

Dr. Lovely B.
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Department of Genetics & Plant Breeding
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Summary

Experience in crop improvement works in field crops like pulses and sesame. Strong background in intellectual property rights related activities especially geographical indications. Currently handling courses for UG, PG and PhD students. Major advisor to PG and PhD students.

Research Highlights

- Was instrumental in attaining GI tag of Onattukara sesame
- Screening of germplasm of sesame against phytoplasmal phyllody disease and developing tolerant varieties
- Developing drought tolerant varieties in green gram

Experience

- Joined Kerala Agricultural University as Assistant Professor (Genetics and Plant Breeding) in the year 2019
- Vocational teacher in the Department of Vocational Higher Secondary Education since 2007

Education

- Graduated in Agricultural Science from Kerala Agricultural University (1999)
- Post Graduation in Plant Breeding and Genetics from Kerala Agricultural University (2001)
- Ph.D in Plant Breeding and Genetics from Kerala Agricultural University with CSIR fellowship (2005)

Area of Specialization

Intellectual Property Rights, Crop Improvement

Awards & Recognitions

- Qualified CSIR (Council of scientific and Industrial Research) JRF NET (Junior Research Fellowship - National Eligibility Test) in Life Sciences in June 2001

<ul style="list-style-type: none"> • Qualified ASRB NET (Agricultural Scientific and Research Board - National Eligibility Test) in Plant Breeding in 1999
<ul style="list-style-type: none"> • Qualified ASRB NET (Agricultural Scientific and Research Board - National Eligibility Test) in Genetics in 2004
<h2>Research Projects</h2>
<h3>Ongoing</h3>
<ul style="list-style-type: none"> • Co Investigator in GI registration of Kolinchi
<ul style="list-style-type: none"> • Principal Investigator of Plan project Characterisation of sesame varieties, landraces and wild sesame species from major sesame growing tracts of India to evolve elite varieties suitable for Kerala
<ul style="list-style-type: none"> • Principal Investigator of Plan Project Development of superior white seeded sesame varieties for Kerala
<h3>Completed</h3>
<ol style="list-style-type: none"> 1. Co Principal Investigator in GI registration of Onattukara sesame
<ol style="list-style-type: none"> 2. Principal Investigator of Plan project Development of climate resilient varieties in green gram suitable to Onattukara region
<h2>Publications</h2>
<h3>Journal Articles</h3>
<ul style="list-style-type: none"> • Binukumar, A.K., Lovely, B., Seeja, G., Stephen, R., Sindura, K.P. and Greeshma, R. (2025). Morphophysiological Indications of Moisture Stress Tolerance in Green Gram (<i>Vigna radiata</i> L.). Agricultural Science Digest. 1-9. doi: 10.18805/ag.D-6213.B.
<ul style="list-style-type: none"> • Binukumar, Amritha K, and Lovely B. 2024. "Proline Accumulation and Drought Tolerance in Green Gram (<i>Vigna radiata</i> L.)". International Journal of Plant & Soil Science 36 (10):473-83. https://doi.org/10.9734/ijpss/2024/v36i105098
<ul style="list-style-type: none"> • Ravi, Greeshma, Lovely B., Seeja G., Susha S Thara, Ninitha Nath C., and Amritha K.B. 2024. "Exploring Transgressive Segregation for Enhanced Yield in F2 Segregants of Sesame (<i>Sesamum indicum</i> L.)". International Journal of Plant & Soil Science 36 (10):270-75. https://doi.org/10.9734/ijpss/2024/v36i105075.
<ul style="list-style-type: none"> • Krishna, Kumar Charan, Aswathy Vijayan, Anil Kuruvila, Lovely. B., and Pratheesh P Gopinath. 2024. "Challenges in Sesame Production and Marketing: Insights from Kerala's Onattukara Region, India". Asian Journal of Agricultural Extension, Economics & Sociology 42 (12):69-74. https://doi.org/10.9734/ajaees/2024/v42i122630
<ul style="list-style-type: none"> • Arya, B. Lovely, G. Seeja, V. Mini and S. Jyothilekshmi. 2024. Unravelling the biochemical traits of traditional rice landraces of Kerala. Electronic Journal of Plant Breeding. 15(2): 435-442
<ul style="list-style-type: none"> • B. Lovely and V. Kumar. 2021. Gene action and combining ability of yield and yield related characters in yard long bean (<i>Vigna unguiculata</i> (L.) Walp.). Electronic Journal of Plant Breeding. 12(1): 82-85
<ul style="list-style-type: none"> • A.R. Resmi, B. Lovely, A. Jayapal, G. Suja and N. Chitra. 2021. Effect of inoculation of plant growth promoting Rhizobacteria (PGPR) Mix I formulations on plant growth, yield, disease

incidence and disease severity of Rhizoctonia leaf blight of Amaranthus (*Amaranthus tricolor* L.)
Indian Journal of Agricultural Research

• Resmi A.R., **Lovely B.**, Jayapal A., Anila S., Athira A., Raj G.S., Ruma S. and Megha G.K. 2021. Growth and yield of oyster mushroom (*Pleurotus florida*) as influenced by different lingo cellulosic materials as substrates. International Journal of Applied Agricultural & Horticultural Sciences. 11(6): 68-71

• **B. Lovely** and V. Kumar. 2021. Gene action studies in cowpea inbreds and hybrids with varying levels of heterosis. Indian Journal of Agricultural Research

• **Lovely B.**, Resmi A.R., Jayapal, A. and Gifty K.J. 2021. Screening sesamum germplasm for resistance to sesamum phyllody. International Journal of Applied Agricultural & Horticultural Sciences. 11(6): 90-92 (Short communication)

• Atul Jayapal, O.K. Swadija, A.R. Resmi and **B. Lovely** 2021. Quality characters of tannia (*Xanthosoma sagittifolium* (L.) Schott.) as affected by tillage, planting methods, plant nutrition and application of soil conditioners. Agricultural Science Digest.

• Atul Jayapal, Mini V., Resmi A.R. and **Lovely B.** 2021. Composting *Limnocharis flava* Buchenau: A comparative analysis. Journal of Krishi Vigyan

• Atul Jayapal, Mini V., Resmi A.R. and **Lovely B.** 2021. Management of chocolate weed (*Melochia corchorifolia*) in sesame at Onattukara sandy tracts. Journal of Crop and Weed

• Reshma Krishnan M.R., **Lovely B.**, and Suja G. 2019. Genetic variability and heritability studies in cowpea (*Vigna unguiculata* (L.) Walp.) International Journal of Agricultural Science and Research 9(4): 311-316

• **B. Lovely**, D. S. Radhadevi and Vijayaraghavakumar. 2017. Genetic Divergence Studies In Vegetable Cowpea [*Vigna unguiculata* ssp. *sesquipedalis* (L.) Verdc.]. International Journal of Genetics 9(8): 296-297

• **B. Lovely** and D.S. Radhadevi. 2017. Estimates of Genetic Variability, Heritability and Genetic Advance for Yield and Yield Component Traits in Vegetable Cowpea [*Vigna unguiculata* ssp. *sesquipedalis* (L.) Verdc.] Genotypes. Journal of Pharmacognasy and phytochemistry

• **B. Lovely**, D.S. Radhadevi and K Umamaheswaran. 2017. Change In Biochemical Activities In Yard Long Bean [*Vigna Unguiculata* Ssp. *Sesquipedalis* (L.) Verdc.] Infected With Cowpea Mosaic Virus And Their Implication In Disease Resistance. International Journal of Agricultural Science and Research. 7(5): 89-95

• **Lovely B.** and Vijayaraghava Kumar. 2017. Estimates of genetic variability, heritability and genetic advance for yield and yield component traits in ash gourd [*Benincasa hispida* (Cogn.)] genotypes. Agricultural Science Digest. 37(4): 270-274

• **Lovely B.** and Vijayaraghava Kumar. 2017. Construction of selection indices based on yield related traits for ash gourd [*Benincasa hispida* (Cogn.)] genotypes. International Journal of Research in Applied, Natural and Social Sciences. 5(9): 105-110.

Abstract and Proceedings

• Arya Balachandran and **Lovely B.** 2023. Gene stacking: An emerging strategy for high productivity. International Conference on biodiversity exploration, exploitation and conservation for sustainable development 10-11th February 2023

• **Lovely B.**, Resmi A.R. and Atul Jayapal. 2022. Vulnerability of sesame accessions to phyllody at higher temperature in Onattukara. 34th Kerala Science Congress 10-12 February 2022, Thiruvananthapuram

• A. Jayapal, O.K. Swadija, **B. Lovely** and A.R. Resmi. 2022. Profitability of tannia (*Xanthosoma sagittifolium* (L.) Schott.) grown in coconut gardens as influenced by tillage and nutrition. 34th Kerala Science Congress 10-12 February 2022, Thiruvananthapuram

• **B. Lovely**, K. Umamaheswaran and A. R. Resmi. 2019. Biochemical markers for plant virus interaction in cowpea mosaic virus infection. Proceedings of National Seminar on Eco-friendly & Sustainable Innovations, 25th July 2019, College of Agriculture, Vellayani

Book Chapters

• Amritha K Binukumar and **Lovely B**, 2025. Drought Resilience in Green Gram (*Vigna radiata* L.): The Role of Root Traits and Proline Accumulation: in the book Current Research Progress in Agricultural Sciences Vol. 10. pp. 123-137

• Greeshma Ravi, **Lovely B.**, Seeja G., Susha S Thara, Ninitha Nath C. and Amritha K.B. 2025. Investigating Transgressive Segregation to Improve Yield in F₂ Segregants of Sesame (*Sesamum indicum* L.): A Comprehensive Study” in the book Current Research Progress in Agricultural Sciences Vol. 10. pp. 114-122

• A.R. Resmi, A. Jayapal and **B. Lovely**. 2022. Alternaria Toxins: Induction of Leaf Blight Disease of Cucurbits. Management of Post Harvest Diseases and value addition of horticultural crops. Today and tomorrow's printers and publishers, New Delhi. Pp. 295-298

• Arya B., **Lovely B.**, Shazna A. And Shahiba A.M. 2023. Next generation sequencing in plant Breeding. Modern Approaches to plant Breeding: Enhancing Crop Genetics. Elite Publishing House

Popular Articles

• Jayapal A., Lovely B. and Resmi A.R. 2021. *Poshakasamridham-ilakkariyaakkam maracheera*. Karshakan May 2021. Pp.44-45

• Jayapal A., Lovely B., Resmi A.R. and Vikram K. May 2021. Waste recycling through biochar-a sustainable approach. Indian Farmer 8(5): 394-397

• Jayapal A., Swadija O.K., Lovely B. and Resmi A.R. 2021. *Paalchemp krishi sasthaneyamaayi* Karshakan pp.26-27

• Jayapal A., Resmi A.R., Lovely B., Mini V. and Krishna V. 2021. Managing the bitter chocolate weed management in Onattukara tract of Kerala. Indian farmer. 8(6):398-400

• **B. Lovely** and Atul Jayapal. 2020. Biofortification of cereals- an answer to hidden hunger. Indian Farmer p.625-629

• Atul Jayapal, Lovely B., Resmi A.R. and G. Suja. 2020. Mexican mint. Kisan World Vol 47(8) p. 7-9

• A.R. Resmi, **B. Lovely** and Atul Jayapal. 2020. Mushroom cultivation- added income to farmers. Kisan World Vol 47(8) p. 13-15

• **Lovely B.**, Atul Jayapal and A.R. Resmi. 2020. Facts about 'Swetakutaja' or Ivory wood. Kisan World Vol 47(11) p. 33-34

• Atul Jayapal, A.R. Resmi, **Lovely B.** 2020. *Anaswarathayude vithth – krishi chayyam sasthaneyamaayi*. Karshakan Vol 28(10). p. 61-62

• A. R. Resmi, **B. Lovely** and Atul Jayapal. 2020. *Rogamarinj seethakala chikitsa*. Karshakan. Vol 28(11) p. 30-33

• P. I. Poornima Yadav, **B. Lovely** and V. S. Radhika. 2008. Sappan – Nature's colouring tree. Science Reporter. May 2008. p.17

• **B. Lovely** 2005. Karalinnu kaval keezharnelli. Karshakashree p.28

- B. Lovely 2005. Jaladoshanivarini adalodakom. Karshakashree p.47
- P.I. Poornima Yadav, B. Lovely and V. Geetha. 2005. Jojoba – A savior for sperm whale. Kisan World. October 2005. p P63-64
- P.I. Poornima Yadav, B. Lovely and V. Geetha. 2005. Pollachiyile pulimarangal. Karshakan p.28

Student Guidance (Major Advisor/ Advisory Committee member)

M. Sc.

Completed: 6

Ongoing: 3

Ph. D

Ongoing: 3

Other Institutional Responsibilities

1. Currently acting as student Advisor/faculty mentor to 9 Undergraduate students
2. Member of the IPR cell of the Kerala Agricultural University

Membership in Professional Associations

- Editorial Board member of International Journal of Applied Agricultural Sciences
- Life member of Indian Society of Plant Breeders, Centre for Plant breeding and Genetics, TNAU