science Citation Index Expanded (SCI-EXPANDED).

74. Boubou Diallo, M.; Akponikpè, P.B.I.; Abasse, T.; Fatondji, D.; Agbossou, E.K. Why Is the Spatial Variability of Millet Yield High at Farm Level in the Sahel? Implications for Research and Development. *https://doi.org/10.1080/15324982.2019.1625984* **2019**, *33*, 351–374, doi:10.1080/15324982.2019.1625984.

75. Akponikpè, P.B.I.; Gérard, B.; Michels, K.; Bielders, C. Use of the APSIM Model in Long Term Simulation to Support Decision Making Regarding Nitrogen Management for Pearl Millet in the Sahel. *European Journal of Agronomy* **2010**, *32*, 144–154, doi:10.1016/J.EJA.2009.09.005.

76. Oettli, P.; Sultan, B.; Baron, C.; Vrac, M. Are Regional Climate Models Relevant for Crop Yield Prediction in West Africa? *Environmental Research Letters* **2011**, *6*, doi:10.1088/1748-9326/6/1/014008.

77. Sultan, B.; Baron, C.; Dingkuhn, M.; Sarr, B.; Janicot, S. Agricultural Impacts of Large-Scale Variability of the West African Monsoon. *Agric For Meteorol* **2005**, *128*, 93–110, doi:10.1016/j.agrformet.2004.08.005.

78. Sultan, B.; Guan, K.; Kouressy, M.; Biasutti, M.; Piani, C.; Hammer, G.L.; McLean, G.; Lobell, D.B. Robust Features of Future Climate Change Impacts on Sorghum Yields in West Africa. *Environmental Research Letters* **2014**, *9*, doi:10.1088/1748-9326/9/10/104006.

79. Adejuwon, J. Assessing the Suitability of the Epic Crop Model for Use in the Study of Impacts of Climate Variability and Climate Change in West Africa. *Singap J Trop Geogr* **2005**, *26*, 44–60, doi:10.1111/j.0129-7619.2005.00203.x.

80. Adejuwon, J.O. Food Crop Production in Nigeria. II. Potential Effects of Climate Change. *Clim Res* **2006**, *32*, 229–245, doi:10.3354/cr032229.

81. Ncube, B.; Dimes, J.P.; van Wijk, M.T.; Twomlow, S.J.; Giller, K.E. Productivity and Residual Benefits of Grain Legumes to Sorghum under Semi-Arid Conditions in South-Western Zimbabwe: Unravelling the Effects of Water and Nitrogen Using a Simulation Model. *Field Crops Res* **2009**, *110*, 173–184, doi:10.1016/j.fcr.2008.08.001.

82. Snapp, S.; Kerr, R.B.; Smith, A.; Ollenburger, M.; Mhango, W.; Shumba, L.; Gondwe, T.; Kanyama-Phiri, G. Modeling and Participatory Farmer-Led Approaches to Food Security in a Changing World: A Case Study from Malawi. *Science et Changements Planetaires - Secheresse* **2013**, *24*, 350–358, doi:10.1684/sec.2014.0409.

83. Snapp, S.; Kerr, R.B.; Smith, A.; Ollenburger, M.; Mhango, W.; Shumba, L.; Gondwe, T.; Kanyama-Phiri, G. Modeling and Participatory Farmer-Led Approaches to Food Security in a Changing World: A Case Study from Malawi. *Science et Changements Planetaires - Secheresse* **2013**, *24*, 350–358, doi:10.1684/sec.2014.0409.

84. Smith, A.A. Effects of Maize Cowpea Intercropping on Yield Stability and Production Risk in Central Malawi : A Modeling Study, Michigan State University, 2014.

85. Smith, A.; Snapp, S.; Dimes, J.; Gwenambira, C.; Chikowo, R. Doubled-up Legume Rotations Improve Soil Fertility and Maintain Productivity under Variable Conditions in Maize-Based Cropping Systems in Malawi. *Agric Syst* **2016**, *145*, 139–149, doi:10.1016/j.agsy.2016.03.008.

86. Van Gaelen, H.; Tsegay, A.; Delbecque, N.; Shrestha, N.; Garcia, M.; Fajardo, H.; Miranda, R.; Vanuytrecht, E.; Abrha, B.; Diels, J.; et al. A Semi-Quantitative Approach for Modelling Crop Response to Soil Fertility: Evaluation of the AquaCrop Procedure. *JOURNAL OF AGRICULTURAL SCIENCE* **2015**, *153*, 1218–1233, doi:10.1017/S0021859614000872 WE - Science Citation Index Expanded (SCI-EXPANDED).

87. Xie, Y.; Kiniry, J.; Liu, B. Validation of the ALMANAC Model with Different Spatial Scale. *Chinese Journal of Applied Ecology* **2003**, *14*, 1291–1295.

88. Xie, Y.; Kiniry, J.R.; Williams, J.R. The ALMANAC Model's Sensitivity to Input Variables. *Agric Syst* **2003**, *78*, 1–16, doi:10.1016/S0308-521X(03)00002-7 WE - Science Citation Index Expanded (SCI-EXPANDED).

89. Kiniry, J.R.; Bockholt, A.J. Maize and Sorghum Simulation in Diverse Texas Environments. *Agron J* **1998**, *90*, 682–687, doi:10.2134/agronj1998.00021962009000050018x WE - Science Citation Index Expanded (SCI-EXPANDED).

90. Xie, Y.; Kiniry, J.R.; Nedbalek, V.; Rosenthal, W.D. Maize and Sorghum Simulations with CERES-Maize, SORKAM, and ALMANAC under Water-Limiting Conditions. *Agron J* **2001**, *93*, 1148–1155, doi:10.2134/agronj2001.9351148x WE - Science Citation Index Expanded (SCI-EXPANDED).

91. Chimonyo, V. Quantifying Productivity and Water Use of Sorghum Intercrop Systems, 2016.

92. Akinseye, F.M.; Adam, M.; Agele, S.O.; Hoffmann, M.P.; Traore, P.C.S.S.; Whitbread, A.M. Assessing Crop Model Improvements through Comparison of Sorghum (Sorghum Bicolor L. Moench) Simulation Models: A Case Study of West African Varieties. *Field Crops Res* **2017**, *201*, 19–31, doi:10.1016/j.fcr.2016.10.015.

93. McCarthy, D.; Vlek, P. Impact of Climate Change on Sorghum Production under Different Nutrient and Crop Residue Management in Semi-Arid Region of Ghana: A Modeling Perspective. *Afr Crop Sci J* **2012**.

94. Keating, B.A.; Meinke, H. Assessing Exceptional Drought with a Cropping Systems Simulator: A Case Study for Grain Production in Northeast Australia. *Agric Syst* **1998**, *57*, 315–332, doi:10.1016/S0308-521X(98)00021-3 WE - Science Citation Index Expanded (SCI-EXPANDED).

95. Akinseye, F.M.; Ajeigbe, H.A.; Traore, P.C.S.; Agele, S.O.; Zemadim, B.; Whitbread, A. Improving Sorghum Productivity under Changing Climatic Conditions: A Modelling Approach. *Field Crops Res* **2020**, *246*, doi:10.1016/j.fcr.2019.107685 WE - Science Citation Index Expanded (SCI-EXPANDED).

96. Akinseye, F.M.; Folorunsho, A.H.; Ajeigbe; Hakeem, A.; Agele, S.O. Impacts of Rainfall and Temperature on Photoperiod Insensitive Sorghum Cultivar : Model Evaluation and Sensitivity Analysis. *JOURNAL OF AGROMETEOROLOGY* **2019**, *21*, 262-269 WE-Science Citation Index Expanded (SCI.

97. Carberry, P.S.; Hochman, Z.; Hunt, J.R.; Dalgliesh, N.P.; McCown, R.L.; Whish, J.P.M.; Robertson, M.J.; Foale, M.A.; Poulton, P.L.; van Rees, H. Re-Inventing Model-Based Decision Support with Australian Dryland Farmers. 3. Relevance of APSIM to Commercial Crops. *Crop Pasture Sci* **2009**, *60*, 1044–1056, doi:10.1071/CP09052 WE - Science Citation Index Expanded (SCI-EXPANDED).

98. Della Nave, F.N.; Ojeda, J.J.; Irisarri, J.G.N.; Pembleton, K.; Oyarzabal, M.; Oesterheld, M. Calibrating APSIM for Forage Sorghum Using Remote Sensing and Field Data under Sub-Optimal Growth Conditions. *Agric Syst* **2022**, *201*, doi:10.1016/j.agsy.2022.103459.

99. Hammer, G.L.; McLean, G.; Chapman, S.; Zheng, B.Y.; Doherty, A.; Harrison, M.T.; van Oosterom, E.; Jordan, D. Crop Design for Specific Adaptation in Variable Dryland Production Environments. *Crop Pasture Sci* **2014**, *65*, 614–626, doi:10.1071/CP14088 WE - Science Citation Index Expanded (SCI-EXPANDED).

100. Hammer, G.L.; van Oosterom, E.; McLean, G.; Chapman, S.C.; Broad, I.; Harland, P.; Muchow, R.C. Adapting APSIM to Model the Physiology and Genetics of Complex Adaptive Traits in Field Crops. *J Exp Bot* **2010**, *61*, 2185–2202, doi:10.1093/jxb/erq095 WE - Science Citation Index Expanded (SCI-EXPANDED).

101. Kholova, J.; McLean, G.; Vadez, V.; Craufurd, P.; Hammer, G.L.; Kholová, J.; McLean, G.; Vadez, V.; Craufurd, P.; Hammer, G.L. Drought Stress Characterization of Post-Rainy Season (Rabi) Sorghum in India. *Field Crops Res* **2013**, *141*, 38–46, doi:10.1016/j.fcr.2012.10.020 WE - Science Citation Index Expanded (SCI-EXPANDED).

102. Masjedi, A.; Zhao, J.Q.; Thompson, A.M.; Yang, K.W.; Flatt, J.E.; Crawford, M.M.; Ebert, D.S.; Tuinstra, M.R.; Hammer, G.; Chapman, S.; et al. SORGHUM BIOMASS PREDICTION USING UAV-BASED REMOTE SENSING DATA AND CROP MODEL SIMULATION. *IGARSS 2018 - 2018 IEEE INTERNATIONAL GEOSCIENCE AND REMOTE SENSING SYMPOSIUM* 2018, 7719-7722 WE-Conference Proceedings Citation In.

103. Murray-Prior, R.B.; Whish, J.; Carberry, P.; Dalgleish, N. Lucerne Improves Some Sustainability Indicators but May Decrease Profitability of Cropping Rotations on the Jimbour Plain. *Aust J Exp Agric* **2005**, *45*, 651–663, doi:10.1071/EA03164 WE - Conference Proceedings Citation Index - Science (CPCI-S) WE - Science Citation Index Expanded (SCI-EXPANDED).

104. Pembleton, K.G.; Rawnsley, R.P.; Jacobs, J.L.; Mickan, F.J.; O'Brien, G.N.; Cullen, B.R.; Ramilan, T. Evaluating the Accuracy of the Agricultural Production Systems Simulator (APSIM) Simulating Growth, Development, and Herbage Nutritive Characteristics of Forage Crops Grown in the South-Eastern Dairy Regions of Australia. *Crop Pasture Sci* **2013**, *64*, 147–164, doi:10.1071/CP12372 WE - Science Citation Index Expanded (SCI-EXPANDED).

105. Truong, S.K.; McCormick, R.F.; Mullet, J.E. Bioenergy Sorghum Crop Model Predicts VPD-Limited Transpiration Traits Enhance Biomass Yield in Water-Limited Environments. *Front Plant Sci* **2017**, *8*, doi:10.3389/fpls.2017.00335 WE - Science Citation Index Expanded (SCI-EXPANDED).

106. Yang, K.W.; Chapman, S.; Carpenter, N.; Hammer, G.; McLean, G.; Zheng, B.Y.; Chen, Y.H.; Delp, E.; Masjedi, A.; Crawford, M.; et al. Integrating Crop Growth Models with Remote Sensing for Predicting Biomass Yield of Sorghum. *In Silico Plants* **2021**, *3*, doi:10.1093/insilicoplants/diab001.

107. Guan, K.Y.; Sultan, B.; Biasutti, M.; Baron, C.; Lobell, D.B. What Aspects of Future Rainfall Changes Matter for Crop Yields in West Africa? *Geophys Res Lett* **2015**, *42*, 8001–8010, doi:10.1002/2015GL063877 WE - Science Citation Index Expanded (SCI-EXPANDED).

108. Akinseye, F.M.; Adam, M.; Agele, S.O.; Hoffmann, M.P.; Traore, P.C.S.; Whitbread, A.M. Assessing Crop Model Improvements through Comparison of Sorghum (Sorghum Bicolor L. Moench) Simulation Models: A Case Study of West African Varieties. *Field Crops Res* **2017**, *201*, 19–31, doi:10.1016/j.fcr.2016.10.015 WE - Science Citation Index Expanded (SCI-EXPANDED).

109. Guan, K.; Sultan, B.; Biasutti, M.; Baron, C.; Lobell, D.B. Assessing Climate Adaptation Options and Uncertainties for Cereal Systems in West Africa. *Agric For Meteorol* **2017**,

232, 291–305, doi:10.1016/j.agrformet.2016.07.021 WE - Science Citation Index Expanded (SCI-EXPANDED).

110. Hadebe, S.T.; Mabhaudhi, T.; Modi, A.T. Sorghum Best Practice Management Recommendations Based on AquaCrop Modeling Scenario Analysis in Various Agro-Ecologies of KwaZulu Natal, South Africa. *PHYSICS AND CHEMISTRY OF THE EARTH* **2020**, *117*, doi:10.1016/j.pce.2020.102866 WE - Science Citation Index Expanded (SCI-EXPANDED).

111. Hadebe, S.T.; Modi, A.T.; Mabhaudhi, T. Calibration and Testing of AquaCrop for Selected Sorghum Genotypes. *WATER SA* **2017**, *43*, 209–221, doi:10.4314/wsa.v43i2.05 WE - Science Citation Index Expanded (SCI-EXPANDED).

112. Masasi, B.; Taghvaeian, S.; Gowda, P.H.; Warren, J.; Marek, G. Simulating Soil Water Content, Evapotranspiration, and Yield of Variably Irrigated Grain Sorghum Using AquaCrop. *J Am Water Resour Assoc* **2019**, *55*, 976–993, doi:10.1111/1752-1688.12757 WE - Science Citation Index Expanded (SCI-EXPANDED).

113. Starr, M.; Deng, B.; Helenius, J. AquaCrop-Simulated Response of Sorghum Biomass and Grain Yield to Biochar Amendment in South Sudan. *AGRONOMY-BASEL* **2020**, *10*, doi:10.3390/agronomy10010067 WE - Science Citation Index Expanded (SCI-EXPANDED).

114. Habte, A.; Worku, W.; Gayler, S.; Ayalew, D.; Mamo, G. Model-Based Yield Gap Analysis and Constraints of Rainfed Sorghum Production in Southwest Ethiopia. *JOURNAL OF AGRICULTURAL SCIENCE* **2020**, *158*, 855–869, doi:10.1017/S0021859621000435 WE - Science Citation Index Expanded (SCI-EXPANDED) WE - Conference Proceedings Citation Index - Science (CPCI-S).

115. Bauböck, R. Simulating the Yields of Bioenergy and Food Crops with the Crop Modeling Software BioSTAR: The Carbon-Based Growth Engine and the BioSTAR ET0 Method. *Environ Sci Eur* **2014**, *26*, doi:10.1186/2190-4715-26-1.

116. Degener, J.F. Atmospheric CO 2 Fertilization Effects on Biomass Yields of 10 Crops in Northern Germany. *Front Environ Sci* **2015**, *3*, doi:10.3389/fenvs.2015.00048.

117. Tingem, M.; Rivington, M.; Bellocchi, G.; Azam-Ali, S.; Colls, J. Effects of Climate Change on Crop Production in Cameroon. *Clim Res* **2008**, *36*, 65–77, doi:10.3354/cr00733 WE - Science Citation Index Expanded (SCI-EXPANDED).

118. Boote, K.J.; Prasad, V.; Allen, L.H.; Singh, P.; Jones, J.W. Modeling Sensitivity of Grain Yield to Elevated Temperature in the DSSAT Crop Models for Peanut, Soybean, Dry Bean, Chickpea, Sorghum, and Millet. *EUROPEAN JOURNAL OF AGRONOMY* **2018**, *100*, 99–109, doi:10.1016/j.eja.2017.09.002 WE - Science Citation Index Expanded (SCI-EXPANDED) WE - Conference Proceedings Citation Index - Science (CPCI-S).

119. Amouzou, K.A.; Lamers, J.P.A.; Naab, J.B.; Borgemeister, C.; Vlek, P.L.G.; Becker, M. Climate Change Impact on Water- and Nitrogen-Use Efficiencies and Yields of Maize and Sorghum in the Northern Benin Dry Savanna, West Africa. *Field Crops Res* **2019**, *235*, 104–117, doi:10.1016/j.fcr.2019.02.021 WE - Science Citation Index Expanded (SCI-EXPANDED).

120. Amouzou, K.A.; Naab, J.B.; Lamers, J.P.A.; Becker, M. CERES-Maize and CERES-Sorghum for Modeling Growth, Nitrogen and Phosphorus Uptake, and Soil Moisture Dynamics in the Dry Savanna of West Africa. *Field Crops Res* **2018**, *217*, 134–149, doi:10.1016/j.fcr.2017.12.017 WE - Science Citation Index Expanded (SCI-EXPANDED).

121. Chadalavada, K.; Gummadi, S.; Kundeti, K.R.; Kadiyala, D.M.; Deevi, K.C.; Dakhore, K.K.; Diana, R.K.B.; Thiruppathi, S.K. Simulating Potential Impacts of Future Climate Change on Post-Rainy Season Sorghum Yields in India. *Sustainability* **2022**, *14*,

doi:10.3390/su14010334 WE - Science Citation Index Expanded (SCI-EXPANDED) WE - Social Science Citation Index (SSCI).

122. Ahmad, S.; Hussain, S.; Fatima, Z.; Abbas, G.; Atique-ur-Rehman; Khan, M.R.; Younis, H.; Naz, S.; Sohail, M.; Ajmal, M.; et al. Application of DSSAT Model for Sowing Date Management of C4 Summer Cereals for Fodder and Grain Crops under Irrigated Arid Environment. *Pak J Life Soc Sci* **2016**, *14*, 104–114.

123. Paff, K.; Asseng, S. A Crop Simulation Model for Tef (Eragrostis Tef (Zucc.) Trotter). *Agronomy* **2019**, *9*, doi:10.3390/agronomy9120817.

124. Paff, K.; Asseng, S. Comparing the Effects of Growing Conditions on Simulated Ethiopian Tef and Wheat Yields. *Agric For Meteorol* **2019**, *266–267*, 208–220, doi:10.1016/j.agrformet.2018.12.010.

125. Grossi, M.C.; Justino, F.; Andrade, C.D.T.; Santos, E.A.; Rodrigues, R.A.; Costa, L.C. Modeling the Impact of Global Warming on the Sorghum Sowing Window in Distinct Climates in Brazil. *EUROPEAN JOURNAL OF AGRONOMY* **2013**, *51*, 53–64, doi:10.1016/j.eja.2013.07.002 WE - Science Citation Index Expanded (SCI-EXPANDED).

126. Adam, M.; Dzotsi, K.A.; Hoogenboom, G.; Traore, P.C.S.; Porter, C.H.; Rattunde, H.F.W.; Nebie, B.; Leiser, W.L.; Weltzien, E.; Jones, J.W. Modelling Varietal Differences in Response to Phosphorus in West African Sorghum. *EUROPEAN JOURNAL OF AGRONOMY* **2018**, *100*, 35–43, doi:10.1016/j.eja.2018.04.001 WE - Science Citation Index Expanded (SCI-EXPANDED) WE - Conference Proceedings Citation Index - Science (CPCI-S).

127. Getachew, F.; Bayabil, H.K.; Hoogenboom, G.; Teshome, F.T.; Zewdu, E. Irrigation and Shifting Planting Date as Climate Change Adaptation Strategies for Sorghum. *Agric Water Manag* **2021**, *255*, doi:10.1016/j.agwat.2021.106988.

128. Gohain, G.B.; Singh, K.K.; Singh, R.S.; Dakhore, K.K.; Ghosh, K. Application of CERES-Sorghum Crop Simulation Model DSSAT v4.7 for Determining Crop Water Stress in Crop Phenological Stages. *Model Earth Syst Environ* **2022**, *8*, 1963–1975, doi:10.1007/s40808-021-01194-5.

129. Guitton, B.; Thera, K.; Tekete, M.L.; Pot, D.; Kouressy, M.; Teme, N.; Rami, J.F.; Vaksmann, M. Integrating Genetic Analysis and Crop Modeling: A Major QTL Can Finely Adjust Photoperiod-Sensitive Sorghum Flowering. *Field Crops Res* **2018**, *221*, 7–18, doi:10.1016/j.fcr.2018.02.007 WE - Science Citation Index Expanded (SCI-EXPANDED).

130. Raymundo, R.; Sexton-Bowser, S.; Ciampitti, I.A.; Morris, G.P. Crop Modeling Defines Opportunities and Challenges for Drought Escape, Water Capture, and Yield Increase Using Chilling-Tolerant Sorghum. *Plant Direct* **2021**, *5*, doi:10.1002/pld3.349 WE - Science Citation Index Expanded (SCI-EXPANDED).

131. Singh, P.; Nedumaran, S.; Traore, P.C.S.; Boote, K.J.; Rattunde, H.F.W.; Prasad, P.V. V; Singh, N.P.; Srinivas, K.; Bantilan, M.C.S. Quantifying Potential Benefits of Drought and Heat Tolerance in Rainy Season Sorghum for Adapting to Climate Change. *Agric For Meteorol* **2014**, *185*, 37–48, doi:10.1016/j.agrformet.2013.10.012 WE - Science Citation Index Expanded (SCI-EXPANDED).

132. Staggenborg, S.A.; Vanderlip, R.L. Crop Simulation Models Can Be Used as Dryland Cropping Systems Research Tools. *Agron J* **2005**, *97*, 378–384, doi:10.2134/agronj2005.0378 WE - Conference Proceedings Citation Index - Science (CPCI-S) WE - Science Citation Index Expanded (SCI-EXPANDED).

133. Yang, M.J.; Wang, G.L.; Lazin, R.; Shen, X.Y.; Anagnostou, E. Impact of Planting Time Soil Moisture on Cereal Crop Yield in the Upper Blue Nile Basin: A Novel Insight

towards Agricultural Water Management. *Agric Water Manag* **2021**, *243*, doi:10.1016/j.agwat.2020.106430 WE - Science Citation Index Expanded (SCI-EXPANDED).

134. Adam, M.; MacCarthy, D.S.; Traore, P.C.S.; Nenkam, A.; Freduah, B.S.; Ly, M.; Adiku, S.G.K. Which Is More Important to Sorghum Production Systems in the Sudano-Sahelian Zone of West Africa: Climate Change or Improved Management Practices? *Agric Syst* **2020**, *185*, doi:10.1016/j.agsy.2020.102920 WE - Science Citation Index Expanded (SCI-EXPANDED).

135. Zinyengere, N.; Crespo, O.; Hachigonta, S.; Tadross, M. Local Impacts of Climate Change and Agronomic Practices on Dry Land Crops in Southern Africa. *Agric Ecosyst Environ* **2014**, *197*, 1–10, doi:10.1016/j.agee.2014.07.002 WE - Science Citation Index Expanded (SCI-EXPANDED).

136. Mumo, L.; Yu, J.H.; Ojara, M.; Lukorito, C.; Kerandi, N. Assessing Changes in Climate Suitability and Yields of Maize and Sorghum Crops over Kenya in the Twenty-First Century. *Theor Appl Climatol* **2021**, *146*, 381–394, doi:10.1007/s00704-021-03718-6.

137. Adejuwon, J.O. Food Crop Production in Nigeria. II. Potential Effects of Climate Change. *Clim Res* **2006**, *32*, 229–245, doi:10.3354/cr032229 WE - Science Citation Index Expanded (SCI-EXPANDED).

138. Brown, R.A.; Rosenberg, N.J.; Hays, C.J.; Easterling, W.E.; Mearns, L.O. Potential Production and Environmental Effects of Switchgrass and Traditional Crops under Current and Greenhouse-Altered Climate in the Central United States: A Simulation Study. *Agric Ecosyst Environ* **2000**, *78*, 31–47, doi:10.1016/S0167-8809(99)00115-2 WE - Science Citation Index Expanded (SCI-EXPANDED).

139. Bulatewicz, T.; Jin, W.; Staggenborg, S.; Lauwo, S.; Miller, M.; Das, S.; Andresen, D.; Peterson, J.; Steward, D.R.; Welch, S.M. Calibration of a Crop Model to Irrigated Water Use Using a Genetic Algorithm. *Hydrol Earth Syst Sci* **2009**, *13*, 1467–1483, doi:10.5194/hess-13-1467-2009 WE - Science Citation Index Expanded (SCI-EXPANDED).

140. Niu, X.Z.; Easterling, W.; Hays, C.J.; Jacobs, A.; Mearns, L. Reliability and Input-Data Induced Uncertainty of the EPIC Model to Estimate Climate Change Impact on Sorghum Yields in the US Great Plains. *Agric Ecosyst Environ* **2009**, *129*, 268–276, doi:10.1016/j.agee.2008.09.012 WE - Science Citation Index Expanded (SCI-EXPANDED).

141. Brown, H.E.; Moot, D.J.; Fletcher, A.L.; Jamieson, P.D. A Framework for Quantifying Water Extraction and Water Stress Responses of Perennial Lucerne. *Crop Pasture Sci* **2009**, *60*, 785–794, doi:10.1071/CP08415 WE - Science Citation Index Expanded (SCI-EXPANDED).

142. Gummadi, S.; Rao, K.P.C. Addressing the Potential Impacts of Climate Change and Variability on Agricultural Crops and Water Resources in Pennar River Basin of Andhra Pradesh. *ADAPTING AFRICAN AGRICULTURE TO CLIMATE CHANGE: TRANSFORMING RURAL LIVELIHOODS* 2015, 73–84.

143. Ascough, J.C.; Andales, A.A.; Sherrod, L.A.; McMaster, G.S.; Hansen, N.C.; DeJonge, K.C.; Fathelrahman, E.M.; Ahuja, L.R.; Peterson, G.A.; Hoag, D.L. Simulating Landscape Catena Effects in No-till Dryland Agroecosystems Using GPFARM. *Agric Syst* **2010**, *103*, 569–584, doi:10.1016/j.agsy.2010.06.005 WE - Science Citation Index Expanded (SCI-EXPANDED).

144. Nedumaran, S.; Bantilan, C.; Abinaya, P.; Mason-D'croz, D.; Kumar, A.A. Ex-Ante Impact Assessment of 'Stay-Green' Drought Tolerant Sorghum Cultivar under Future Climate Scenarios: Integrated Modeling Approach. In *Vulnerability of Agriculture, Water*

and Fisheries to Climate Change: Toward Sustainable Adaptation Strategies; Springer Netherlands: Research Program - Markets, Institutions and Policies, International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), Hyderabad, AP, India, 2014; pp. 167–190 ISBN 9789401789622 (ISBN); 9789401789615 (ISBN).

145. Kholedian, M.R.; Mailhol, J.C.; Ruelle, P.; Rosique, P.; Khaledian, M.R.; Mailhol, J.C.; Ruelle, P.; Rosique, P. Adapting PILOTE Model for Water and Yield Management under Direct Seeding System: The Case of Corn and Durum Wheat in a Mediterranean Context. *Agric Water Manag* **2009**, *96*, 757–770, doi:10.1016/j.agwat.2008.10.011 WE - Science Citation Index Expanded (SCI-EXPANDED).

146. Mailhol, J.C.; Albasha, R.; Cheviron, B.; Lopez, J.M.; Ruelle, P.; Dejean, C. The PILOTE-N Model for Improving Water and Nitrogen Management Practices: Application in a Mediterranean Context. *Agric Water Manag* **2018**, *204*, 162–179, doi:10.1016/j.agwat.2018.04.015 WE - Science Citation Index Expanded (SCI-EXPANDED).

147. Kouressy, M.; Dingkuhn, M.; Vaksmann, M.; Heinemann, A.B. Adaptation to Diverse Semi-Arid Environments of Sorghum Genotypes Having Different Plant Type and Sensitivity to Photoperiod. *Agric For Meteorol* **2008**, *148*, 357–371, doi:10.1016/j.agrformet.2007.09.009 WE - Science Citation Index Expanded (SCI-EXPANDED).

148. Philippon, N.; Baron, C.; Boyard-Micheau, J.; Adde, A.; Leclerc, C.; Mwongera, C.; Camberlin, P. Climatic Gradients along the Windward Slopes of Mount Kenya and Their Implication for Crop Risks. Part 2: Crop Sensitivity. *INTERNATIONAL JOURNAL OF CLIMATOLOGY* **2016**, *36*, 917–932, doi:10.1002/joc.4394 WE - Science Citation Index Expanded (SCI-EXPANDED).

149. Sultan, B.; Guan, K.; Kouressy, M.; Biasutti, M.; Piani, C.; Hammer, G.L.; McLean, G.; Lobell, D.B. Robust Features of Future Climate Change Impacts on Sorghum Yields in West Africa. *ENVIRONMENTAL RESEARCH LETTERS* **2014**, *9*, doi:10.1088/1748-9326/9/10/104006 WE - Science Citation Index Expanded (SCI-EXPANDED).

150. Fritz, J.O.; Vanderlip, R.L.; Heiniger, R.W.; Abelhalim, A.Z. Simulating Forage Sorghum Yields with SORKAM. *Agron J* **1997**, *89*, 64–68, doi:10.2134/agronj1997.00021962008900010010x WE - Science Citation Index Expanded (SCI-EXPANDED).

151. Gerik, T.J.; Rosenthal, W.D.; Vanderlip, R.L.; Wade, L.J. Simulating Seed Number in Grain Sorghum from Increases in Plant Dry Weight. *Agron J* **2004**, *96*, 1222–1230, doi:10.2134/agronj2004.1222 WE - Science Citation Index Expanded (SCI-EXPANDED).

152. Rosenthal, W.D.; Vanderlip, R.L. Simulation of Individual Leaf Areas in Grain Sorghum. *AGRONOMIE* **2004**, *24*, 493–501, doi:10.1051/agro:2004046 WE - Science Citation Index Expanded (SCI-EXPANDED).

153. Guinet, M.; Nicolardot, B.; Voisin, A.S. Nitrogen Benefits of Ten Legume Pre-Crops for Wheat Assessed by Field Measurements and Modelling. *EUROPEAN JOURNAL OF AGRONOMY* **2020**, *120*, doi:10.1016/j.eja.2020.126151 WE - Science Citation Index Expanded (SCI-EXPANDED).

154. Sreelash, K.; Buis, S.; Sekhar, M.; Ruiz, L.; Tomer, S.K.; Guerif, M. Estimation of Available Water Capacity Components of Two-Layered Soils Using Crop Model Inversion: Effect of Crop Type and Water Regime. *J Hydrol (Amst)* **2017**, *546*, 166–178, doi:10.1016/j.jhydrol.2016.12.049 WE - Science Citation Index Expanded (SCI-EXPANDED).

155. Constantin, J.; Willaume, M.; Murgue, C.; Lacroix, B.; Therond, O. The Soil-Crop Models STICS and AqYield Predict Yield and Soil Water Content for Irrigated Crops Equally Well with Limited Data. *Agric For Meteorol* **2015**, *206*, 55–68, doi:10.1016/j.agrformet.2015.02.011 WE - Science Citation Index Expanded (SCI-EXPANDED).

156. Marek, G.W.; Gowda, P.H.; Evett, S.R.; Baumhardt, R.L.; Brauer, D.K.; Howell, T.A.; Marek, T.H.; Srinivasan, R. CALIBRATION AND VALIDATION OF THE SWAT MODEL FOR PREDICTING DAILY ET OVER IRRIGATED CROPS IN THE TEXAS HIGH PLAINS USING LYSIMETRIC DATA. *Trans ASABE* **2016**, *59*, 611-622 WE-Science Citation Index Expanded (SCI.

157. Sinnathamby, S.; Douglas-Mankin, K.R.; Craige, C. Field-Scale Calibration of Crop-Yield Parameters in the Soil and Water Assessment Tool (SWAT). *Agric Water Manag* **2017**, *180*, 61–69, doi:10.1016/j.agwat.2016.10.024 WE - Science Citation Index Expanded (SCI-EXPANDED).

158. Wolf, J.; Ouattara, K.; Supit, I. Sowing Rules for Estimating Rainfed Yield Potential of Sorghum and Maize in Burkina Faso. *Agric For Meteorol* **2015**, *214*, 208–218, doi:10.1016/j.agrformet.2015.08.262 WE - Science Citation Index Expanded (SCI-EXPANDED).

159. Agriculture and Hydrology Applications of Remote Sensing. In Proceedings of the Agriculture and Hydrology Applications of Remote Sensing; Goa, 2006; Vol. 6411.

160. Rankine, D.R.; Cohen, J.E.; Taylor, M.A.; Coy, A.D.; Simpson, L.A.; Stephenson, T.; Lawrence, J.L. Parameterizing the FAO AquaCrop Model for Rainfed and Irrigated Field-Grown Sweet Potato. *Agron J* **2015**, *107*, 375–387, doi:10.2134/agronj14.0287 WE - Science Citation Index Expanded (SCI-EXPANDED).

161. Somasundaram, K.; Santhosh Mithra, V.S. Madhuram: A Simulation Model for Sweet Potato Growth. *World Journal of Agricultural Sciences* **2008**, *4*, 241–254.

162. Mabhaudhi, T.; Modi, A.T.; Beletse, Y.G. Parameterization and Testing of AquaCrop for a South African Bambara Groundnut Landrace. *Agron. J.* **2014**, *106*, 243–251, doi:10.2134/agronj2013.0355.

163. Mabhaudhi, T.; Modi, A.A.T.A.; Beletse, Y.Y.G.Y. Parameterisation and Evaluation of the FAO-AquaCrop Model for a South African Taro (Colocasia Esculenta L. *Schott) landrace. Agric. For Meteorol. --193* **2014**, *192*, 132–139, doi:10.1016/j.agrformet.2014.03.013.

164. Paff, K.; Asseng, S. A Review of Tef Physiology for Developing a Tef Crop Model. *EUROPEAN JOURNAL OF AGRONOMY* **2018**, *94*, 54–66, doi:10.1016/j.eja.2018.01.008 WE - Science Citation Index Expanded (SCI-EXPANDED).

165. Tsegay, A.; Vanuytrecht, E.; Abrha, B.; Deckers, J.; Gebrehiwot, K.; Raes, D. Sowing and Irrigation Strategies for Improving Rainfed Tef (Eragrostis Tef (Zucc.) Trotter) Production in the Water Scarce Tigray Region, Ethiopia. *Agric Water Manag* **2015**, *150*, 81–91, doi:10.1016/j.agwat.2014.11.014 WE - Science Citation Index Expanded (SCI-EXPANDED).

166. Haileselassie, H.; Araya, A.; Habtu, S.; Meles, K.G.; Gebru, G.; Kisekka, I.; Girma, A.; Hadgu, K.M.; Foster, A.J. Exploring Optimal Farm Resources Management Strategy for Quncho-Teff (Eragrostis Tef (Zucc.) Trotter) Using AquaCrop Model. *Agric Water Manag* **2016**, *178*, 148–158, doi:10.1016/j.agwat.2016.09.002 WE - Science Citation Index Expanded (SCI-EXPANDED).

167. Paff, K.; Asseng, S. A Crop Simulation Model for Tef (Eragrostis Tef (Zucc.) Trotter). *AGRONOMY-BASEL* **2019**, *9*, doi:10.3390/agronomy9120817 WE - Science Citation Index Expanded (SCI-EXPANDED).

168. Paff, K.; Asseng, S. Comparing the Effects of Growing Conditions on Simulated Ethiopian Tef and Wheat Yields. *Agric For Meteorol* **2019**, *266*, 208–220, doi:10.1016/j.agrformet.2018.12.010 WE - Science Citation Index Expanded (SCI-EXPANDED).

169. Hartkamp, A.D.; Hoogenboom, G.; White, J.W. Adaptation of the CROPGRO Growth Model to Velvet Bean (Mucuna Pruriens) I. Model Development. *Field Crops Res* **2002**, *78*, 9–25, doi:10.1016/S0378-4290(02)00091-6 WE - Science Citation Index Expanded (SCI-EXPANDED).