

**List of publications/Reimund P. Rötter (as of April 2024)**

Classification is based on the recommendation of the Academy of Finland see: [http://www.aka.fi/Tiedostot/Tiedostot/Liitetiedostot/OKM\\_julkaisutyyppiluettelo\\_2010\\_en.pdf](http://www.aka.fi/Tiedostot/Tiedostot/Liitetiedostot/OKM_julkaisutyyppiluettelo_2010_en.pdf).

**A) Peer-reviewed scientific articles**

**A1 Journal article (refereed), original research**

**2024**

A 162

Kahiluoto, H., Sakieh, Y., Kaseva, J., Kersebaum, K.-C., Minoli, S., Franke, J., **Rötter, R. P.**, Müller, C. (2024). Redistribution of nitrogen to feed the people on a safer planet. - PNAS Nexus (In press).

A 161

Pohanková, E., Hlavinka, P., Kersebaum, K. C., Nendel, C., Rodríguez, A., Balek, J., Dubrovský, M., Gobin, A., Hoogenboom, G., Moriondo, M., Olesen, E. J., **Rötter, R. P.**, Ruiz-Ramos, M., Shelia, V., Stella, T., Hoffmann, M. P., Takáč, J., Eitzinger, J., Dibari, C., Ferrise, R., Bohuslav, J., Bláhová, M., Trnka, M. (2024). Expected effects of climate change on the soil organic matter content related to contrasting agricultural management practices based on a crop model ensemble for locations in Czechia. European Journal of Agronomy, 156, 127165.

DOI:<https://doi.org/10.1016/j.eja.2024.127165>

A 160

Bracho-Mujica, G., **Rötter, R. P.**, Haakana, M., Palosuo, T., Fronzek, S., Asseng, S., Yi, C., Ewert, F., Gaiser, T., Kassie, B., Paff, K., Rezaei, E.E., Rodriguez, A., Ruiz-Ramos, Margarita, Srivastava, A.K., Statonovitch, P., Tao, F., Semenov, M. A. (2024): Effects of Changes in Climatic Means and Variability on Future Wheat and Maize Yields and the Role of Adaptive Agro-Technologies in Reducing Negative Impacts. Agricultural and Forest Meteorology Volume 346, 2024, 109887.

DOI:<https://doi.org/10.1016/j.agrformet.2024.109887>

**2023**

A 159

Dewi, E.S., Abdulai, I., Bracho-Mujica, G., Appiah, M., **Rötter, R.P.** (2023): Agronomic and Physiological Traits Response of Three Tropical Sorghum (*Sorghum bicolor L.*) Cultivars to Drought and Salinity. Agronomy 13(11), 2788.

DOI: <https://doi.org/10.3390/agronomy13112788>

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Appiah, M., Abdulai, I., Schulman, A.H., Moshelion, M., Dewi, E.S., Daszkowska-Golec, A., Bracho-Mujica, G., **Rötter, R.P.** (2023): Drought response of water-conserving and non-conserving spring barley cultivars. *Frontiers in Plant Science* 14, 1247853. <https://doi.org/10.3389/fpls.2023.1247853>

A 157

Guarin, J.R., Martre, P., Ewert, F., Webber, H., Dueri, S., Calderini, D., Reynolds, M., Molero, G., Miralles, D., Garcia, G., Slafer, G., Giunta, F., Pequeno, D., Stella, T., Ahmed, M., Alderman, P., Basso, B., Berger, A., Bindi, M., Bracho-Mujica, G., Cammarano, D., Chen, Y., Dumont, B., Rezaei, E. E., Fereres, E., Ferrise, R., Gaiser, T., Gao, Y., Garcia-Vila, M., Gayler, S., Hochman, Z., Hoogenboom, G., Hunt, F., Kersebaum, K.C., Nendel, C., Olesen, J., Palosuo, T., Priesack, E., Pullens, J., Rodriguez, A., **Rötter, R.P.**, Ramos, M.R., Semenov, M., Senapati, N., Siebert, S., Srivastava, A., Stockle, C., Supit, I., Tao, F., Thorburn, P., Wang, E., Weber, T., Xiao, L., Zhang, Z., Zhao, C., Zhao, J., Zhao, Z., Zhu, Y., Asseng, S. (2023): A high-yielding traits experiment for modeling potential production of wheat: field experiments and AgMIP-Wheat multi-model simulations. *Data Journal for Agricultural Research* 9, 26-33. DOI: <https://doi.org/10.18174/odjar.v9i0.18573>

A 156

Bringhenti, T., Joubert, E., Abdulai, I., Hoffmann, M. P., Moriondo, M., Taylor, P. J., **Rötter, R. P.** (2023). Effects of environmental drivers and irrigation on yields of macadamia orchards along an altitudinal gradient in South Africa. *Scientia Horticulturae* 321, 112326. DOI: <https://doi.org/10.1016/j.scienta.2023.112326>

A 155

Liu, B., Martre, P., Ewert, F., Webber, H., Waha, K., Thorburn, P.J., Ruane, A.C., Aggarwal, P.K., Ahmed, M., Balkovič, J., Basso, B., Biernath, C., Bindi, M., Cammarano, D., Cao, W., Challinor, A.J., Sanctis, G.D., Dumont, B., Espadafor, M., Rezaei, E., Fereres, E., Ferrise, R., Garcia-Vila, M., Gayler, S., Gao, Y., Horan, H., Hoogenboom, G., Izaurrealde, R.C., Jabloun, M., Jones, C.D., Kassie, B.T., Kersebaum, K.C., Klein, C., Koehler, A.K., Maiorano, A., Minoli, S., San Martin, M.M., Müller, C.M., Kumar, S.N., Nendel, C., O'Leary, G.J., Olesen, J.E., Palosuo, T., Porter, J.R., Priesack, E., Riponche, D., **Rötter, R.P.**, Semenov, M.A., Stöckle, C., Stratonovitch, P., Streck, T., Supit, I., Tao, F., Velde, M.V., Wang, E., Wolf, J., Xiao, L., Zhang, Z., Zhao, A., Zhu, Y., Asseng, S., (2023). AgMIP-Wheat multi-model simulations on climate change impact and adaptation for global wheat. *Open Data Journal for Agricultural Research* 9, 10-25.  
DOI: <https://doi.org/10.18174/odjar.v9i0.18092>

A 154

Lam, Q.D., **Rötter, R.P.**, Rapholo, E., Ayisi, K., Nelson, W.C.D., Odhiambo, J., Foord, S. (2023). Modelling maize yield impacts of improved water and fertilizer management in southern Africa using cropping system model coupled to an agro-hydrological model at field and catchment scale. *The Journal of Agricultural Science* 1–17. DOI: <https://doi.org/10.1017/S0021859623000230>

A 153

Joseph, J.E., Akinseye, F.M., Worou, O.N., Faye, A., Konte, O., Whitebread, A.M., **Rötter R.P.** (2023). Assessment of the relations between crop yield variability and the onset and intensity of the West African Monsoon.

*Agricultural and Forest Meteorology* 333, 109431

DOI: [10.1016/j.agrformet.2023.109431](https://doi.org/10.1016/j.agrformet.2023.109431)

A 152

Kaseva, J., Hakala, K., Högnäsbacka, M., Jauhainen, L., Himanen, S.J., **Rötter R.P.**, Balek, J., Trnka, M., Kahiluoto, H. (2023). Assessing climate resilience of barley cultivars in northern conditions during 1980–2020. *Field Crops Research* 293, 108856  
DOI: 10.1016/j.fcr.2023.108856

A 151

Liu, K., Harrison, M.T., Yan, H., Liu, D.L., Meinke, H., Hoogenboom, G., Wang, B., Guan, K., Jaegermeyr, J., Wang, E., Zhang, F., Yin, X., Archontoulis, S., Nie, L., Badea, A., Man, J., Wallach, D., Zhao, J., Benjumeng, A.B., Fahad, S., Tian, X., Wand, W., Tao, F., Zhang, Z., **Rötter, R.P.**, Yuan, Y., Zhu, M., Dai, P., Nie, J., Yang, Y., Zhang, Y., Zhou, M. (2023). Silver lining to a climate crisis in multiple prospects for alleviating crop waterlogging under future climates. *Nat Commun* 14, 765  
DOI: 10.1038/s41467-023-36129-4

## 2022

A 150

Ferreira, N. C.R., **Rötter, R. P.**, Bracho-Mujica, G., Nelson, W. C. D., Lam, Q. D., Recktenwald, C., Abdulai, I., Odhiambo, J., Foord, S. (2022). Drought patterns: their spatiotemporal variability and impacts on maize production in Limpopo province, South Africa. *Int J Biometeorol* 67, 133–148. DOI: 10.1007/s00484-02202392-1

A 149

Appiah, M., Bracho-Mujica, G., Ferreira, N. C.R., Schulman, A. H., **Rötter, R. P.** (2022). Projected impacts of sowing date and cultivar choice on the timing of heat and drought stress in spring barley grown along a European transect. *Field Crops Research* 291, 108768. DOI: 10.1016/j.fcr.2022.108768

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Guarin, J. R., Martre, P., Ewert, F., Webber, H., Dueri, S., Calderini, D., Reynolds, M., Molero, G., Miralles, D., Garcia, G., Slafer, G., Giunta, F., Noleto Luz Pequeno, D., Stella, T., Ahmed, M., Alderman, P. D., Basso, B., Berger, A. G., Bind, M., Bracho-Mujica, G., Cammarano, D., Chen, Y., Dumont, B., Rezaei, E. E., Fereres, E., Ferrise, R., Gaiser, T., Gao, Y., Garcia-Vila, S., Gayler, S., Hochman, Z., Hoogenboom, G., Hunt, L. A., Kersebaum, C., Nendel, C., Olesen, J., Palosuo, T., Priesack, E., Pullens, J., Rodriguez, A., **Rötter, R.**, Ruiz-Ramos, M., Semenov, M. A., Senapati, N., Siebert, S., Kumar Srivastava, A., Stöckle, C. O., Supit, I., Tao, F., Thorburn, P. J., Wang, E., Weber, T. K. D., Xiao, L., Zhang, Z., Zhao, C., Zhao, J., Zhao, Z., Zhu, Y and Asseng, S. (2022). Evidence for increasing global wheat yield potential. *Environ. Res. Lett.* 17, 124045. DOI: 10.1088/1748-9326/aca77c

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**Rötter, R. P.** and Köster, M. (2022). Klimawandel und Ernährungssicherheit: Inwieweit könnte eine angepasste Landwirtschaft in der Europäischen Union zur globalen Ernährungssicherheit beitragen? In: Ifo- Institut für Wirtschaftsforschung (Hrsg.), Ifo-Schnelldienst-Ifo-Institut für Wirtschaftsforschung. München. Jahrgang 75, 08.2022, S. 10-14. <https://doi.org/10.5194/bg-2022-61>

A 146

Pfeiffer, M., Hoffmann, M. P., Scheiter, S., Nelson, W., Isselstein, J., Ayisi, K. K., Odhiambo, J., and **Rötter, R. P.** (2022). Effects of alternative crop-livestock management scenarios on selected ecosystem services in

smallholder farming – a landscape perspective, Biogeosciences 19, 3935–3958 <https://doi.org/10.5194/bg-19-3935-2022>

A 145

Senapati, N., Semenov, M.A., Halford, N.G., Hawkesford, M.J., Asseng, S., Cooper, M., Ewert, F., van Ittersum, M.K., Martre, P., Olesen, J.E., Reynolds, M., **Rötter, R.P.**, Webber, H. (2022). Global wheat production could benefit from closing the genetic yield gap. Nature Food 3, 532–541. <https://doi.org/10.1038/s43016-022-00540-9>

A 144

Nelson, W. C. D., Hoffmann, M. P., May, C., Mashao, F., Ayisi, K., Odhiambo, J., Bringhenti, T., Feil, J. H., Yazdan Bakhsh, S., Abdulai, I. & **Rötter, R. P.** (2022). Tackling climate risk to sustainably intensify smallholder maize farming systems in southern Africa. Environmental Research Letters 17, 75005. <https://doi.org/10.1088/1748-9326/ac77a3>

A 143

Meyer zu Dreher, J., Köster, M., Abdulai, I., **Rötter, R. P.**, Hagemann, N. & Schmidt, H. P. (2022): Impact of Different Methods of Root-Zone Application of Biochar-Based Fertilizers on Young Cocoa Plants: Insights from a Pot-Trial. Horticulturae 8, 328. <https://doi.org/10.3390/horticulturae8040328>

A 142

Dueri, S., Brown, H., Asseng, S., Ewert, F., Webber, H., George, M., Craigie, R., Guarin, J. R., Pequeno, D. N. L., Stella, T., Ahmed, M., Alderman, P. D., Bassi, B., Berger, A. G., Mujica, G. B., Cammarano, D., Chen, Y., Dumont, B., Rezaei, E. E., Fereres, E., Ferrise, R., Gaiser, T., Gao, Y., Garcia-Vila, M., Gayler, S., Hochman, Z., Hoogenboom, G., Kersebaum, K. C., Nendel, C., Olesen, J. E., Padovan, G., Palosuo, T., Priesack, E., Pullens, J. W. M., Rodríguez, A., **Rötter, R. P.**, Ramos, M. R., Semenov, M. A., Senapati, N., Siebert, S., Srivastava, A. K., Stöckle, C., Supit, I., Tao, F., Thorburn, P., Wang, E., Weber, T. K. D., Xiao, L., Zhao, C., Zhao, J., Zhao, Z., Zhu, Y. & Martre, P. (2022). Simulation of winter wheat response to variable sowing dates and densities in a high-yielding environment. Journal of experimental botany. <https://doi.org/10.1093/jxb/erac221>

A 141

Savary S, Waddington, S., Akter, S., Almekinders, C., Harris, J., Korsten, L., **Rötter R.P.**, Van den Broeck, G. (2022). Revisiting food security in 2021: an overview of the past year. <https://doi.org/10.1007/s12571-022-01266-z>

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Dewi, E:S., Abdulai, I., Bracho-Mujica, G., **Rötter, R.P.** (2022). Salinity constraints for small-scale agriculture and impact on adaptation in North Aceh, Indonesia. Agronomy

A 139

Pohanková, E., Hlavinka, P., Kersebaum, K.-C., Rodríguez, A., Balek, J., Bednářík, M., Dubrovský, M., Gobin, A., Hoogenboom, G., Moriondo, M., Nendel, C., Olesen, J. E., **Rötter, R. P.**, Ruiz-Ramos, M., Shelia, V., Stella, T., Hoffmann, M. P., Takáč, J., Eitzinger, J., Dibari, C., Ferrise, R., Bláhová, M. & Trnka, M. (2022). Expected effects of climate change on the production and water use of crop rotation management reproduced

by crop model ensemble for Czech Republic sites. European Journal of Agronomy 134, 126446. <https://doi.org/10.1016/j.eja.2021.126446>

A 138

Sarmiento-Soler, A., **Rötter, R.P.**, Hoffmann, M. P., Jassogne, L., van Asten, P., Graefe, S., Vaast, P. (2022). Disentangling effects of altitude and shade cover on coffee fruit dynamics and vegetative growth in smallholder coffee systems Agriculture, Ecosystems & Environment, 326, 107786. <https://doi.org/10.1016/j.agee.2021.107786>

## 2021

A 137

Nelson, W.C.D., Hoffmann, M.P., Vadez, V., **Rötter, R.P.**, Koch, M., Whitbread, A.M. (2021). Can intercropping be an adaption to drought? A model-based analysis for pearl millet-cowpea. Journal of Agronomy and Crop Science. DOI: 10.1111/jac.12552

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Mouratiadou, I., Latka, C., van der Hilst, F., Müller, C., Berges, R., Bodirsky, B. L., Ewert, F., Faye, B., Heckelei, T., Hoffmann, M., Lehtonen, H., Lorite, I.J., Nendel, C., Paluoso, T., Rodríguez, A., **Rötter, R.P.**, Ruiz-Ramos, M., Stella, T., Webber, H., B. Wicke (2021). Quantifying sustainable intensification of agriculture: The contribution of metrics and modelling. Ecological Indicators, 129, 107870. DOI: 10.1016/j.ecolind.2021.107870

A 135

Kostková, M., Hlavinka, P., Pohanková, E., Kersebaum, K. C., Nendel, C., Gobin, A., Olesen J. E., Ferrise, R., Dibari, C., Takáč, J., Topaj, A., Medvedev, S., Hoffmann, M.P., Stella, T., Balek, J., Ruiz-Ramos, M., Rodríguez, A., Hoogenboom, G., Shelia, V., Ventrella, D., Giglio, L., Sharif, B., Oztürk, I., **Rötter, R.P.**, Balkovič, J., R. Skalský, R., Moriondo, M., Thaler, S., Žalud Z., M. Trnka (2021). Performance of 13 crop simulation models and their ensemble for simulating four field crops in Central Europe. The Journal of Agricultural Science, 109, 141–157. DOI: 10.1017/S0021859621000216

A 134

Nelson, W.C.D., Siebrecht-Schöll, D.J., Hoffmann, M.P., **Rötter, R.P.**, Whitbread, A.M., Link, W. (2021). What determines a productive winter bean-wheat genotype combination for intercropping in central Germany? European Journal of Agronomy, 127. 126294. DOI: 10.1016/j.eja.2021.126294

A 133

**Rötter, R.P.**, Scheiter, S., Hoffman, M.P., Pfeiffer, M., Nelson, W.C.D., Ayisi, K., Taylor, P., Feil, J-H, Bakhsh, S.Y., Isselstein, J., Linstaedter, A., Behn, K., Westphal, C., Odhiambo, J., Twine, W., Grass, I., Merante, P., Bracho-Mujica, G., Bringhenti, T., Lamega, S., Abdulai, I., Lam, Q.D., Anders, M., Linden, V., Weier, S., Foord, S., Erasmus, B. (2021). Modeling the multi-functionality of African savanna landscapes under global change. Land Degradation & Development, 32, 2077-2081 DOI: 10.1002/lde.3925

A 132

Palosuo, T., Hoffmann, M.P., **Rötter, R.P.**, Lehtonen, H.S. (2021). Sustainable intensification of crop production under alternative future changes in climate and technology: The case of the North Savo region. Agricultural Systems, 190, 103135. DOI: 10.1016/j.agrsy.2021.103135

A 131

Laux, P., **Rötter, R.P.**, Webber, H., Dieng, D., Rahimi, J., Wie, J., Faye, B., Srivastava, A.K., Bliefernicht, J., Adeyeri, O., Arnault, J., Kunstmann, H. (2021). To bias correct or not to bias correct? An agricultural impact modelers' perspective on regional climate model data. Agricultural and Forest Meteorology 304-305, 108406. DOI: 10.1016/j.agrformet.2021.108406

## 2020

A 130

Savary, S., Akter, S., Almekinders, C., Harris, J., Korsten, L., **Rötter, R.P.**, Waddington, S., Watson, D. (2020). Mapping disruption and resilience mechanisms in food systems. Food Security 12, 695–717. DOI: 10.1007/s12571-020-01093-0

A 129

Hoffmann, M.P., Swanepoel, C.M., Nelson, W.C.D., Beukes, D.J., van der Laan, M., Hargreaves, J.N.G., **Rötter, R.P.** (2020). Simulating medium-term effects of cropping system diversification on soil fertility and crop productivity in southern Africa. European Journal of Agronomy 119, 126089. DOI: 10.1016/j.eja.2020.126089

A 128

Sarmiento-Soler, A., Vaast, P., Hoffmann, M.P., Jassongne, L., van Asten, P., Graefe, S., **Rötter, R.P.** (2020). Effect of cropping system, shade cover and altitudinal gradient on coffee yield components at Mt. Elgon, Uganda. Agriculture, Ecosystems & Environment 295, 106887. DOI: 10.1016/j.agee.2020.106887

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Abdulai, I., Hoffmann, M.P., Jassogne, L., Asare, R., Graefe, S., Tao, H.H., Muilerman, S., Vaast, P., Van Asten, P., Läderach, P. **Rötter, R.P.** (2020). Variations in yield gaps of smallholder cocoa systems and the main determining factors along a climate gradient in Ghana. Agricultural Systems. Agricultural Systems 181, 102812. DOI: 10.1016/j.agrsy.2020.102812

A 126

Hoffmann, M., Cock, J., Samson, M., Janetski, N., Janetski, K., **Rötter, R.P.**, Fisher, M., Oberthür, T. (2020). Fertilizer management in smallholder cocoa farms of Indonesia under variable climate and market prices. Agricultural Systems 178, 102759. DOI: 10.1016/j.agrsy.2019.102759.

## 2019

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Tao, F., Palosuo, T., **Rötter, R.P.**, Hernández Díaz-Ambrona, C.G., Minguez, M.I., Semenov, M.A., Kersebaum, K.C., Cammarano, D., Specka, X., Nendel, C., Srivastava, A.K., Ewert, F., Padovan, G., Ferrise, R., Martre, P., Rodríguez, L., Ruiz-Ramos, M., Gaiser, T., Höhn, J.G., Salo, T., Dibari, C., Schulman, A.H.

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Trnka, M., Feng, S., Semenov, M.A., Olesen, J.E., Kersebaum, K.C., **Rötter, R.P.**, Semerádová, D., Klem, K., Huang, W., Ruiz-Ramos, M., Hlavinka, P., Meitner, J., Balek, J., Havlik, P., Büntgen, U. (2019). Mitigation efforts will not fully alleviate the increase in water scarcity occurrence probability in wheatproducing areas. Science Advances 5, eaau2406. DOI: 10.1126/sciadv.aau2406

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Rapholo, E., Odhiambo, J.J.O., Nelson, W.C.D., **Rötter, R.P.**, Ayisi, K., Koch, M., Hoffmann, M.P. (2019). Maize–lablab intercropping is promising in supporting the sustainable intensification of smallholder cropping systems under high climate risk in southern Africa. Experimental Agriculture 56(1), 104-117. DOI: 10.1017/S0014479719000206

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## 2018

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Motzo, R., Giunta, F., Babar, M. A., Reynolds, M. P., Kheir, A. M. S., Thorburn, P. J., Waha, K., Ruane, A. C., Aggarwal, P. K., Ahmed, M., Balkovič, J., Basso, B., Biernath, C., [...] Ewert, F. (2018). Climate change impact and adaptation for wheat protein. *Global Change Biology* 00, 1-19. DOI: 10.1111/gcb.14481

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B1-4

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B3-25

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B3-15

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B3-13

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B3-12

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B3-11

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B3-8

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B3-7

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B3-6

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B3-5

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B3-4

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B3-3

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## C Scientific Books (monograph)

### C1 Edited book, conference proceedings or special issue of a journal

C1-8

Von Maltitz, G. P., Midgley, G., Veitch, J., Brümmer, C., **Rötter, R. P.**, Viehberg, F. A., Veste M. (Eds.). (2024). *Sustainability of southern African ecosystems under global change: Science for management and policy interventions*, Ecological Studies, Analysis and Synthesis: volume 248. Cham: Springer International Publishing. <https://doi.org/10.1007/978-3-031-10948-5>

C1-7

**Rötter, R.P.**, Koch, M. (2019) Der Klimawandel als Herausforderung für Ugandas wichtigsten Exportwirtschaftszweig In: Jahreis, M., Marquart, S., Möllers, N. (Eds.) *Kosmos Kaffee*. Verlag Deutsches Museum, München, Germany.

C1-6

**Rötter, R.P.**, Van Keulen, H., Kuiper, M., Verhagen, J., Van Laar, H.H. (eds.) (2007). *Science for Agriculture and Rural Development in Low-income Countries*. Dordrecht: Springer. 220 pages

C1-5

Aggarwal P.K., **Rötter, R.P.**, Kalra, N., Van Keulen, H., Hoanh, C.T., Van Laar, H.H. (eds.) (2001). Land use analysis and planning for sustainable food security: with an illustration for the state of Haryana, India. New Dehli: Indian Agricultural Research Institute; Los Baños: International Rice Research Institute; Wageningen: Wageningen University and Research Centre. 167 pages.

C1-4

**Rötter, R.P.**, Van Keulen, H. & Van Laar, H.H. (eds.) (2000). Synthesis of methodology development and case studies. SysNet Research Paper Series No. 3. Los Baños: IRRI. 94 pages.

C1-3

**Rötter, R.P.**, Van Keulen, H., Laborte, A.G., Hoanh, C.T., Van Laar, H.H. (eds.). (2000). Systems research for optimizing future land use in South and Southeast Asia. SysNet Research Paper Series No. 2. Los Baños: IRRI. 266 pages.

C1-2

**Rötter, R.P.**, Hoanh, C.T. & Teng, P.S. (eds.) (1998): A systems approach to analyzing land use options for sustainable rural development in South and Southeast Asia. IRRI Discussion Paper Series No. 28. SysNet Special Project Report. Manila: International Rice Research Institute. 110 pages.

C1-1

**Rötter R.P.**, Hoanh, C.T., Luat, N.V., Van Ittersum, M.K., Van Laar, H.H. (eds.) (1998). Exchange of methodologies in land use planning. Proceedings of an International Workshop held on 15-19 June 1998 at Can Tho City, Vietnam. Sysnet Research Paper Series No. 1. Los Baños: IRRI. 168 pages.

## **D) Publications intended for professional communities (a selection)**

### **D2 Article in a professional manual or guide or professional information system, textbook material.**

D2-20

**Rötter, R.P.** (1988). Methodology for agro-climatic description and monitoring. In H. Stroebel (ed.) Methodology. Fertilizer Use Recommendation Project. Main Report, GTZ/KARI, Nairobi, Kenya, 80- 131.

D2-19

Smaling E.M.A. & **Rötter, R.P.** (1988g). Kwale District. Climate and soil description. In H. Stroebel (ed.) Fertilizer Use Recommendation Project. Description of the various trial sites. Vol. 31, GTZ/KARI, Nairobi, Kenya.

D2-18

Smaling, E.M.A., & **Rötter, R.P.** (1988f). Kilifi District. Climate and soil description. In: Stroebel, ed., Fertilizer Use Recommendation Project. Description of the various trial sites. Vol. 29, GTZ/KARI, Nairobi, Kenya.

D2-17

Smaling, E.M.A. & **Rötter, R.P.** (1988e). Lamu District. Climate and soil description. In H. Stroebel (ed.) Fertilizer Use Recommendation Project. Description of the various trial sites. Vol. 28, GTZ/KARI, Nairobi, Kenya.

D2-16

Smaling, E.M.A. & **Rötter, R.P.** (1988d). Kitui District. Climate and soil description. In H. Stroebel (ed.) Fertilizer Use Recommendation Project. Description of the various trial sites. Vol. 27, GTZ/KARI, Nairobi, Kenya.

D2-15

Smaling, E.M.A. & **Rötter, R.P.** (1988c). Machakos District. Climate and soil description. In H. Stroebel (ed.) Fertilizer Use Recommendation Project. Description of the various trial sites. Vol. 26, GTZ/KARI, Nairobi, Kenya.

D2-14

Smaling, E.M.A. & **Rötter, R.P.** (1988b). Meru District. Climate and soil description. In H. Stroebel (ed.) Fertilizer Use Recommendation Project. Description of the various trial sites. Vol. 25, GTZ/KARI, Nairobi, Kenya.

D2-13

Smaling, E.M.A. & **Rötter, R.P.** (1988a). Embu District. Climate and soil description. In H. Stroebel (ed.) Fertilizer Use Recommendation Project. Description of the various trial sites. Vol. 24, GTZ/KARI, Nairobi, Kenya.

D2-12

Smaling, E.M.A. & **Rötter, R.P.** (1987l). Laikipia District. Climate and soil description. In H. Stroebel (ed.) Fertilizer Use Recommendation Project. Description of the various trial sites. Vol. 14, GTZ/KARI, Nairobi, Kenya.

D2-11

Smaling, E.M.A. & Rötter, R.P. (1987k). West Pokot District. Climate and soil description. In H. Stroebel (ed.) Fertilizer Use Recommendation Project. Description of the various trial sites. Vol. 12, GTZ/KARI, Nairobi, Kenya.

D2-10

Smaling, E.M.A. & Rötter, R.P. (1987j). Trans Nzoia District. Climate and soil description. In H. Stroebel (ed.) Fertilizer Use Recommendation Project. Description of the various trial sites. Vol. 10, GTZ/KARI, Nairobi, Kenya.

D2-9

Smaling, E.M.A. & Rötter, R.P. (1987i). Kericho District. Climate and soil description. In H. Stroebel (ed.) Fertilizer Use Recommendation Project. Description of the various trial sites. Vol. 9, GTZ/KARI, Nairobi, Kenya.

D2-8

Smaling, E.M.A. & Rötter, R.P. (1987h). Nandi District. Climate and soil description. In H. Stroebel (ed.) Fertilizer Use Recommendation Project. Description of the various trial sites. Vol. 8, GTZ/KARI, Nairobi, Kenya.

D2-7

Smaling, E.M.A. & Rötter, R.P. (1987g). Kakamega District. Climate and soil description. In H. Stroebel (ed.) Fertilizer Use Recommendation Project. Description of the various trial sites. Vol. 7, GTZ/KARI, Nairobi, Kenya.

D2-6

Smaling, E.M.A. & Rötter, R.P. (1987f). Bungoma District. Climate and soil description. In H. Stroebel (ed.) Fertilizer Use Recommendation Project. Description of the various trial sites. Vol. 6, GTZ/KARI, Nairobi, Kenya.

D2-5

Smaling, E.M.A. & Rötter, R.P. (1987e). Busia District. Climate and soil description. In H. Stroebel (ed.) Fertilizer Use Recommendation Project. Description of the various trial sites. Vol. 5, GTZ/KARI, Nairobi, Kenya.

D2-4

Smaling, E.M.A. & Rötter, R.P. (1987d). Siaya District. Climate and soil description. In H. Stroebel (ed.) Fertilizer Use Recommendation Project. Description of the various trial sites. Vol. 4, GTZ/KARI, Nairobi, Kenya.

D2-3

Smaling, E.M.A. & Rötter, R.P. (1987c). Kisumu District. Climate and soil description. In H. Stroebel (ed.) Fertilizer Use Recommendation Project. Description of the various trial sites. Vol. 3, GTZ/KARI, Nairobi, Kenya.

D2-2

Smaling, E.M.A. & Rötter, R.P. (1987b). South Nyanza District. Climate and soil description. In H. Stroebel (ed.) Fertilizer Use Recommendation Project. Description of the various trial sites. Vol. 2, GTZ/KARI, Nairobi, Kenya.

D2-1

Smaling, E.M.A. & Rötter, R.P. (1987a). Kisii District. Climate and soil description. In H. Stroebel (ed.) Fertilizer Use Recommendation Project. Description of the various trial sites. Vol. 1, GTZ/KARI, Nairobi, Kenya.

### **D3 Professional conference proceedings**

D3-1

**Rötter, R.P.** & Lenga, F.K. (1990). Yield response of Katumani composite B maize as influenced by soil, climate and fertilizer rates. Chapter 11 GTZ/FURP Report 1990, Proceedings, KARI National Soil Fertility workshop, Nairobi NARL on 28th August 1990, Nairobi and Eschborn.

### **D4 Published development or research report or study**

D4-13

Joseph, J.E., Rao, K.P.C., Ngwira, A.R., Swai, E., **Rötter, R.P.**, Whitbread, A.M., (2021) Analysis of rainfall variability and trends for better climate risk management in the major agro-ecological zones in Tanzania. CCAFS Working Paper no. 363. Wageningen, the Netherlands: CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS).

DOI:<https://hdl.handle.net/10568/114910>

D4-12

Hakala, K., Himanen, S., **Rötter, R.P.**, Höhn, J., Jauhainen, L., Kaseva, J., Ketoja, E., Salo, T., Kahiluoto, H. (2012). Satoa joka säällä - siemeniä erilaisiin tulevaisuksiin. In H. Kahiluoto & S. Himanen (eds.) MTT Raportti 43, Monimuotoisuudesta sopeutumiskykyä Ruokaketju uusille raiteille? 2. korjattu versio, Jokioinen: MTT, 15-43.

D4-11

Kahiluoto, H., Hakala, K., Miettinen, A., Niemi, J., **Rötter, R.P.**, Salo, T., Himanen, S. (2012). Pääviestit toimijoille. In H. Kahiluoto & S. Himanen (eds.) MTT Raportti 43, Monimuotoisuudesta sopeutumiskykyä Ruokaketju uusille raiteille? 2. korjattu versio, Jokioinen: MTT, 52-58.

D4-10

Wolf, J., Reidsma, P., Schaap, B., Mandryk, M., Kanellopoulos, A., Ewert, F., van Oort, P., Angulo, C., Rumbaur, C., Lock, R., Enders, A., Adenauer, M., Heckelei, T., **Rötter, R.P.**, Fronzek, S., Carter, T.R., Verhagen, A., van Ittersum, M.K. (2012). Assessing the adaptive capacity of agriculture in the Netherlands to the impacts of climate change under different market and policy scenarios. Agri Adapt project, Synthesis report, Wageningen UR, University of Bonn, MTT, Finnish Environment Institute, KvR report nr. 059/12.

D4-9

Ewert, F., Angulo, C., Rumbaur, C., Lock, R., Enders, A., Andenauer, M., Heckelei, T., van Ittersum, M., Wolf, J., **Rötter, R.P.** (2011). Assessing the adaptive capacity of agriculture in the Netherlands to the impacts of climate change under different market and policy scenarios. AgriAdapt Project Reports no.2 & 3. Dutch Research Program Climate Change and Spatial Planning, 49.

D4-8

De Jager, A. & **Rötter, R.P.** (2007). Rural Economic Development. In P.S. Bindraban & S. Vellema (eds.) Linking Policy, practice and research in international development. Report 127, Wageningen UR, The Netherlands, 39-42.

D4-7

Van Ierland, E. Bruin, K. de, Dellink, R.B., Ruijs, A., **Rötter R.P.** et al., (2007). Climate change. Routeplanner subprojects 4 & 5, A qualitative assessment of climate adaptation strategies. MNP Report.

#### D4-6

Van Ierland, E.C., De Bruin, K., Dellink, R.B., Ruijs, A., Bolwidt, L., van Buuren, A., Graveland, J., de Groot, R.S., Kuikman, P., Nillesen, E.E.M., Platteeuw, M., Reinhard, S., Tassone, V.C., Verhagen, A., **Rötter, R.P.**, Verzandvoort-van Dijck, S. (2006). A qualitative assessment of climate Adaptation options and some estimates of adaptation costs. Netherlands Policy Programme ARK, The Netherlands. 181 pages.

#### D4-5

Ponsioen, T.C., Laborte, A.G., **Rötter, R.P.**, Hengsdijk, H., Wolf, J. (2004). TechnoGIN-3: a Technical Coefficient Generator for cropping systems in East and South-east Asia. Quantitative Approaches to Systems Analysis No. 26. Wageningen, The Netherlands.

#### D4-4

Overbeek, G.B.J., Beusen. Boers, P.C.M., Van den Born, G.J., Groenendijk, P., Van Grinsven, J.J.M., Kroon, T., Van der Meer, H.G., Oosterom, H.P., Van Puijenbroek, P.J.T.M., Roelsma, J., Roest, C.W.J., **Rötter, R.P.**, Tiktak, A., Van Tol, S.M. (2002). Plausibiliteitsdocument STONE 2.0. Globale verkenning van de plausibiliteit van het model STONE versie 2.0 voor de modellering van uit- en afspoeling van N en P. RIVM rapport 718501001, RIVM, Bilthoven, The Netherlands [in Dutch].

#### D4-3

**Rötter, R.P.**, Van Grinsven, J.J.M., Boers, P., Beusen, A.H.W., Oenema, O. (2001). De status van het rekeninstrumentarium STONE versie 2.0. Alterra Report 378, Alterra, Wageningen, The Netherlands [in Dutch].

#### D4-2

**Rötter, R.P.** & van Diepen, C.A. (1994). Rhine Basin Study. Vol.2, Climate Change Impact on Crop Yield Potentials and Water Use. Wageningen and Lelystad, the Netherlands, SC-DLO Report, 85.2. 145 pages.

#### D4-1

**Rötter, R.P.** (1994). Rhine basin Study: Land Use Projections based on biophysical and socio- economic analyses. Vol.1, Biophysical classification as a general framework.- SC-DLO Report 85.1, Wageningen and Lelystad. 105 pages.

### **D5 Textbook, professional manual or guide, dictionary**

#### D5-2

Laborte, A.G., Nuñez, B., Dreiser, C., **Rötter, R.P.** (2001). SysNet Tools II: the MGLP user interface for interactive land use scenario analysis. IRRI Technical Bulletin No. 8. Manila (Philippines): International Rice Research Institute, 31 pages (+ CD-ROM SysNet Tools, version 1.1).

#### D5-1

Boogaard, H.L., Van Diepen, C.A., **Rötter, R.P.**, Cabrera, J.M., Van Laar, H.H. (1998). WOFOST 7.1. User's guide for the WOFOST 7.1 crop growth simulation model. DLO Winand Staring Centre and International Rice Research Institute. (Technical Document 52), Wageningen, The Netherlands, 140 pages.

### **E) Research-related publications directed to the general public (a selection)**

#### **E1 Popularised article**

##### E1-3

**Rötter, R. P.**, Köster, M. (2022). Klimawandel und Ernährungssicherheit: Inwieweit könnte eine angepasste Landwirtschaft in der Europäischen Union zur globalen Ernährungssicherheit beitragen?. *Ifo Schnelldienst*, 75(8), 10-13.

E1-2

Van den Berg, M., Hengsdijk, H., Wang Guanghuo, Wolf, J., van Ittersum, M., **Rötter, R.P.** (2005). The future of rural income and rice production in China, IIAS Newsletter September edition, 38, 34. (also available online at: <http://www.iias.nl/iias/show/id=52078> )

E1-1

**Rötter, R.P.** (2004). Securing Asia's rice harvest. In ISNAR, Method in our madness. The Hague, The Netherlands, 16-29.

## E2 Popularised monograph

E2-7

**Rötter, R.P.** & Palosuo, T. (2013). "Projections of climate change impacts on wheat production uncertain: A call for model improvement." Phys.org. 28 Jun 2013. <http://phys.org/news/2013-06-climate-impacts-wheatproduction-uncertain.html>

E2-6

**Rötter, R.P.** & Carter, T.R. (2011) Crop-climate models need an urgent update (online at: [https://portal.mtt.fi/portal/page/portal/mtt\\_en/mtt/news/pressreleases/2011/Crop-climate%20models%20need%20an%20urgent%20update](https://portal.mtt.fi/portal/page/portal/mtt_en/mtt/news/pressreleases/2011/Crop-climate%20models%20need%20an%20urgent%20update) )

E2-5

**Rötter, R.P.**, van Keulen, H., Kuiper, M., Verhagen, A., Meijerink, G. (2006). Science for sustainable agriculture and rural development in the South. International Cooperation Programme, Wageningen University & Research centre, Wageningen, The Netherlands. 21 pages. (also online available at [www.wi.wur.nl/news/](http://www.wi.wur.nl/news/))

E2-4

**Rötter, R.P.** et al., (2000). Breaking new ground. Contribution of SysNet project to the international cooperation programme, IRRI annual report 1999/2000. (online available: [www.irri.cgiar.org](http://www.irri.cgiar.org) Media Hotline May, 2000).

E2-3

**Rötter, R.P.** (2000). A Systems Research Network for Ecoregional Land Use Planing in support of Natural Resource Management in Asia (SYSNET). Annual Report. 1999. IRRI, , Manila, Philippines. 125 pages.

E2-2

**Rötter, R.P.** (1999). A Systems Research Network for Ecoregional Land Use Planing in support of Natural Resource Management in Asia (SYSNET). Annual Report. 1998. IRRI, , Manila, Philippines. 95 pages.

E2-1

**Rötter, R.P.** (1998). A Systems Research Network for Ecoregional Land Use Planing in support of Natural Resource Management in Asia (SYSNET). Annual Report 1997. IRRI, , Manila, Philippines. 67 pages.

## **G) Theses**

### **G4 Doctoral dissertation (monograph)**

G4-1

**Rötter, R.P.** (1993). Simulation of the biophysical limitations to maize production under rainfed conditions in Kenya. Evaluation and application of the model WOFOST. PhD Thesis, Universität Trier, Germany (= Materialien zur Ostafrika-Forschung, Heft 12), 297 pages.

## **I) Other pieces of work (audiovisual material, ICT software -a selection)**

### **I1 Audiovisual material**

I1-1

Websites (and associated CD-ROMS)

- IRMLA project (EU-INCO) documentation website: [or](#) via [www.splu.nl](http://www.splu.nl)
- RMO Beijing (LVN-DLO-IC) documentation website: [www.rmo-beijing.alterra.nl](http://www.rmo-beijing.alterra.nl)
- SUMAPOL 2005 website: [www.sumapol2005.org](http://www.sumapol2005.org) (proceedings also available on CD-ROM)
- SysNet 99 Conference website: [www.irri.sysnet99.org](http://www.irri.sysnet99.org) (proceedings also available on CD-ROM)
- SysNet (Systems Research Network documentation) website: [www.irri.sysnet.org](http://www.irri.sysnet.org)
- MODAGS (2012-1015) (Multi-level integrated modelling and analysis of agrifood systems) website: [www.mtt.fi/modags](http://www.mtt.fi/modags)

### **I2 ICT software**

I2-1

CD-ROMS containing software (models, expert systems) developed

- WOFOST 7.1 crop growth simulation model; [www.wofost.wur.nl](http://www.wofost.wur.nl) (Alterra, 2002)
- SysNet Tools for interactive land use scenario analysis (IRRI and Wageningen UR, 1999)
- SysNet MGLP user interface (IRRI and Wageningen UR, 2001)\*
- TechnoGIN3: Technical coefficient generator for Sout-east Asia (PPS and Alterra, 2004)\*\*
- IRMLA tools for land use systems analysis (Wageningen UR, 2005)\*\*\* - Nordic AgriCLIM calculation of agro-climatic indicators for Finnish crops\*\*\*\*

[\* see, Laborte et al., 2001. SysNet Tools II; \*\* see, Ponsioen et al., 2006, Agricultural Systems 87, 80-100 (=A.34) and Ponsioen et al., 2004. QASA Report 26 \*\*\* see, [www.irmla.alterra.nl](http://www.irmla.alterra.nl) \*\*\*\* outputs shown on [www.mtt.fi/modags/](http://www.mtt.fi/modags/) ]