

Figure S1. Response of change in potato yield (a) and nitrogen use efficiency (NUE) (b) to mulching compared to no mulching in China. Error bars indicate standard deviations of the means. Differences are considered significant if there is an asterisk between no mulching and mulching.

- References of Supplementary Database. References for publications used in the meta-analysis.
- Bao, K.H., Meng, M.L., Chen, Y.J., Zhang, T.T., Yu, X.B., 2016. Effects of plastic film mulching patterns and water retaining agent on photosynthetic characteristics and yield of rainfed potato. Agricultural Research in the Arid Areas, 139-143+159 (in Chinese).
- Chen, S.Z., 2014. Mulching cultivation test of winter-planting potato. Fujian Agricultural Science and Technology, 6-8 (in Chinese).
- Chen, S.Z., Weng, D.H., 2010. Appliance of Drystraw in Row of Winter Potato. Chinese Potato Journal, 288-290 (in Chinese).
- Chen, X.D., Pan, X.C., Yao, Y.H., 2012. Experimental Research on Potato Water Saving Cultivation Modes. Chinese Potato Journal, 80-83 (in Chinese).
- Chen, Y., Chai, S., Tian, H., Chai, Y., Li, Y., Chang, L., Cheng, H., 2019. Straw strips mulch on furrows improves water use efficiency and yield of potato in a rainfed semiarid area. Agric. Water Manage. 211, 142-151.
- Chen, Y., Fan, M.S., Gao, Y., 2013. Effect of micro-ridge with plastic cover and furrow sowing on dry-farming potato yield and soil water content in hill area of Yinshan. Soils and Fertilizers Sciences in China, 71-74 (in Chinese).
- Chen, Y., Jia, L.G., Qin, Y.L., Fan, M.S., 2015. Effect of micro-ridge with plastic cover and furrow sowing on the dry matter and yield of rain fed potato in Yinshan area of Inner Mongolia. Soils and Fertilizers Sciences in China, 91-95 (in Chinese).
- Chen, Z., 2010. Comparison of various potato cultivation methods. Fujian Journal of Agricultural Sciences, 325-327 (in Chinese).
- Ding, R.X., Jia, Z.K., Han, Q.F., Ren, G.X., Wang, J.P., 2007. Optimum width of ridge and furrow for planting foxtail millet in micro-water harvesting systems in arid area of the South Part of Ningxia Province. Agricultural Research in the Arid Areas, 12-18 (in Chinese).
- Duan, Y., Zhang, X., 2018. Influence of Biodegradable Membrane on Soil Fertility and Potato Yield. Crop Research (in Chinese).
- Duan, Y.Z., Kang, F.R., 2014. Influence of Different Mulching Treatments on Soil

- Temperature, Water Content, and Water Use Efficiency of Dryland Planted with Potato. Bulletin of Soil and Water Conservation, 55-59+66 (in Chinese).
- Fan, S.J., Wang, D., Zhang, J.L., Bai, J.P., Liu, W.X., Ma, Z.X., Peng, H.Y., 2011. Effects of different cultivation techniques on soil temperature, moisture and potato yield Transactions of the Chinese Society of Agricultural Engineering, 216-221 (in Chinese).
- Feng, R., Bi, J.T., 1998. Yield Increase Mechanism of Potato Production Under Film-Mulched Cultivation Condition Semiarid Cold Region of Ningxia. Agricultural Research in the Arid Areas, 62-66 (in Chinese).
- Feng, Y.Q., Hu, X.X., Xie, X.H., Li, M., Huang, K., Xiong, X.Y., Liu, M.Y., 2014. The Researches of Different Potatoes Cultivation Methods in Winter Fallow Rice Field. Chinese Agricultural Science Bulletin, 129-134 (in Chinese).
- Gao, J., Xin, K., 2018. Effects of Different Tillage Methods on the Yield and Agronomic Characters of Winter Potato in Wenshan Prefecture. Journal of Anhui Agricultural Science 46, 57-59 (in Chinese).
- Gao, X., Chen, M., Huang, Y., Dong, X., Biorefinery, 2018. Yield-increasing Mechanism of Biodegradable Mulch Cover Potato. Chinese Agricultural Science Bulletin (in Chinese).
- Gao, S.M., Zhang, X.C., Wang, Y.H., 2010. Influence of Different Mulching and Furrow-Ridge Planting Motheds on Soil Moisture and Yield of Potato on Dryland.
 J. Soil Water Conserv., 249-251+256 (in Chinese).
- Gao, X.H., Xie, D., Huang, Y.Z., Zhang, H.P., Chen, M.Z., 2015. The Application Effects of Truly Biodegradable Mulch in Potato Farmlands. Agricultural Science & Technology, 2070-2072 (in Chinese).
- Gao, L., Pan, Z.H., Yang, S.Y., Wang, L.W., Xu, H., Pan, Y.Y., Han, G.L., Fan, D.L., Wang, J.L., Wu, D., 2017a. Effect of different plastic film mulching methods on soil temperature-humidity and greenhouse gases emission in the rainfed potato field. Journal of Arid Land Resources and Environment 6, 136-141 (in Chinese).
- Gao, Y.P., Hu, X.Y., Li, Z., Wu, Y.B., Zhang, W., Qi, E.F., 2017b. Yield Performance of Mini-tuber Potato and Characteristics of Soil Moisture Temperature Response to

- Different Plastic Film Mulching Models in the Cold and Humid Areas. Journal of Nuclear Agricultural Sciences 12, 2426-2433 (in Chinese).
- Guo, Z.Q., Chen, D., Sun, S.L., Zhang, J.C., 2011. High-yielding Cultivation for cv. Black Potato. Chinese Potato Journal, 149-151 (in Chinese).
- Hanjun, W.U., Yao, W., Guo, M., Wang, F., 2018. Influences of Different Film Covering Modes on Soil Moisture and Yield of 'Qingshu 9' in Arid Area. Chinese Potato Journal (in Chinese).
- Han, F.X., Chang, L., Chai, S.X., Yang, C.G., Cheng, H.B., Yang, D.L., Li, H., Li, B.W., Li, S.L., Song, Y.L., Lan, X.M., 2016. Effect of straw strip covering on ridges on soil water content and potato yield under rain-fed semiarid conditions. Chinese Journal of Eco-Agriculture, 874-882 (in Chinese).
- He, Q., He, W., He, J., 2018. Effects of Different Film Color and Fertilizer on Potato Growth, Yield and Quality. Journal of Hubei Agricultural Sciences 57, 18-22 (in Chinese).
- Heping, C., Junhuan, D., Tianshun, G., Peng, W., Fangdi, L.I., Weiqing, X., Zhaoxia, L., Xiaodong, Q.I., Tai, L.U., 2019. Effects of Mulching Cultivation on Soil Enzyme Activities and Yield of Potato in Cold Area of Central Gansu Province. Chinese Potato Journal (in Chinese).
- He, C.Z., Liu, M.Y., Long, H., Song, Y., Xiong, X.Y., 2007. Effects of Mulching Methods on the Growth and Yield of Potatoes Grown in Winter Fallow Rice Fields. Chinese Agricultural Science Bulletin, 249-252 (in Chinese).
- He, J.Q., Lei, J.Y., Xin. Ping, M., Gui, L.G., Wu, X.Y., Yin, Z.R., 2017. Effects of different film-mulching methods on soil nitrogen, phosphorus, potassium nutrients content and the potato yield in dry land. Soils and Fertilizers Sciences in China 2, 35-41 (in Chinese).
- He, Q.X., Zhao, H.Y., Zhao, G.R., Wu, Z.M., Yang, Y., 2016. Water-saving Effect of Mulching Material and Covering Method in Hexi Irrigated Area. Chinese Potato Journal, 93-98 (in Chinese).
- He, X.M., Tan, G.N., Tang, Z.P., He, H.Y., Li, L.S., Wang, H., 2011. Studies on Cultivation Pattern of Straw Wrapping Potato in Winter-planting. China

- Vegetables, 78-80 (in Chinese).
- Hui, L., Wu, J., Chai, S., Lei, C., Han, F., Cheng, H., University, G.A., 2018. Effects of Corn Straw Strip Mulching on Soil Temperature and Potato Yield in Northwest Arid Land of China. Journal of Desert Research (in Chinese).
- HUO, Y., Ding, C., Han, C., 2019. Effects of diifferent mulching materials on soil moisture-heat condition and yield of potato. Journal of Arid Land Resources and Environment 33, 90-94 (in Chinese).
- Hou, X., Wang, F., Han, J., Kang, S., Feng, S., 2010. Duration of plastic mulch for potato growth under drip irrigation in an arid region of Northwest China. Agric. For. Meteorol. 150, 115-121.
- Hou, X.Q., Tang, J., Yu, L.L., Zhao, F.P., Wang, Q.W., Hu, E.J., Wei, K.R., 2016. Effect of autumn mulching tillage on growth and water use efficiency of potato. Journal of Drainage and Irrigation Machinery Engineering, 165-172 (in Chinese).
- Hu, B., Hao, Y.F., Fan, M.S., 2012. Effects of Plastic Mulch on Different Potato Cultivars. Journal of Inner Mongolia Agricultural University, 21-25 (in Chinese).
- Hu, X.X., Liu, M.Y., He, C.Z., Song, Y., Jiang, L.H., Xiong, X.Y., 2013. Effects of plastic covering methods on the growth and yield of potatoes in winter fallow rice fields in Hunan Journal of Hunan Agricultural University (Natural Sciences) 500-504 (in Chinese).
- Huang, C.P., Ye, X.J., Chen, J.X., 1994. The physiological and ecological effects of covering plastic film on potato. Acta Agriculture Zhejiangensis, 39-43 (in Chinese).
- Huang, K., He, X.Q., Li, D.M., Wang, J., He, W.C., Liu, Q.L., Tan, W.J., Han, J.R., 2017a. Effects of Different Mulching Methods on Characteristics of
- Growth, Yield and Quality for Potato in Semi-arid Area of Longzhong. Chinese Potato Journal, 272-277 (in Chinese).
- Huang, Q.R., Ye, C., Yu, X.C., Xiong, G.G., Zhang, X.L., 2000. Preliminary Study on High Yield Culture Technique of Spring Potato on Dry Land of Hilly Red Soil. Acta Agriculturae Jiangxi, 22-26 (in Chinese).
- Huang, T., Deng, K.P., Peng, H.Y., Lei, Z.G., Li, L., Li, Y., 2012. Study on Black Plastic

- Mulching Models of Potato Planted in Winter Fallow Land in Guizhou Province. Agricultural Technology Service, 1015-1016+1072 (in Chinese).
- Huang, Z.H., 2007. Comparison Experiments on Different Planting Pattern of Winter Potato. Journal of Guangxi Agriculture, 11-13 (in Chinese).
- Huang, Z.Y., Gao, X.H., Chen, Z.M., Xie, D., 2017b. Application effect of truly biodegradable herbicidal mulching film in winter potato. Guangdong Agricultural Sciences, 20-25 (in Chinese).
- Ji, X., Zhang, X., Zhang, J., Wang, W., 2018. Effects of Different Mulching Methods on Photosynthetic Characteristics and Yield in Potato. Acta Agriculture Borealioccidentalis Sinica (in Chinese).
- Ji, R.C., Luo, W.B., Li, H.W., Xu, Y.Q., Qiu, Y.X., Liu, Z.H., Qiu, S.X., Tang, H., 2013.
 Effects of different mulching materials on yield and commodity value of winter-planting potato. Fujian Agricultural Science and Technology, 27-29 (in Chinese).
- Ji, X.L., Zhang, J., Qiao, W.Y., Liu, J.H., Lei, J., Zhang, X., 2016. Effects of different mulching methods on yield and water use efficiency of potato. Agricultural Research in the Arid Areas, 58-62 (in Chinese).
- Jia, H.C., Zhang, Y., Tian, S.Y., Emon, R.M., Yang, X.Y., Yan, H.R., Wu, T.T., Lu, W.C., Siddique, K.H.M., Han, T.F., 2017. Reserving winter snow for the relief of spring drought by film mulching in northeast China. Field Crop. Res. 209, 58-64.
- Jia, Z.H., Guo, H.C., Bai, L., Wu, X.B., 2014. Influence of Plastic Film Mulching and Supplemental Irrigation on Water Consumption and Growth of Spring Potato in Yunnan. Journal of Irrigation and Drainage, 138-140 (in Chinese).
- Jie, W.Q., Li, Y.S., Wang, P., Guo, T.S., Li, F.D., He, E.L., Lv, T., 2014. Effects of Various Cultivation Mode on Growth and Yield of Potato 'Tianshu No.11' in Mountain Dry Land. Acta Agriculture Boreali-occidentalis Sinica, 80-86 (in Chinese).
- Jin, X.J., Li, G.Q., Pan, R.H., 2004. Effects of plastic film mulching on the yield of potato in hilly and humid area of Gansu province. Chinese Potato Journal, 207-210 (in Chinese).
- Kuang, G.S., Zhang, X., Liu, Y.P., Wang, Y., Liang, H., 2008. Effects of different

- cultivation models on yield and quality of winter-planting potato. Guangxi Agricultural Sciences, 30-32 (in Chinese).
- Lan, Y.F., Zhong, S.H., Tang, X.W., Xiao, C.H., 2013. Different Cultivation Methods Research on Planting Potatoes at Zhouning County. Ningxia Journal of Agriculture and Forestry Science and technology, 6+30+32 (in Chinese).
- Lei, J., Zhang, K., Yao, Y., Niu, H., Shi, J., Qiang, L.I., Wenju, L.I., Zhao, H., 2017.
 Effects of Black Plastic Film Mulching on Photosynthetic Characteristics and
 Yield of Potato in Semi-arid Region. Journal of Arid Meteorology (in Chinese).
- Lei, W.S., Wang, Y.P., 2014. Effect of Different Cultivation Pattern on Growth, Quality and Yield of Spring-sowing Potato in Hilly Areas. Guizhou Agricultural Sciences, 79-82 (in Chinese).
- Li, J.M., 2011. Experimentation on Various Mulching Methods for Rain Water Harvest and Soil Moisture Conservation in the Potato Production of Anding. Chinese Potato Journal, 275-278 (in Chinese).
- Li, M.J., Liu, Y., Zhou, Y.Y., Zeng, L.Q., 2013a. Effects of Different Kind of Film and Mulching Methods on Economic Traits and Yield of Potato Tillage and Cultivation, 37-38 (in Chinese).
- Li, H., 2018. Effects of Mulching on soil moisture and temperature for Potato in arid areas of China. Gansu Agricultural University (in Chinese).
- Li, L., Fan, W.J., Yang, X., Tang, Z.P., Tan, G.N., Hu-Yi, H.E., 2018. Soil physical and chemical properties and yield of Guangxi winter potato under different cultivation models. Journal of Southern Agriculture (in Chinese).
- Li, Q., Liu, J.H., Zhang, L., Liu, C., Yan, Y.F., Chen, Q., 2010. Effect of mulch and water absorbent on morphological characters and membrane permeability of potato. Agricultural Research in the Arid Areas (in Chinese).
- Li, X., Ma, S., Liu, Y., 2019. Effects of Different Plastic Film Covering on Potato Growth. Anhui Agronomy Bulletin 25, 47-58 (in Chinese).
- Li, Q., Liu, J.H., Zhang, L., Chen, Q., Yu, J., N.Achary, S., 2013b. Using water-retaining agent and mulch to improve growth and yield of potato under dry farming.

 Transactions of the Chinese Society of Agricultural Engineering, 83-90 (in

- Chinese).
- Li, Q., Liu, J.H., Zhang, L., Liu, C., Yan, Y.F., Chen, Q., 2010. Effect of mulch and water absorbent on morphological characters and membrane permeability of potato. Agricultural Research in the Arid Areas, 177-182 (in Chinese).
- Li, W.Q., Feng, F.J., 2013. Benefit Comparison on Different Planting Ways of Potato in the Mountain Area of Southern Ningxia. Ningxia Journal of Agriculture and Forestry Science and technology, 51-53 (in Chinese).
- Li, Y.C., Liu, X.J., Li, K.H., Qiu, D.T., Peng, X.J., 2006. Winter cultivating experiment of potato by covering measures in Guangzhou. Guangdong Agricultural Sciences, 15-16 (in Chinese).
- Li, Y.N., 2014. Effect Test on Application of Liquid Film in Potato. Horticulture & Seed, 6-8+59 (in Chinese).
- Li, N., Zhao, Z.M., Tang, H., Ling, Y.X., Wu, J.L., Zhang, L., Zhang, P., 2013. Influence of Plastic Film Mulching Methods on Yield and Economic Characters in Commercial Potato. Chinese Agricultural Science Bulletin, 109-115 (in Chinese).
- Lian, W.Q., 2013. Comparative test of rice straw mulching for spring potato cultivation. Fujian Agricultural Science and Technology, 51-52 (in Chinese).
- Liang, S., 2018. Effects of mulch cultivation on soil environment and yield of potatoes with different ripeness. Gansu Agricultural University (in Chinese).
- Liang, S., Lei, Z., He, S., Yang, Q., Li, Y., He, P., Wang, S., Ying, W., Yang, Q., Sui, Q., 2017. Yield and Economic Benefit of Potato under the Different Cultivation Patterns in Northwest Yunnan. Crops (in Chinese).
- Liang, j.P., Tang, H., Zhang, Z.Y., Zhang, C., Luo, W.M., Luo, W.B., 2012. Experiment on High Yield Planting of New Winter Potato Variety Minshu 1'. Chinese Agricultural Science Bulletin, 133-137 (in Chinese).
- Liang, J.X., Guo, X.N., Zhang, G.H., Chen, G., Wang, X.N., Zhou, T., 2015a. Effects of Plastic Mulch and Different Densities on Potato Yield and Water Use Efficiency on Dry land of South Ningxia. Research of Soil and Water Conservation, 266-270 (in Chinese).
- Liang, J.X., Guo, X.N., Zhang, G.H., Wang, X.N., Zhou, T., 2015b. Effect of Ridge

- with Plastic Cover and Furrow Sowing on Soi l Water Content and Potato Yield in Dryland of Southern Ningxia. Journal of Irrigation and Drainage, 67-72 (in Chinese).
- Liang, S., Min, Zhang, L., He, S.D., Yang, Q.Q., Li, Y.S., He, P.G., Wang, S.L., Wang, Y., Yang, Q.F., Sui, Q.J., 2017. Yield and Economic Benefit of Potato under the Different Cultivation Patterns in Northwest Yunnan. Crops, 79-83 (in Chinese).
- Lin, H., Wu, C.Z., 2008. Study on Suitable High-yielding Cultivation Techniques for Potato Zhongshu 3 in the Medium-Low Mountains Areas of Southern Zhejiang. Chinese Agriculutral Scienc eBulletin, 228-231 (in Chinese).
- Lin, T., Rong, Hu, B., Han, S.E., Huang, W.J., Han, W.J., Xing, J., 2014. Comparison Experiment for Different Color of Film and Different Mulching Methods of Dry Land Potato. Inner Mongolia Agricultural Science And Technology, 43-44 (in Chinese).
- Lin, W., Wang, H.Y., Lin, W.Y., Weng, D.H., 2010. Comparison Experiment of Different Kinds of Straw Coveringfor Potato Production in Ningde. Chinese Potato Journal, 217-219 (in Chinese).
- Lin, L., 2018. Effects of Biodegradable Plastic Film on Soil Fertility and Potato Yield. South China Agriculture 13, 163-164 (in Chinese).
- Liu, H., Jianbin, L.I., Caishang, G.U., Bozhi, W.U., 2017. Effects of Plastic Film Mulching in Intercropping Potato on Soil Temperature, Moisture and Its Yield. Journal of Yunnan Agricultural University (in Chinese).
- Liu, W., Dong, B., Zhang, L., 2018a. Effects of Plastic Film Mulching Modes on Soil Moisture, Temperature and Yield of Potato in Semi-arid Region. Chinese Potato Journal 32, 13-18 (in Chinese).
- Liu, Z., Cheng, C., Wang, S., Zeng, X., 2018b. Study on the Cultivation Methods of Winter Potato which Suitable for Potato Medium Rice +Ratoon Rice Cropping. Journal of Crop research 32, 395-398 (in Chinese).
- Liu, C.A., Siddique, K.H.M., 2015. Does Plastic Mulch Improve Crop Yield in Semiarid Farmland at High Altitude? Agron. J. 107, 1724-1732.
- Liu, C.Y., 2001. Studies on high-yielding film-mulched technique of potato. Chinese

- Potato Journal, 5-8 (in Chinese).
- Liu, F.Q., Zhang, Z.F., Yun, T., Yang, H.Y., Hao, W.S., Cao, Y.L., Li, S.S., Li, W.G., 2009. Effect of Plastic Film Mulching in Dry Land on Potato Biomass and Commodity Potato Rate. Inner Mongolia Agricultural Science And Technology, 20-21 (in Chinese).
- Liu, Q.G., 2014. Studies on Replace Plastic Mulching with Degradable Liquid Mulching in Potato Sown in the Spring. Journal of Jilin Agricultural Sciences, 71-73 (in Chinese).
- Liu, X., He, B., Yi, X., Zhang, L., Han, F., 2016. The soil water dynamics and hydraulic processes of crops with plastic film mulching in terraced dryland fields on the Loess Plateau. Environ. Earth Sci. 75.
- Liu, Y.M., He, C.Z., Xiong, X.Y., Song, Y., Shen, T., 2005. Comparative Experiment of Spring Potato in Cultivation Method in Changsha. Chinese Potato Journal, 134-137 (in Chinese).
- Luo, L., Ya-Jie, L.I., Yao, Y.H., Wang, J., Zhang, X.J., De-Ming, L.I., 2018. Effect of cover and ridge cultivation on potato growth, yield, quality and its economic benefit in dry land. Agricultural Research in the Arid Areas (in Chinese).
- Luo, W.L., 2011. Effects of Cultivation Modes and Planting Density on Potato Zhongshu 3 (Solanum tuberosum L.) in Winter Season. Fujian Journal of Agricultural Sciences, 961-965 (in Chinese).
- Ma, S.F., 2013. On the Effect of Different Mulching Cultivation Methods on Soil Environment and Yield of Potato. Journal of Longdong University, 48-51 (in Chinese).
- Ma, H., Huang, P., 2014. Experiment study on the total amount control of nitrogen fertilizer in Jingan Town, Zhaoyang District, Zhaotong City. Journal of Agricultural Technology Service 5, 86-86 (in Chinese).
- Ma, Z.W., Liu, Z.F., Hu, J.H., Hu, Y.P., Zhou, L.M., 1999. Study on the High Yield Culture Technics of Virus-free Potato in Paddy in Spring. Acta Agriculturae Jiangxi, 25-29 (in Chinese).
- Mai, Z.Z., She, P., Mai, J., Wang, Y., Zhou, H.L., Mi, Z.M., Lu, J.W., Jin, X.P., 2014.

- Effects of mulching timing, pattern and color of plastic film on soil moisture and water use efficiency of potato. Agricultural Research in the Arid Areas, 1-10 (in Chinese).
- Meng, Y., Lu, Y., 2009. Effects of Different Cultivation Models and Sowing Patterns on Yield of Favorita. Guizhou Agricultural Sciences, 42-43 (in Chinese).
- Mo, Q.Z., Wu, D., Lv, J.L., Li, Q.Y., Gong, S.L., Zhou, Y.P., Yue, Y.G., Lv, S.M., 2017. Study on the Cultivation Technique of Winter Potato with Film Mulching. Tillage and Cultivation, 12-14, 11 (in Chinese).
- Mou, L.M., Xie, J.H., Yang, X.Q., 2014. Screening for Potato Conservation Tillage Technology in Semi-arid Region of Loess Plateau. Chinese Potato Journal, 335-339 (in Chinese).
- Nie, Z.S., Xie, Y.L., Wang, Y., Sun, X.J., 2011. Effect of Various Plastic Mulching Models on Potato Yield in Cold and Drought Areas. Chinese Potato Journal, 213-217 (in Chinese).
- Ou, Q.H., 2012. A comparison experiment of 6 cultivation methods of winter potato. Journal of Guangxi Agriculture, 16-19 (in Chinese).
- Qin, S., Yeboah, S., Wang, D., Zhang, J., 2016. Effects of ridge-furrow and plastic mulching planting patterns on microflora and potato tuber yield in continuous cropping soil. Soil Use and Management 32, 465-473.
- Qin, L., 2018. Investigation of Potato Safety Period of Plastic Film Mulching in Intensive Agricultural Region of North China. Chinese Academy of Agricultural Sciences (in Chinese).
- Qin, S.H., Zhang, J.L., Dai, H.L., Wang, D., Li, D.M., 2014. Effect of ridge-furrow and plastic-mulching planting patterns on yield formation and water movement of potato in a semi-arid area. Agric. Water Manage. 131, 87-94.
- Song, Z.H., Shan.Yu, Y., Zhang, L.T., 2015. Comparison of Black Plastic Film Mulching for Potato Planted in Semi-arid Region. Chinese Potato Journal, 209-212 (in Chinese).
- Su, J.Y., Jin, F.P., Yang, L.J., 2015. A Study of Film-mulching Cultivation Technology for Dry-land Potato in Arid Area of Central Ningxia. Ningxia Journal of

- Agriculture and Forestry Science and technology, 9-10+17 (in Chinese).
- Sun, S.P., Li, S.Z., 2004. Climatic Ecological Effect to Plastic-mulched Potato Planting in High Latitude and Low Temperature Area. Journal of Shanxi Agricultural Sciences 32, 26-28 (in Chinese).
- Shi, Y.X., 2017. Effects of Different Plastic Film Mulching on the Benefit of Potato Cultivation. Ningxia Journal of Agriculture and Forestry Science and technology, 12-15 (in Chinese).
- Sun, M., Liu, J., Zhao, B., Yang, Y., 2018. Effects of Full-film Mulching and Ridging Planting on the Rainfed Potato Growth and Soil Characteristics. Journal of Soil and Water Conservation 32, 265-272+279 (in Chinese).
- Tan, X.L., Lv, J.F., Guo, T.W., Guo, S.X., Zhang, X.C., Zhang, P.L., 2011. Effects of Plastic Film Mulching and Fertilization on Potato Dry Matter Accumulation and Soil Water Content in Dryland. Journal of Irrigation and Drainage, 104-106+126 (in Chinese).
- Tang, H., 2012. Production and Benefits of the Zhongshu 3 with Different Cultivation Models. Chinese Potato Journal, 155-158 (in Chinese).
- Tang, W.M., Qin, J.G., Meng, Y., Su, Y., 2014. Effects of Different Mulches on Yield and Characters of Pre-basic Seed Potato of 'Dianqianyu No.23'. Chinese Agricultural Science Bulletin, 249-252 (in Chinese).
- Tang, X.W., Wang, X.C., 2012. Comparative test of cultivation manners for spring potato. Fujian Agricultural Science and Technology, 32-34 (in Chinese).
- Tian, Y., Su, D.R., Li, F.M., Li, X.L., 2003. Effect of rainwater harvesting with ridge and furrow on yield of potato in semiarid areas. Field Crop. Res. 84, 385-391.
- Tian, H., 2018. Study on the cultivation technique effects of different mulching methods and field plant distribution patterns of potato in dryland. Gansu Agricultural University (in Chinese).
- Tian, X., T., Jun-feng, L., Tian-wen, G., Xian-shi, G., Xu-cheng, Z., Ping-liang, Z., 2011.
 Effects of Plastic Film Mulching and Fertilization on Potato Dry Matter
 Accumulation and Soil Water Content in Dryland. Journal of Irrigation & Drainage.
 12, 58-63 (in Chinese).

- Wang, D.W., Cheng, D.J., Liu, S.Q., Xie, J.Z., Wu, Y.Z., Li, D.P., 2001. Effect of ridging and fertilization and plastic film covering technique for potato in semiarid region with cold climate and high elevation. Agricultural Research in the Arid Areas, 14-19 (in Chinese).
- Wang, F.-X., Feng, S.-Y., Hou, X.-Y., Kang, S.-Z., Han, J.-J., 2009a. Potato growth with and without plastic mulch in two typical regions of Northern China. Field Crop. Res. 110, 123-129.
- Wang, F.-X., Wu, X.-X., Shock, C.C., Chu, L.-Y., Gu, X.-X., Xue, X., 2011. Effects of drip irrigation regimes on potato tuber yield and quality under plastic mulch in arid Northwestern China. Field Crop. Res. 122, 78-84.
- Wang, H., Cui, J.R., Feng, L., Jiang, H.G., 2013a. A Study of Effect of Different Film and Different Covering Methods on Yield of Potato. Ningxia Journal of Agriculture and Forestry Science and technology, 99-103 (in Chinese).
- Wang, J.C., Li, D.M., Wang, R.Y., Pan, X.C., 2015a. Effects of Black Film Mulching for Increasing Temperature and Yield of Potato Production in Semi-arid Region. Chinese Potato Journal, 150-152 (in Chinese).
- Wang, J.W., Zhang, X., Duan, Y.Z., 2016. Influence of Biodegradable Mulch on Water Use Efficiency and Growth of Dryland Potato. Chinese Agricultural Science Bulletin, 97-102 (in Chinese).
- Wang, R.P., Zhang, J., Wan, L.J., Liu, J., Xie, Z.W., Xu, S.F., 2008. Effects of Different Cultivation Models on Yield and Quality of Potato. China Vegetables, 30-32 (in Chinese).
- Wang, X.L., Li, F.M., Ha, Y., Shi, W.Q., 2005. Increasing potato yields with additional water and increased soil temperature. Agric. Water Manage. 78, 181-194.
- Wang, X.L., Shen, X.S., Li, C.R., Li, L.F., Li, H.H., Huang, G., 2015b. Effect of Different Varieties and Cultivated Practices on Growth Period and Yield of Spring Potato in Penzhou Maintainous Area. Chinese Agricultural Science Bulletin, 128-131 (in Chinese).
- Wang, Y.H., Gao, S.M., Zhang, W., Wang, R.J., 2009b. Effects of different planting patterns on soil temperature and water use efficiency of potato in arid regions of

- Gansu Province. Journal of Gansu Agricultural University, 19-23+43 (in Chinese).
- Wang, Y.H., Meng, M.L., Chen, Y.J., Zhang, J., Wang, Z.X., Cui, C.L., 2013b. Effect of Different Film-covering Modes on the Yield and Soil Moisture of Dry Land Tillage Potato. Chinese Agricultural Science Bulletin, 147-152 (in Chinese).
- Wang, Y.M., Zhang, Z.Y., Fan, M.S., 2009c. Water Use Efficiency and Water Production Efficiency of Potato (*Solanum tuberosum* L.) with under-mulch Drip Irrigation. Chinese Potato Journal, 148-151 (in Chinese).
- Wang, Z.R., 2011. Cultivating experiment of winter potato by covering black plastic film. Fujian Agricultural Science and Technology, 42-44 (in Chinese).
- Wang, Z.R., 2013. Effects of Different Cultivation Models on Characteristics of Growth, Yield and Quality for Winter-planting Potato. Chinese Agricultural Science Bulletin, 117-122 (in Chinese).
- Wang, H., Zhang, X., 2015. Effect of using black plastic film as mulch on soil temperature and moisture and potato yield, China Crop Society-Academic Annual Meeting (in Chinese).
- Wang, J., Zhang, T., 2011. Cost Benefit Ana lysis of Double Ridge mulching One Film Used for Two Years Planting Mode for Crop on Up land. Crops 4, 85-88 (in Chinese).
- Wang, X., 2019. Experimental study on Water Effect of Potato Covering Modes in Dryland Terraced Fields of Zhuanglang County. Agricultural Science and Technology and Information 559, 15-17+22 (in Chinese).
- Wang, Y., Li, J., 2014. Demonstration of Cultivation Techniques for Full Film Ridge Communication of Potato in Anding District. New Countryside: Heilongjiang 3, 144-144 (in Chinese).
- Wang, Y., Sun, X., 2018. Effects of Fertilization on Tuber Yield, Water and Fertilizer Use Efficiency under Different Rainfall Harvesting Planting Modes of Potato. Acta Agriculturae Boreali-occidentalis Sinica (in Chinese).
- Weng, D.H., Zhu, H., Zhang, Z.J., Yu.Chun, G., 2009. Growth and Physiology of Winter-planting Potato Using Straw as Mulch in a Sandwich Model. Chinese Potato Journal, 75-81 (in Chinese).

- Wu, Z.S., Liao, D.L., Xiao, R.X., Fu, J., 2012. Effects of Sowing Time, lanting Density and Cultivation Methods on Growth and Yield of Winter Potato (Solanum tuberosum) in Hainan. Journal of Anhui Agricultural Sciences, 13317-13318+13327 (in Chinese).
- Wu, J., Bai, W., Du, L., Wang, Y., 2018. Application Effect of Mechanical Ridging, Black Film Mulching and Punching Cultivation Technology in Potato Production. Journal of Guizhou Agricultural Sciences 46, 34-37 (in Chinese).
- Xia, F.Q., Jiang, X.F., Dong, B., Guo, T.W., 2014. Effects of Mulching Time and Methods on Soil Hydrothermal Status and Potato Yield on Rain-fed Field. Journal of Nuclear Agricultural Sciences, 1327-1333 (in Chinese).
- Xie, L.H., Lin, L.Y., 2010. Report of Different Cultivation Methods of Winter Potato. Journal of Changjiang Vegetables, 41-43 (in Chinese).
- Xin, K., 2014. Comprehensive Benefit Experiment on Black Plastic Film Mulching Ridge Side Planting of Potato. Science and Technology of Qinghai Agriculture and Forestry, 19-23 (in Chinese).
- Xu, J., Tang, X.H., Chen, S.B., Sun, P.S., 2006. Effects of Straw Mulch on Soil Properties and Potato Productivity on Slope Land. Chinese Agricultural Science Bulletin, 333-336 (in Chinese).
- Xu, Y.J., Sun, N.X., Cen, J., Mao, R., Lu, Q.G., Zhao, X.P., 2013. Effect of Ehich Cultivated by Ridging and Covering Film on the Growth and Yield of Potato for Vegetables. Northern Horticulture, 36-37 (in Chinese).
- Xue, J.W., Ren, W.J., Yan, C.R., 2014. Effects of Plastic Film Mulching and Ridge Planting on Yield and Water Use Efficiency of Potato in Loess Plateau. Chinese Journal of Agrometeorology, 74-79 (in Chinese).
- Yang, G.L., Huang, S.X., Huang, Y.Y., 2012. A cultivation research of anti-cold and high-yield and high-efficient of winter potato in Guizhou. Guangdong Agricultural Sciences, 6-8 (in Chinese).
- Yang, Y.K., Jian-Long, Y.U., 2018. Effects of Different Cultivation Models on Yield for Virus-Free Potato. Journal of Hunan Agricultural Sciences (in Chinese).
- Yang, M., 2014. Effects of Different Mulching Methods on Yield and Economic

- Benefits of Potato. Tillage and Cultivation, 20-22+27 (in Chinese).
- Yang, P.j., Yu, X.Z., Sun, C.J., 2013. Effect on Black Film and Different Covering Ways on Potato Yield. Ningxia Journal of Agriculture and Forestry Science and technology, 56-60+109 (in Chinese).
- Ye, L.C., Bu, H.Z., Hu, Y.G., Zeng, Z.H., Xiao, X.P., Tang, H.M., Yang, G.L., 2012. Effects of Different Cover Types on Soil Water, Temperature and Potato Yield in Double Rice Cropping Area. Research of Agricultural Modernization, 216-220 (in Chinese).
- Yin, J., Qiu, X.C., 2011. A study on water consumption regulation and water effect of potatoes in the middle of dryland of Ningxia. Ningxia Engineering Technology, 334-337 (in Chinese).
- Zang, N., 2010. Effect of Mulching Methods on Yield and Water Use Efficiency of Dryland Potato. Gansu Agricultural Science and Technology, 22-24 (in Chinese)
- Zhang, G.P., Cheng, W.L., Lv, J.F., Hou, H.Z., Guo, T.W., Wang, L., 2016. Effect of Different Film Colors on Soil Water, Temperature and Potato Yield. Journal of Irrigation and Drainage, 66-71 (in Chinese).
- Zhang, L., Jin, S.L., Zhang, G.Q., Guo, Z.K., 2012a. Effect of double ridges mulched with plastic film on soil erosion and crop yield of sloping field in the central part of Gansu. Agricultural Research in the Arid Areas, 113-118 (in Chinese).
- Zhang, P.L., Guo, T.W., Li, S.T., Liu, X.W., Zeng, J., 2017a. Effects of different coverage cultivation and balanced fertilization on yield and water use efficiency of potato in the dry-land. Agricultural Research In The Arid Areas, 50-54 (in Chinese).
- Zhang, W.B., 2014. Straw mulching experiment and high-yielding cultivation techniques of winter potato. Fujian Agricultural Science and Technology, 19-22 (in Chinese).
- Zhang, W.G., 2013. Effects of Film Mulching of Different Types on Potato Yield and Quality. Crops, 87-90 (in Chinese).
- Zhang, W.W., Geng, Z.G., Huang, H.Y., Fu, J.Y., Lu, L.Y., Li, F., 2017b. Effects of Different Cultivation and Regulation Modes on Potato Yield and Benefit. Chinese

- Potato Journal, 144-148 (in Chinese).
- Zhang, X.M., Chen, H., Quan, F., Yuan, T., Xu, Q.L., Cao, X.W., 2012b. Effects of Straw Coverage Doses on Yield, Quality and Profit Parameters with Winter Potato. Chinese Journal of Tropical Crops, 829-831 (in Chinese).
- Zhang, Y.-L., Wang, F.-X., Shock, C.C., Yang, K.-J., Kang, S.-Z., Qin, J.-T., Li, S.-E., 2017c. Influence of different plastic film mulches and wetted soil percentages on potato grown under drip irrigation. Agric. Water Manage. 180, 160-171.
- Zhang, Y.L., Kou, H., Wei, W.M., Zha, X.P.C., Yang, X.Z., 2011. Studied on the Effects of Potassium Fertilization and Cultivation Mode on Potato Production in Shigatse. Chinese Potato Journal, 356-359 (in Chinese).
- Zhang, Y., Li, J., 2018. Experimental Study on Corn Straw Banded Mulching Cultivation Technique of Potato in Anding District. Chinese Potato Journal 32, 27-32 (in Chinese).
- Zhang, Z.J., 2016. Effects of mulching by different kinds of plastic film on growth and yield of potato. Fujian Agricultural Science and Technology, 16-18 (in Chinese).
- Zhang, Z.J., Wen, D.H., Xie, X.Y., Chen, X.Y., Guo, Y.C., 2009. Characteristics of Growth and Development and Performance of Yield and Quality for Winterplanting Potato in Different Cultivation Models. Research of Agricultural Modernization, 628-632 (in Chinese).
- Zhang, Z.L., Qi, Y.G., Wang, P., Yu, X.M., Xu, L.J., 1989. Influence of Ground Coat Cover on the Growth and Development of Potato. Journal of Laiyang Agricultural College, 17-22 (in Chinese).
- Zhao, H., Wang, R.Y., Ma, B.L., Xiong, Y.C., Qiang, S.C., Wang, C.L., Liu, C.A., Li, F.M., 2014a. Ridge-furrow with full plastic film mulching improves water use efficiency and tuber yields of potato in a semiarid rainfed ecosystem. Field Crop. Res. 161, 137-148.
- Zhao, H., Xiong, Y.-C., Li, F.-M., Wang, R.-Y., Qiang, S.-C., Yao, T.-F., Mo, F., 2012.
 Plastic film mulch for half growing-season maximized WUE and yield of potato
 via moisture-temperature improvement in a semi-arid agroecosystem. Agric.
 Water Manage. 104, 68-78.

- Zhao, P.Y., Jia, Y.Y., Tuo, D.B., Ren, Y.F., Lu, Z.Y., Li, H.C., Duan, Y., Gong, Q., 2014b.
 Study on the Mechanism of Yield Increasing of Furrow Planting on Rain-fed Field in North Foot of Yinshan Mountain. Chinese Agricultural Science Bulletin, 165-170 (in Chinese).
- Zhao, T.W., Huang, G.B., Xuan, C.X., Xie, J.H., Lian, H.B., 2009. Different conservation tillage related with soil water, soil temperature and yield of potato in rainfed farming system. Agricultural Research in the Arid Areas, 101-106+118 (in Chinese).
- Zhe, J.L., Yang, Q., Jing, Z.Z., Chang, L., Yang, H.Y., 2013. Comparison of Potato Yields by Different Cultivation Modes in Ningnan Mountain Areas. Ningxia Journal of Agriculture and Forestry Science and technology, 49-50 (in Chinese).
- Zheng, Y.C., Yang, Q.F., 2008. Influence of Different Mulching Models on the Growth and Development of Potato and Soil Water Content in DryLand. Journal of Anhui Agricultural Sciences, 8462-8464 (in Chinese).
- Zheng, Y.H., Pan, G.Y., Zhang, G.X., Hu, J., Pan, M.J., Wu, Q.Y., 2007. Effects of Different Cultivation Technique on the Utilization Ratio of Water in Potato. Chinese Agricultural Science Bulletin, 249-252 (in Chinese).
- Zhou, D., Ye, B., Wang, J., 2011. Effect of using black plastic film as mulch on soil temperature and moisture and potato yield. Chinese Vegetables 2, 47-52 (in Chinese).
- Zhuang, J., 2010. Study on straw mulching potato without tillage cultivation and deficit irrigation technology. Gansu Agricultural University.
- Zhou, L.-M., Zhang, F., Liu, C.-A., 2015. Improved yield by harvesting water with ridges and subgrooves using buried and surface plastic mulches in a semiarid area of China. Soil Tillage Res. 150, 21-29.
- Zhou, L.M., Zhang, H., Li, Q., Han, Y., Xie, J., 2016. Effect of black film mulching on potato yield and soil quality. Journal of Nanjing University of Information Science & Technology (Natural Science Edition), 316-321 (in Chinese).