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# DAFTAR PUSTAKA

Ababaker, S. K. and K. B. Esho. 2022. Producing Potato from true Seed, Review. Acta Scientific Agriculture 6(3): 51-63.

Acquaah, G. 2009. Principles of plant genetics and breeding. John Wiley & Sons.

Allier, A., C. Lehermeier, A. Charcosset, L. Moreau, and S. Teyssèdre. 2019. Improving short- and long-term genetic gain by accounting for within-family variance in optimal cross-selection. Frontiers in Genetics 10: 1006.

Almekinders, C. J. M. 1992. The effect of photoperiod on flowering and TPS production in the warm tropics. Potato Research 35: 433–442.

Almekinders, C. J. M., and Struik, P. C. 1996. Shoot development and flowering in potato (*Solanum tuberosum* L.). Potato Research, 39(4): 581-607.

Baihaki, M. A. dan D. S. Siregar. 2024. Respon pertumbuhan tanaman kentang (*Solanum tuberosum* l.) terhadap pemberian indole acetic acid (iaa) dan benzyl amino purine (bap) secara in vitro. Doctoral dissertation, Universitas Sumatera Utara.

Bao, Z., C. Li, G. Li, P. Wang, Z. Peng, L. Cheng, Li H., Zhang Z., Li Y., Huang W., Ye M., Dong D., Cheng Z., VanderZaag P., Jacobsen E., Bachem C.W.B., Dong S., Zhang C., Huang S., and Zhou Q. 2022. Genome architecture and tetrasomic inheritance of autotetraploid potato. Mol. Plant 15: 1211–1226.

Bao, X., Zhu, Y., Li, G., and Liu, L. 2025. Regulation of storage organ formation by long-distance tuberigen signals in potato. Horticulture research 12(4): 360.

Bethke, P. C. and S. H. Jansky. Genetic and environmental factors contributing to reproductive success and failure in potato. 2021. American Journal of Potato Research 98(1): 24-41.

Bonierbale, M. W., W. R. Amoros, E. Salas, and W. de Jong. 2020. Potato breeding. In The potato crop: its agricultural, nutritional and social contribution to humankind. Cham: Springer International Publishing 163-217.

Bos, I., and P. Caligari. 2008. Selection methods in plant breeding. Dordrecht: Springer Netherlands.

Bradshaw, J. E. 2022. A brief history of the impact of potato genetics on the breeding of tetraploid potato cultivars for tuber propagation. Potato Research 65(3): 461-501.

Bradshaw, J. E., I. M. Chapman, M. F. B. Dale, G. R. Mackay, R. M. Solomon-Blackburn, M. S. Phillips, H. E. Stewart, G. E. I. Swan, D. Todd and R. N.

UNIVERSITAS GADJAH MADA
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**Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/**

Wilson. 1999. Applied potato genetics and breeding: potato improvement by multitrait genotypic recurrent selection. Scottish Crop Research Institute 92.

Bradshaw, John E. Potato breeding: theory and practice. 2021. Sprnger 4.

Chen, J., L. Leach, J. Yang, F. Zhang, Q. Tao, Z. Dang, Y. Chen, and Z. Luo. 2021. A tetrasomic inheritance model and likelihood-based method for mapping quantitative trait loci in autotetraploid species. New Phytologist 230(1): 387-398.

Clot, C. R., C. Polzer, C. Prodhomme, C. Schuit, C. J. Engelen, R. C. Hutten, and H. J. van Eck. 2020. The origin and widespread occurrence of Sli-based self-compatibility in potato. Theoretical and Applied Genetics 133(9): 2713-2728.

Cobb, J. N., U. J. Roselyne, P. S. Biswas, J. D. Arbelaez, J. Rutkoski, G. Atlin, T. Hagen, M. Quinn, and E. H. Ng. 2019 Enhancing the rate of genetic gain in public-sector plant breeding programs: lessons from the breeder's equation. Theoretical and applied genetics 132 (3): 627-645.

Costantini, L., P. Moreno-Sanz, C. C. Nwafor, C. S. Lorenzi, A. Marrano, F. Cristofolini, E. Gottardini, S. Raimondi, P. Ruffa, I. Gribaudo and A. Schneider. 2021. Somatic variants for seed and fruit set in grapevine. BMC plant biology 21(1): 135.

Eggers, E. J., L. Shi, X. Wang, M. Oortwijn, S. U. Mittmann, R. G. Visser, M. E. De Vries, P. Lindhout, C. W. Bachem, and S. Bergonzi. 2026. New potato-life cycle loci identified by using an stcdf1-fixed population. Potato Research 69(2): 43.

Gibbs, P.E. 2014. Late-acting self-incompatibility – the pariah breeding system in flowering plants. New Phytol 203: 717-734.

Golmirzaie, A. M., K. Bretschneider, and R. Ortiz. 1998. Inbreeding and true seed in tetrasomic potato. II. Selfing and sib-mating in heterogeneous hybrid populations of Solanum tuberosum. Theoretical and applied genetics 97(7): 1129-1132.

Gopal, J. 2015. Challenges and way-forward in selection of superior parents, crosses and clones in potato breeding. Potato research 58(2): 165-188.

Gopal, J. 1993. Flowering behaviour, male sterility and berry setting in tetraploid Solanum tuberosum germplasm. Euphytica 72(1): 133-142.

Gopal, J., P. C. Gaur, and M. S. Rana. 1992. Early generation selection for agronomic characters in a potato breeding programme. Theoret. Appl. Genetics 84: 709–713.

Gebreselassie, H. 2023. Estimation of variability, heritability, and genetic advance among released varieties and local cultivar of potato (*Solanum tuberosum* l.) In

UNIVERSITAS GADJAH MADA
**Evaluasi Strategi Pembentukan Populasi Pemuliaan Generasi Lanjutan Pada Kentang Berbasis Populasi F1 True Potato Seed Heterozigot**
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**Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/**

eastern ethiopia. World Journal of Agricultural Science and Technology 1(3): 38-44.

Hirsch, C. N., C. Hirsch, K. Felcher, J. Coombs, J., D. Zarka, A. Van Deynze, W. D. De Jong, R. Veilleux, S. Jansky, P. Bethke, D. Douches, and C. R. Buell. 2013. Retrospective view of north american potato (solanum tuberosum l.) Breeding in the 20th and 21st centuries. G3: Genes Genomes Genetics 3: 1003 - 1013.

Huamán, Z., J.T. Williams, W. Salhuana and. L. Vincent (1986). Descriptors for Potato. International Potato Center (CIP), Lima, Peru.

Hunter, N. 2015. Meiotic recombination: the essence of heredity. Cold spring harbor perspectives in biology 7:12.

J Bai, F. Zhao, J. He, C. Wang, H. Chang, J. Zhang, and D. Wang. 2014. GGE biplot analysis of genetic variations of 26 potato genotypes in semi-arid regions of Northwest China. New Zealand Journal of Crop and Horticultural Science 42(3): 161-169.

Jansky, S. H., and D. M. Thompson. 1990. The effect of flower removal on potato tuber yield. Canadian Journal of Plant Science 70(4): 1223-1225.

Jansky, S.H., A. O. Charkowski, D. S. Douches, G. Gusmini, C. Richael, P. C. Bethke, D. M. Spooner, R. G. Novy, H. De Jong, W. S. De Jong, and J. B. Bamberg. 2016. Reinventing potato as a diploid inbred line–based crop. Crop Science 56(4):1412-1422.

Jiwuba, L., J. Onyeka, C. Amadi, S. Uko, A. Olutegbe, S. P. Abah, F. Okeakpu, E. Uba, and C. Egesi. 2026. Genome-wide association study of resistance to taro leaf blight and yield traits in taro (*Colocasia esculenta* (L.) Schott). Scientific Reports 16(1): 13315.

Kasmaeri dan E. Sofiari. 2007. Seleksi galur kentang dari progeni hasil persilangan. Buletin Plasma Nutfah 13(2): 56-61.

Kasprzewska, A., and A. Basińska-Barczak. 2025. Molecular mechanisms of dual potato reproduction. Physiologia Plantarum: 177(4): 70451.

Kaur, R. 2017. Evaluation and selection of potato hybrid clones (*Solanum tuberosum*) for yield and associated characters. Electronic Journal of Plant Breeding 8: 294-305.

Khan, A., S. Erum, N. Riaz, S. I. Hassan, M. A. Khan, T. Javaid, M. M. Hussain, M. Hanif, H. Khurshid, S. Saleem, R. Azim. 2022. Diversity assessment among seventy-four potato genotypes for selection in breeding program. Journal Plant and Environment 4(2): 177-185.

UNIVERSITAS
GADJAH MADA
**Evaluasi Strategi Pembentukan Populasi Pemuliaan Generasi Lanjutan Pada Kentang Berbasis Populasi F1**
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Khatun, R., M. I. Uddin, M. M. Uddin, M. T. H. Howlader, and M. S. Haque. 2022. Analysis of qualitative and quantitative morphological traits related to yield in country bean (*Lablab purpureus* L. sweet) genotypes. Heliyon 8(12).

Koptur, S., A. S. Primoli, I. Valdes, M. Nusrat. 2024. Self-incompatibility in devil's potato (*Echites umbellatus* Jacq., Apocynaceae) may explain why few flowers set fruit. Biology 13: 423.

Luthra, S., N. Sharma, V. Gupta, S. Singh, V. Kumar, B. Singh, M. Bonierbale, M., & M. S. Kadian. 2017. Evaluation and selection of true potato (Solanum tuberosum) seed families in North-Central plains of India. The Indian Journal of Agricultural Sciences 87 (10): 1404-8.

Marand, A. P., S. Jansky, J. L. Gage, A. Hamernik, N. De León, and J. Jiang. 2019. Residual heterozygosity and epistatic interactions underlie the complex genetic architecture of yield in diploid potato. Genetics 212: 317 - 332.

Martins, V. S., M. H. M. L. Andrade, L. N. Padua, L. A. Miguel, C. C. Fernandes Filho, M. L. Guedes, J. A. R. Nunes, L. J. Hoffmann, L. Zotarelli, M. F. R. D. J. Resende, and P. C. S. Carneiro. 2023. Evaluating the impact of modeling the family effect for clonal selection in potato-breeding programs. Frontiers in Plant Science 14: 1253706.

Meuwissen, T. H., B. J. Hayes, and M. Goddard. 2001. Prediction of total genetic value using genome-wide dense marker maps. Genetics 157(4): 1819-1829.

Muthoni, J., J. Kabira, H. Shimelis, and R. Melis. 2015. Tetrasomic inheritance in cultivated potato and implications in conventional breeding. Australian Journal of Crop Science 9(3): 185–190.

Muthoni, J., H. Shimelis, R. Melis, and J. Kabira. 2012. Reproductive biology and early generation's selection in conventional potato breeding. Australian Journal of Crop Science 6(3): 488-497.

Ortiz, R. 2020. Genomic-led potato breeding for increasing genetic gains: Achievements and outlook. Crop Breeding, Genetics and Genomics 2(2): e200010.

Ortiz, R., F. Reslow, and J. Huicho. 2023. Optimizing multi-environment testing in potato breeding: using heritability estimates to determine number of replications, sites, and years for field trials. Euphytica 219 (48).

Pallais, N. 1995. High temperature and low moisture reduce the storage requirement of freshly harvested true potato seeds. Journal of the American Society for Horticultural Science 120(4): 699-702.

Pandey, J., D. C. Scheuring, J. W. Koym, and M. I. Vales. 2022. Genomic regions associated with tuber traits in tetraploid potatoes and identification of superior clones for breeding purposes. Frontiers in Plant Science 13: 952263.

UNIVERSITAS
GADJAH MADA
**Evaluasi Strategi Pembentukan Populasi Pemuliaan Generasi Lanjutan Pada Kentang Berbasis Populasi F1**
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Pandey, J., D. C. Scheuring, J. W. Koym, J. Coombs, R. G. Novy, A. L. Thompson, D. G. Holm, D. S. Douches, J. C. Miller Jr, and M. I. Vales. 2021. Genetic diversity and population structure of advanced clones selected over forty years by a potato breeding program in the USA. Scientific Reports 11(1): 8344.

Patel, A. B., R. N. Patel, R. A. Gami, J. A. Patel, and P. C. Patel. 2018. Genetic variability among the potato (*Solanum tuberosum* L.) genotypes as affected by harvesting period for processing purpose and tuber yield. Current Agriculture Research Journal 6(3): 372.

Ragot, M., M. Bonierbale, M. and E. Weltzien. 2018. From Market Demand to Breeding Decisions: A Framework. Lima (Peru). CGIAR Gender and Breeding Initiative. GBI Working Paper. No. 2.

Reekie, E. G., and G. Avila-Sakar. 2005. The shape of the trade-off function between reproduction and growth in Reproductive allocation in plants. Academic Press 189-214.

Rieseberg, L. H., M. A. Archer, and R. K. Wayne. 1999. Transgressive segregation, adaptation and speciation. Heredity 83(4): 363-372.

Rosero, A., W. Burgos-Paz, H. Araujo, I. J. Pastrana-Vargas, R. Martínez, J. L. Pérez, and L. Espitia. 2023. Sweet potato varietal selection using combined methods of multi-trait index, genetic gain and stability from multi-environmental evaluations. Horticulturae 9(9): 974.

Ruswandi, A. 2018. Preferensi petani terhadap varietas kentang dayang sumbi agrihorti dan sangkuriang agrihorti tahan terhadap penyakit busuk daun. Creative Research Journal 4(02): 83-94.

Santhosha, B., B. N. Prabhakar, V. Suchitra, S. Mallesh, B. N. Kumar, and B. P. Kumar. 2024. Studies on the field performance of true potato seed of different entries under telangana conditions. Journal of Experimental Agriculture International 46(6): 178-192.

Sattar, M. A., N. Sultana, M. M. Hossain, M. H. Rashid, and A. A. Islam. 2007. Genetic variability, correlation and path analysis in potato (*Solanum tuberosum* L.). Bangladesh Journal of Plant Breeding and Genetics 20(1): 33-38.

Seid, E., and L. Tessema. 2024. Evaluation of tuber quality, yield and yield related traits of potato (*Solanum tuberosum* L.) genotypes at Holetta, Central Ethiopia. CABI Agriculture and Bioscience 5(1): 99.

Seid, E., L. Tessema, B. Kefale, W. Mohammed, and T. Abebe. 2025. Genetic variability, heritability, and correlation in potato (*Solanum tuberosum* L.) genotypes for tuber yield and nutritional traits at Holetta, central Ethiopia. Discover Applied Sciences 7(9): 936.

UNIVERSITAS GADJAH MADA
**Evaluasi Strategi Pembentukan Populasi Pemuliaan Generasi Lanjutan Pada Kentang Berbasis Populasi F1 True Potato Seed Heterozigot**
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**Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/**

Selga, C., F. Reslow, P. Pérez-Rodríguez, and R. Ortiz. 2022. The power of genomic estimated breeding values for selection when using a finite population size in genetic improvement of tetraploid potato. G3 12(1): 362.

Setiawan, A. R. 2020. Keragaan dan karakterisasi tujuh genotipe kentang (*Solanum tuberosum* l.) Lokal di dataran tinggi dieng, banjarnegara, jawa tengah. Paper

Setiawan, A. R. 2026. Evaluasi mutu true potato Seed Dan Seleksi Klonal Generasi F1 Kentang (*Solanum Tuberosum* L.) Hasil Persilangan Non-Inbred Berdasar Karakter Umur Genjah. Tesis

Sharma, S. P., D. Sharma, and R. K. Dhall. 2017. Flower induction in potato (*Solanum tuberosum*) under short day conditions in NW plains of India. In International Symposium on Horticulture: Priorities and Emerging Trends 1255: 91-96.

Shi, L., L. de Biolley, M. A. Shaikh, M. E. De Vries, S. U. Mittmann, R. G. Visser, S. Prat, and C. W. Bachem. 2024. Aging later but faster: how StCDF1 regulates senescence in Solanum tuberosum. New Phytologist 242(6): 2541-2554.

Silva, G. O., A. S. Pereira, F. Q. Azevedo, A. D. Carvalho, and J. B. Pinheiro. 2018. Selection of potato clones for tuber yield, vine maturity and frying quality. Horticultura Brasileira 36(2): 276-281.

Singh, J., D. Kumar, S. Sood, V. Bhardwaj, R. Kumar, and S. Kumar. 2024. Genetic variability and association studies for yield and its attributes in cultivated potato (*Solanum tuberosum* L.). Vegetable Science 51(1): 148-153.

Sood, S., V. Bhardwaj, V. Mangal, H. Kardile, B. Dipta, A. Kumar, B. Singh, S. Siddappa, A. K. Sharma, T. Buckseth, and B. Chaudhary. 2024. Development of near homozygous lines for diploid hybrid TPS breeding in potatoes. Heliyon: 10(10).

Tessema, G. L., A. W. Mohammed, and D. T. Abebe. 2022. Genetic variability studies for tuber yield and yield attributes in Ethiopian released potato (*Solanum tuberosum* L.) varieties. PeerJ 10: 12860.

Thelen, K., V. Prigge, A. Kohlmorgen, K. Muders, B. Truberg, S. Hartje, J. Renner and B. Stich. 2025. Variance and covariance components of agronomic and quality traits assessed in tetraploid potato and their implications on practical breeding. Frontiers in plant science 15: 1505193.

Tsehai, B. 1994. The utilization of true potato seed (TPS) as an alternative method of potato production. Doctoral dissertation, Wageningen University.

Uitdewilligen, J. G., A. M. A.Wolters, B. B. D'hoop, T. J. Borm, R. G. Visser, and H. J. Van Eck. 2013. A next-generation sequencing method for genotyping-by-sequencing of highly heterozygous autotetraploid potato. PloS one 8(5): 62355

UPOV. 2022. POTATO UPOV Code(s): SOLAN_TUB Solanum tuberosum L.

UNIVERSITAS GADJAH MADA
**Evaluasi Strategi Pembentukan Populasi Pemuliaan Generasi Lanjutan Pada Kentang Berbasis Populasi F1 True Potato Seed Heterozigot**
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van Dijk, L. C., O. C. Kacheyo, W. C. Lieftink, W. J. Lommen, and P. C. Struik. 2025. Is field sowing of hybrid true potato seeds feasible for seed or ware potato production under dutch conditions? An analysis based on a review and twenty experiments. Potato Research 1-28.

Verma, A., and D. Singh. 2016. Assessment of genetic diversity and association among agro-morphological characters in potato (*Solanum tuberosum* L.). Indian J. Agric. Res 50(4): 345-349.

Vieira, R. A., A. P. O. Nogueira, and R. Fritsche-Neto. 2025. Optimizing the selection of quantitative traits in plant breeding using simulation. Frontiers in plant science 16: 1495662.

Wadgymar, S. M., S. Sheth, E. Josephs, E., M. DeMarche, and J. Anderson. 2024. Defining fitness in evolutionary ecology. International Journal of Plant Sciences 185(3): 218-227.

Widyasmara, N.I, F. Kusmiyati, dan K. Karno. 2018. Efex xenia dan metaxenia pada persilangan tomat ranti dan tomat cherry. J Agro Complex 2(2):128-136.

Wu, J., Y. Li, W. Zhong, X. Ran, G. Lyu, R. Chen, Z. Zhao, D. Tang, J. Wang, H. Lu, and K. Zhang. 2025. Genetic diversity evaluation and selection methods of sweet potato hybrid F1 population based on SSR markers and phenotypic detection. BMC Plant Biology 25(1): 29.

Yang, L., Y. Bai, G. Chao, K. Zhao, J. Xu, M. Sun, H. Zhang, Y. Niu, K. Li, Z. Xiong, and Y. Cao. 2025. Human selection maintains karyotype integrity of highly unstable genomic cultivated autotetraploid potato (*Solanum tuberosum*). Science Advances 11(49): 5207.

Yuan, J., L. Cheng, Y. Wang, and F. Zhang. 2024. Genome-wide association studies for key agronomic and quality traits in potato (*Solanum tuberosum* L.). Agronomy 14(10) 2214.

Zabala, J., and I. Zuberogoitia. 2014. Individual quality explains variation in reproductive success better than territory quality in a long-lived territorial raptor. PLoS One 9(3): 90254.

Zeleke, A. A., and B. B. Getahun. 2024. Association and path coefficient analysis studies in potato (*Solanum tuberosum* L.) genotypes at adet, northwestern Ethiopia. International Journal of Bio-resource and Stress Management 15(6): 1-14.

Zhang, Y., C. S. Jung, and W. S. De Jong. 2009. Genetic analysis of pigmented tuber flesh in potato. Theoretical and Applied Genetics 119(1): 143-150.

Zhou, B., J. Yuan, L. Liang, F. Zhang, and Y. Wang. 2025. Genotype× environment interactions for potato yield and quality traits: Identification of ideotypes

UNIVERSITAS
GADJAH MADA
**Evaluasi Strategi Pembentukan Populasi Pemuliaan Generasi Lanjutan Pada Kentang Berbasis Populasi F1 True Potato Seed Heterozigot**
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**Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/**

adapted in different ecological regions of Northwest China. BMC Plant Biology 25(1): 737.