



“A PEN FROM ASWINI’S FAMILY”

Dr. Nunavath Aswini's life story is a radiant tribute to brilliance, resilience, and an unyielding pursuit of purpose. Born on January 7, 1996, in the humble village of Gangaram, Khammam district, Telangana, Aswini grew up in a household rooted in simplicity and hard work. Her father, Shri Nunavath Mothilal, a dedicated farmer, and her mother, Smt. Nunavath Neja, who balanced household duties and farming, instilled in her the core values of determination and discipline. A pillar of support throughout her journey was her brother, Nunavath Ashok Kumar, who encouraged her ambitions and believed in her potential. Aswini's academic brilliance emerged early. She excelled in her school years, scoring 91.67% in Matriculation (2011) and 94.60% in Higher Secondary (2013). These achievements laid the foundation for her journey into agricultural sciences. She pursued a B.Sc. Agriculture at the College of Agriculture,

Aswaraopet, under PJTAU, graduating in 2018 with a stellar CGPA of 9.27/10 and 10 University Gold Medals—a rare academic feat. Her aspiration to serve Indian agriculture drove her to secure All India Rank 26 (Rank 2 in Cat) in the ICAR-JRF (Plant Sciences) exam, which led her to the Division of Genetics at IARI, New Delhi. At the heart of India's Green Revolution, she conducted groundbreaking research on chickpea genetics under Dr. V.S. Hegde, earning the IARI Merit Gold Medal (2020).

Alongside, she mentored JRF aspirants, showing early signs of leadership. Her scientific curiosity was just as sharp during her M.Sc. studies, where she characterized a different RIL population for pod and seed traits. Her work validated SSR markers like TA64, which showed strong potential for marker-assisted selection (MAS). One of her lines, ToFRIL-214, combined early flowering with high yield, offering a tangible genetic solution to the age-old challenge of achieving early maturity without compromising productivity.

Dr. Aswini qualified Joint CSIR-UGC NET (Life Sciences) in 2019, with rank 153, the ICAR NET in Genetics and Plant Breeding in 2021 with an impressive score of 87.33%, and later cleared the UGC NET in Environmental Sciences in 2022. Her next academic milestone came with topping the PJTSAU Ph.D. entrance, securing Overall Rank 1 (Crop Sciences-I). She pursued her Ph.D. in Genetics and Plant Breeding at PJTSAU in collaboration with ICRISAT, under Dr. C.V. Sameer.

Her PhD thesis was a pioneering study that combined advanced genetics with applied breeding. Using a RIL population developed through speed breeding, she identified 19 QTLs related to stem growth, flowering, and maturity—especially three major QTLs governing stem determinacy, crucial for mechanical harvesting. Her candidate gene analysis and promising lines like RIL 183 and RIL 173 demonstrated both scientific rigor and practical relevance. Her academic journey reached its pinnacle with a remarkable and historic achievement: securing All India Rank 1 in the Agricultural Research Service (ARS) examination for Genetics & Plant Breeding, one of the most fiercely competitive and prestigious scientific assessments in India.

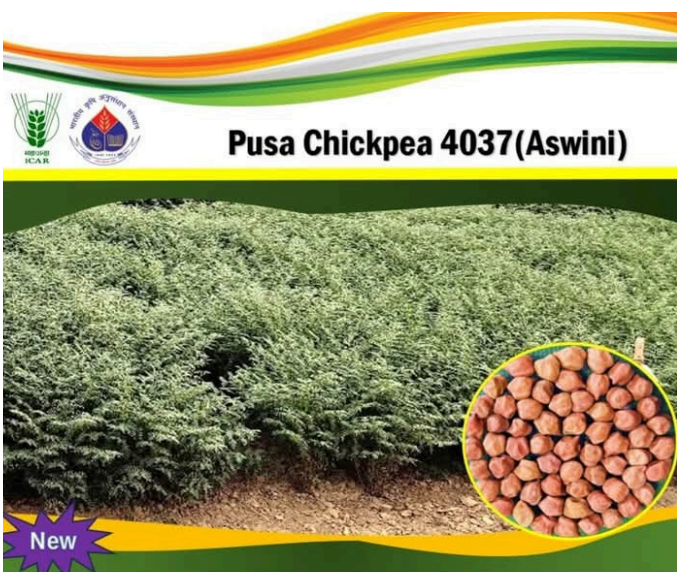
This unparalleled accomplishment solidified her position as a foremost expert in the field of agricultural science. In 2023, Dr. Aswini's immense talent and dedication led her to a prestigious role as a Scientist at the ICAR–National Institute of Biotic Stress Management (NIBSM), Raipur to develop climate-resilient varieties for global sustainability. Her scientific curiosity spanned crops and disciplines. She authored more than 13 peer-reviewed research papers, with several



more under review at this early stage. Her studies covered QTL mapping, gene expression under stress, transcription factors, and pre-breeding in chickpea, and sugarcane. A standout among these was her work on Cytochrome P450 gene expression under oxidative stress in sugarcane, offering insights into climate-resilient breeding. Aswini was also a prolific science communicator. She published over 10 popular articles in English and Hindi to educate farmers on emerging genetic tools. Her 10 book chapters on pan-genomics, genome annotation, and seed technologies featured in Springer and other academic publications. Her voice resonated in classrooms and conferences alike—she presented her research at seven+ national and international symposia, passionately advocating the integration of molecular genetics with field-level solutions. In April 2024, her accomplishments were recognized with the Young Scientist Award by Agri Meet Foundation and CCSHAU, Haryana, at the International Conference on Advances in Agriculture and Sustainable Development.

A Living Legacy: Pusa Aswini (Pusa chickpea 4037)

In a historic tribute, on April 14, 2025, the Government of India notified a novel chickpea variety named "Pusa Aswini", developed by the ICAR-IARI Chickpea Team, in her memory. This variety is a game-changer—high-yielding (36.46 q/ha), high protein (24.8%), resistant to multiple diseases, suitable for mechanical harvesting, and is recommended for cultivation in the North-Western Plains Zone of India. This remarkable gesture immortalizes her contributions, making her name eternal in Indian agriculture.



Pusa Chickpea 4037(Aswini)

New Chickpea variety Notified (CVRC 2025)

- Suitable for North West Plain Zone (PB, HR, WUP, Delhi, N-Raj., J&K HP, UK)
- Tailored for machine harvesting
- Average yield: 2673 kg/ha
- Potential yield: 3646 kg/ha
- A very high Protein line with 24.8 %
- Resistant to Fusarium wilt disease, moderately resistant to Dry Root Rot, Collar rot and Stunt diseases

Developed By: ICAR-Indian Agricultural Research Institute, New Delhi

A Life Cut Short, A Light That Shines On

Tragically, during a journey to Raipur from their native, Dr. Aswini and her father lost their lives in a devastating flood on 1st September, 2024, cutting short a life brimming with promise and purpose. Her untimely demise sent shockwaves across the scientific and farming communities. Her work exemplifies how precision breeding, guided by molecular insights, can help overcome the pressing challenges of yield, stress tolerance, and sustainability in Indian agriculture.

Yet, her work, spirit, and vision live on—in every genotype she developed, every gene she mapped, every farmer she served, and every student she inspired. Dr. Nunavath Aswini will forever be remembered as the Glittering Golden Girl of Indian Agriculture—a symbol of what passion, intellect, and perseverance can achieve. Her journey from a tribal village to the pinnacle of Indian agricultural science proves that no dream is too distant, and no legacy too short to inspire generations.
