AMRITA VISHWA VIDYAPEETHAM
(Deemed-to-be University)
School of Agricultural Sciences
J P Nagar, Arasampalayam, Coimbatore, Tamil Nadu – 642 109.

ASA BIMONTHLY E-NEWSLETTER

Volume 1 I Issue 1 September – October 2020

Being dominant race on planet, it is our responsibility to ensure maximum harmony between each and every components of nature. Other than providing value-based education and shaping the character of the younger generation through a synthesis of science and spirituality, School of Agriculture is setup to evolve high quality, sustainable and organic agriculture practices with global applicability through research and education.

Amma, Sri Mata Amritanandamayi
Chancellor, Amrita Vishwa Vidyapeetham

MESSAGE FROM THE PRINCIPAL

It gives me an immense satisfaction that with AMMA's blessings, we could now start to publish a bimonthly Newsletter from Amrita School of Agricultural Sciences. I am sure that this venture will provide regular updates and an overview of all the academic, co-curricular and extra-curricular activities being conducted in the auspices of the School of Agricultural Sciences and will help in apprising, the functioning of the school with critical self-assessment.

Agriculture being the integration of culture, art and science of eco-friendly and sustainable crop husbandry, hasevolved parallel to the evolution of civilization – wandering in search of food and shelter, growing selective species, shifting cultivation, practicing different indigenous technologies evolved from experience, getting awareness about importance of soil and the maintenance of its fertility, nutritional requirements, identifying suitable crops and their better varieties and finally to evolve the science in this culture and art of agriculture. Now the science of Agriculture moves in tune with the development of science through research and improvement of existing technology as well as by introducing new technology. The ultimate aim is to feed the ever- increasing population. In doing so, we should take utmost care to maintain the balance in nature and sustainability in production without depleting the natural resources or rather by recycling the existing resources. The boost in productivity should also be achieved through technologies which in no way be harmful to the other living organisms in this universe which are either beneficial or essential in maintaining the very existence of this Mother Earth.

The budding children of B.Sc (Hons.) in Agriculture from Amrita School of Agricultural Sciences in the shade of the "KalpaVriksha"of this universe - AMMA – will definitely spread over the entire world with fragrance of love and with seeds of harmony, will be at the lotus feet of AMMA by serving the farming community of this great country with a high potential of natural resources.

Let this Newsletter be a humble beginning for that.

At the Lotus feet of AMMA

Dr. P. Sureshkumar, Ph.D.,
Principal,
Amrita School of Agricultural Sciences.

MESSAGE FROM THE HEAD OF RESEARCH

Chancellor AMMA initiated Amrita School of Agricultural Sciences to evolve sustainable agricultural practices that are harmonious with nature through research and education and to ensure their adaptability through outreach programs. Contrary to a conventional agricultural university, students and faculty get ample opportunities in Amrita Vishwa Vidyapeetham through multidisciplinary approaches as many of the disciplines are lead centres or centres of excellence recognised nationally and internationally. As in the lead international universities, in Amrita, multidisciplinary collaboration in different disciplines becomes quite easy as this university houses many centres of national and international reputation.

We are fortunate to receive many lessons and research directions from Chancellor AMMA.As a team, we are quite devoted to fulfil AMMA'S dreams through research that is aligned with nature. For our B.Sc. (Hons) Agriculture students, there will be experiential learning activities and opportunities to participate and familiarise with the research work of faculties and international PhD students. I am certain that such trainings will inculcate a research aptitude to become future research scientists.

I am certain that this Newsletter will provide opportunities to showcase and receive feedback on research activities of students and faculty of Amrita School of Agriculture and finetune ourselves with the vision of Chancellor AMMA.

Pranams at the Lotus feet of Holy Mother AMMA

Dr. Sudheesh Manalil Ph.D., (UWA, Australia)
Head of Research & Professor, Amrita School of Agricultural Sciences (ASA)
Chair Person, Post Graduate Programmes, ASA
Honorary Associate Professor, University of Queensland, Australia

MESSAGE FROM THE CAMPUS DIRECTOR

With the boundless blessings of our beloved AMMA, the Chancellor of our University, I strongly believe that this enlightening voyage of the Newsletter will serve as a skylight for all the academic and co-curricular accomplishments. At this auspicious juncture, I extend my best wishes to Amrita School of Agricultural Sciences for the successful launch of the Newsletter.

Agriculture is not only an occupation for people but also a way of life. Renaissance in Agriculture lies in innovation and entrepreneurship. The country which depends on agriculture, needs to have a dynamic and innovative skilled manpower. To endorse these facts, Amrita School of Agricultural Sciences aims at envisaging and crafting a pool of qualified manpower who can think and act creatively in the agriculture, research and food processing domain.

I am sure that the magnificence of the Newsletter will certainly reach the pinnacle of success.

Dr. N. Udaya Shankar, Ph.D.,
Campus Director,
Amrita School of Agricultural Sciences.

Message from the Greatest Agricultural Scientist, India ever witnessed

Agriculture is the basic staple of our country. Because of agriculture a state like Kerala could achieve nutrition security. Kerala means coconut. Coconut has been a multi-income crop, providing not only coconut oil, but also coconut meal and various coconut substitutes. Coconut because of its nutritional and other multiple use, became very popular in Kerala.

Agriculture and allied sectors should give due emphasis on coconut farming and related industries. I wish Amrita School of Agriculture will give due emphasis to such sectors in the region and all my wishes to such endeavours.

Dr. M. S. Swaminathan
World Renowned Agricultural Scientist

Dr. M. S. Swaminathan is the most renowned Indian Agricultural Scientist and science administrator, who made a stellar contribution in the success of India's Green Revolution program; the program went a long way leading to a productivity boom and making India self-sufficient in wheat and rice production. He was deeply influenced by his father who was a surgeon and social reformer. After graduating in zoology, he enrolled in Madras Agricultural College and graduated with a B.Sc. in Agricultural Science. His choice of a career as a geneticist was influenced by the great Bengal famine of 1943 during which scarcity of food resulted in many deaths. Philanthropic by nature, he wanted to help poor farmers to increase their food production. He began his career by joining the Indian Agricultural Research Institute in New Delhi and eventually played the lead role in India's 'Green Revolution', an agenda under which high-yielding varieties of wheat and rice were made available to poor farmers. In the decades that followed, he held research and administrative positions in various offices of Government of India and also in a lead role in various committees that eventually instrumental in achieving agricultural development and framing policy frameworks. He has been acclaimed by the TIME magazine as one of the twenty most influential Asians of the twentieth century. He has also been honored with several national and international awards for his contribution to the field of agriculture and biodiversity.

I. Students' Activities

ENTHRALLING LIVE FIELD EXPOSURE OF OUR ASA RISING STARS

1. The impact of Covid-19 on agriculture has been severe. But the farming community has no choice but to keep working to sustain the natural resources, environmental stability and meet the consumption needs of the population. Inspired by the farmers' contribution to the world, the budding agriculturists of Amrita have attempted to live the experience of farming.

Farming can neither halt nor wait

Ms. Sahara Panta (II year student) undertook the task of cultivation of rice in a small piece of land in front of her house in Kathmandu, Nepal. There she selected a suitable part of the yard for rice as she knew location of field does matter for ideal growth. The presence of plenty of earth worms in the selected area was an indication of healthy soil system. As a part of the land preparation works, she ploughed the puddled field and leveled it into an oval shaped rice field of two square meters area. Ridges were made at the borders to retain water all around the field and the eighteen days old seedlings transplanted manually.

2. Gardening is a natural stress reliever. Being outside in the fresh air and sunshine can improve the mood and make us feel rejuvenated and overall happy. Growing plants on our own also gives us a great sense of accomplishment. To rejuvenate herself, Ms. Soundharya Sivakumar (II year student) had tried her hand at setting up a kitchen garden on the terrace. She had grown crops under organic and inorganic system with an idea to compare the performance and yield under these systems.

Kitchen gardening -a delightful hobby

The seeds of radish and green gram were sown in grow bags. Under inorganic system seeds were treated with fungicide and urea was applied. The organic system was supplemented with a home-based compost, vermicompost and bio fertilizer. She then observed the distinct changes as plants go from seed to sprout, then through vegetative flowering and ripening stages. The process of plant observation was not easy. Incorporating the effect of weather, the damage to plants by insects and pests, the disease symptoms were to be observed. She was in pursuit of efficient ways to prevent pest and disease attacks. The traditional knowledge about 3G extract that her grandparents suggested and the modern scientific practices came to her rescue every time. The study was proceeding quite well.

3. People say, if we nurture the land to grow enough crops, humanity will not go hungry. Rice cultivation was taken up by Mr. Mohan Raja N. A. (II year student) in field. Rice cropping required adequate land preparation and a well prepared and levelled field. He prepared the land by puddling for 2 to 3 times. The basal fertilizer was applied before transplantation. The 18 - 22 days old pre-germinated seedlings of rice were then transplanted from seedbed to the main field. Spraying of chloropirophos insecticide @ 250ml/ha was done to control the white fly infestation in the field. Seedlings were provided with proper care to recover from transplanting shock. Hand weeding was done on the 30th day after transplanting the paddy. During the hand weeding process, thinning and gap filling were done in the missing areas of the planted field to maintain uniform population. He had used blue green algae to increase the nitrogen content in the field.

Agriculture is a source of livelihood

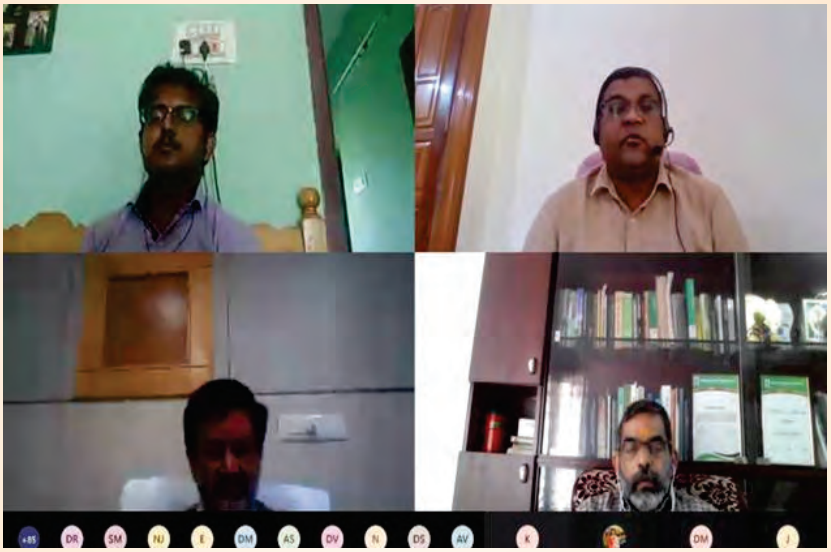
4. Just being around with nature can improve one's mood, making one feel more at peace. The act of nurturing a plant can help take our mind off from the stresses of daily life. Tomato is a warm season crop which can be grown in a wide range of soils. Mr. Kavi Arasu S., (II year student) cultivated tomato by transplanting seedlings in the raised bed. He chose SHIVAM variety and two hybrids JK AKSHAYand Mehdoot-To-2048 to compare the response of variety and hybrids to application of fertilizers, pest attack, staking capacity and yield variation. Field was ploughed well and beds were raised for transplantation of seedlings. Drip irrigation method was followed to deliver water to the field. The 18days old seedlings were then transplanted to the raised bed using dibbling method. The seedlings were provided with proper care to recover from transplanting shock. After 15 days of transplanting, calcium nitrate was supplied to crops as fertigation. Neem oil was applied as foliar spray to repel and kill pests in the field to harvest the ripened tomatoes.

Farming is a profession of hope

II. ASA Endeavors

1. Creating Opportunity for Personal and Organizational Effectiveness

The programme created a greeting atmosphere that minimized anxiety, promoted positive attitudes and stimulated an excitement for learning. The Induction and Orientation programme for 2020 batch students was held on 23.09.2020. The programme was organized online through video conference using Microsoft TEAMS application. The program started with a prayer song by our college choir. Welcome address was given by Dr. Radhika A. M., Assistant Professor, Amrita School of Agricultural Sciences (ASA). Presidential address was delivered by Dr. P. Sureshkumar, Principal, ASA. He emphasized the value of agriculture and Mata Amritanandamayi's efforts in improving agriculture. Keynote address was given by Dr. Sudheesh Manalil, Head of Research, ASA. He highlighted the current trends in agriculture and motivated the students to proceed on this journey passionately. Dr. N. Udaya Shankar, Campus Director, ASA felicitated the gathering. A brief orientation about the curriculum and syllabi and career prospects of B.Sc (Hons) Agriculture programme was presented by Dr. Jidhu Vaishnavi, S. Year Coordinator 2020 batch, ASA. Dr. S. Parthasarathy and Dr. D. Dhivyapriya, Assistant Professors, ASA helped in anchoring and conducting the program in a grand manner. The programme ended with the vote of thanks by Dr. R. Priya, Assistant Professor, ASA.

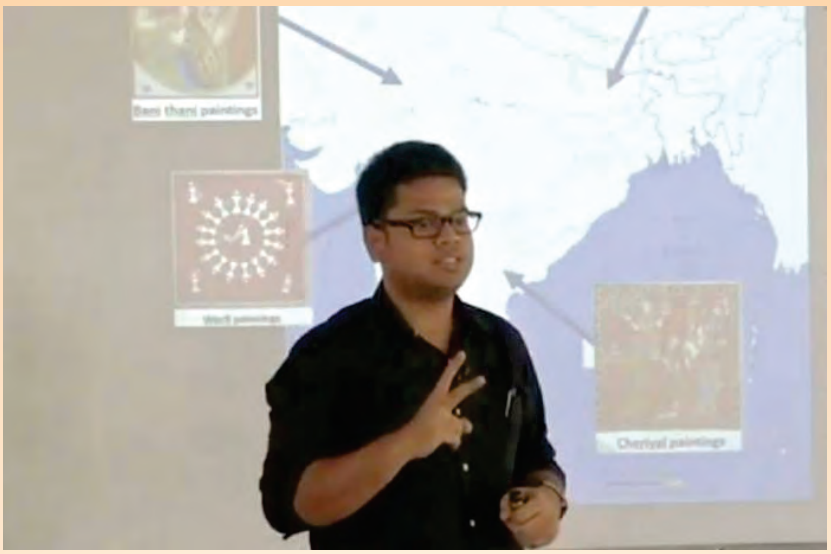


Great minds discuss ideas

2. Quest for Sovereignty

Empowered by our guiding light, AMMA's vision of service, Amrita School of Agricultural Sciences started its Foundation Course for Civil Service aspirants through Amrita IAS Academy in the year 2019.The Academy works wonders in transmuting dream into reality. Interaction with the distinguished panel of retired civil servants imparts the students with real-world awareness and insights. The academy acts as a knowledge repository for Civil Service aspirants to reach the pinnacle of success.

Amrita School of Agricultural Sciences had conducted a webinar on the topic “Civil Service Orientation” on 29thSeptember 2020, as part of the Orientation and Induction programme. Around 85 students along with the members of faculty had attended the webinar. Dr. S. Jidhu Vaishnavi, Assistant Professor (CRP) and Year Coordinator for the 2020 batch had organized the programme. Dr.V. Vanitha, Assistant Professor (English) welcomed the gathering. Br.Viswanthamarita Chaitnya, Director, Amrita IAS Academy, Head - Corporate and Industrial Relation, Amritapuri Campus shared his perceptions of the programme.



Nurturing the Future Administrators

Eminent online educator, well known for his value-added current affairs, Mr. Rashish Gupta Kumar, IIT, Roorkee, was the resource person of the programme. With his immaculate guidance on Civil Service and Indian Forest Service examinations, students learnt the groundwork approach towards the preparation while doing graduation. With the meticulous and exemplary direction of our Principal, Dr. P. Sureshkumar, Amrita School of Agricultural Sciences, students realized the importance of the course. Dr. Sudheesh Manalil, Head of Research, Amrita School of Agricultural Sciences, emphasized the significance of agriculture programme with the perfect blend of intelligence. Mr. Midhun, Manager, University Relations, Amritapuri campus wound up the programme with the vote of thanks.

3. Embracing the World

"When we see Mother Nature as the embodiment of God, we will automatically serve and protect her." **- AMMA**

AYUDH seeks to empower young people to integrate universal values into their daily lives. It aims to use the powerful force of young people to perpetuate natural harmony, social justice, and personal empowerment and Green initiatives.

As a part of the orientation and induction programme of 2020 B.Sc (Hons.) Agriculture programme, a webinar was organized for students on "AYUDH and IAM techniques" on 1st October, 2020. Around 84 students and members of the faculty attended the webinar. The programme started with the prayer song. Dr. Jidhu Vaishnavi, Assistant Professor, ASA & the year coordinator for the 2020 batch students convened the programme. Dr. Sudheesh Manalil, Head of Research, ASA gave a brief introduction about AYUDH. Dr. Dhivyapriya. D., Assistant Professor & Faculty Coordinator (AYUDH) gave a detailed description on AYUDH and IAM.

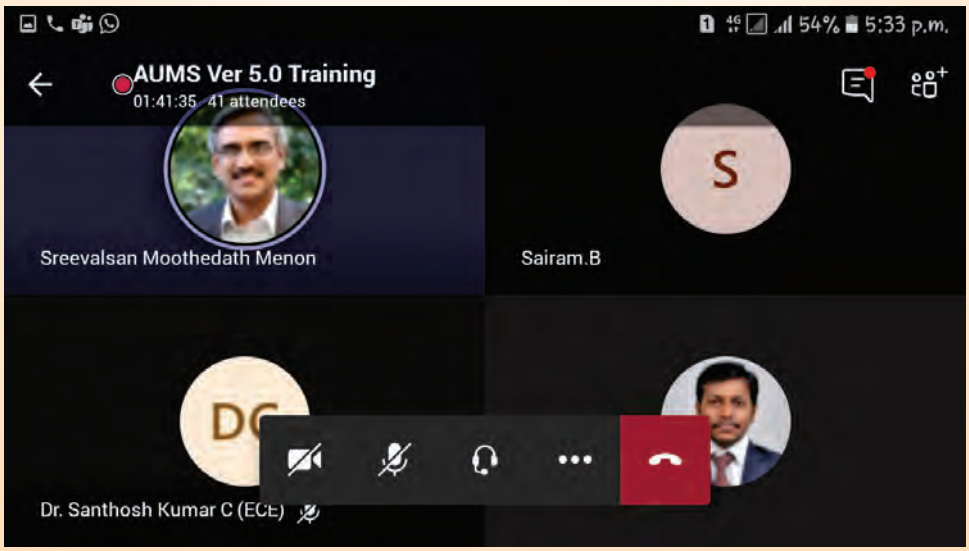
The AYUDH chapter at Agriculture campus was inaugurated on February 14, 2020 and all the 121 students volunteered to be part of the youth movement. AYUDH created an opportunity for them to learn about their duties and responsibilities towards Mother Nature, society and mankind. There were several activities undertaken by the volunteers of AYUDH in the campus viz.,Vertical gardening, Shivarathri celebration, International Women day's celebration, United Nation's World Earth Day, World No Tobacco Day and World Environment Day activities. As a part of United Nation's World Earth Day, Ayudhians planted vegetable saplings and flower seeds at their homes during lockdown period and made short video messages about their experiences to inspire youth around them.

Dr. P. Sureshkumar, Principal, ASA interacted with the students and gave them suggestions on meditation and spoke about the importance of maintaining a healthy routine during the lockdown period. Dr. Jidhu Vaishnavi, Assistant Professor proposed the vote of thanks for the session.

Perpetuates the wheel of dharma

4. Amrita Faculty - At the Pursuit of Learning

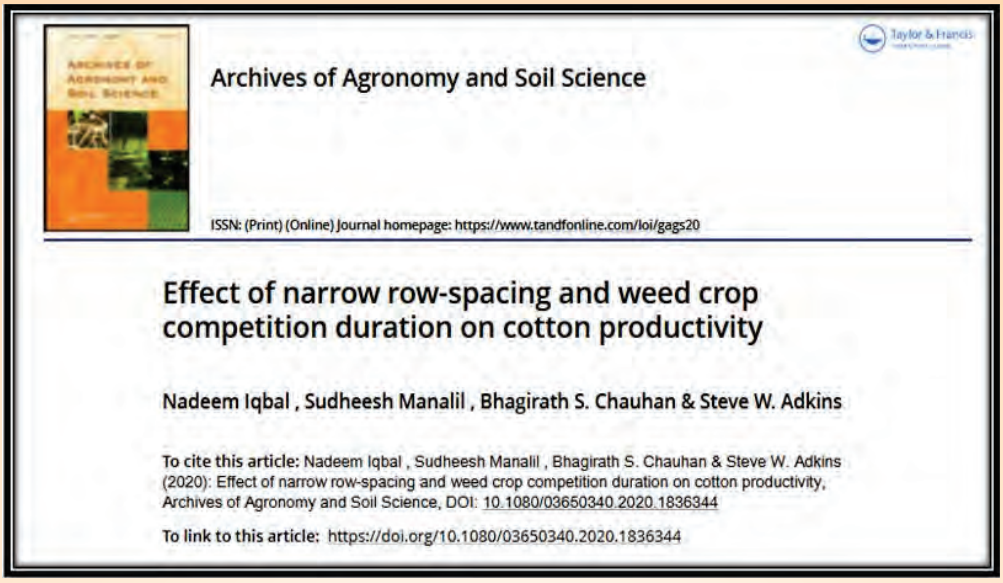
Training and development make employees more productive and effective. The faculty members attended the training session on Amrita University Management System (AUMS) 5.0. The training session was organized by ICTS Department, Amrita Vishwa Vidyapeetham, on 16.10.2020 & 17.10.2020 through Microsoft Teams App. The speaker Br. B. Sairam from Amritapuri Campus explained the upgraded features in AUMS 5.0 for the benefit of the members of faculty.



Learning never exhaust the mind

III. Research and Publication

Published by Dr. Sudheesh Manalil, Head of Research, ASA



Archives of Agronomy and Soil Science

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Effect of narrow row-spacing and weed crop competition duration on cotton productivity

Nadeem Iqbal , Sudheesh Manalil , Bhagirath S. Chauhan & Steve W. Adkins

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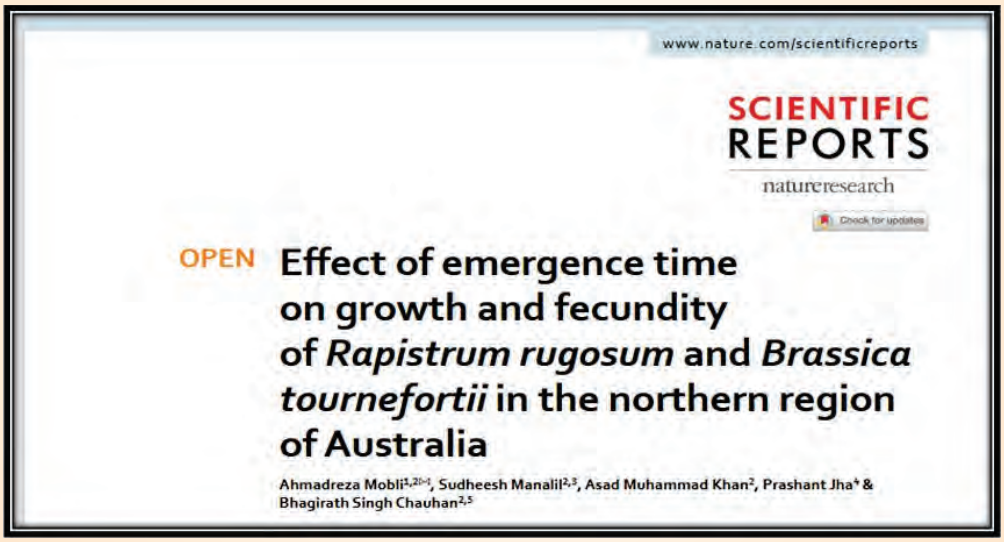

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Effect of emergence time on growth and fecundity of *Rapistrum rugosum* and *Brassica tournefortii* in the northern region of Australia

Ahmadreza Mobli[1,2]✉, Sudheesh Manalil[2,3], Asad Muhammad Khan[2], Prashant Jha[4] & Bhagirath Singh Chauhan[2,5]

Published by Dr. Sudheesh Manalil, Head of Research, ASA

Weed Science

www.cambridge.org/wsc

Interference of annual sowthistle (*Sonchus oleraceus*) in wheat

Sudheesh Manalil[1,2,3,4], Hafiz Haider Ali[5] and Bhagirath Singh Chauhan[6]

Research Article

Cite this article: Manalil S, Ali HH, Chauhan BS (2020) Interference of annual sowthistle (*Sonchus oleraceus*) in wheat. Weed Sci. 68: 98–103. doi: 10.1017/wsc.2019.69

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Published by Dr. V. S. Manivasagam, Assistant Professor (Agricultural Informatics), ASA

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Fusion of Sentinel-2 and PlanetScope time-series data into daily 3 m surface reflectance and wheat LAI monitoring

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IV. Achievements

1. Agripreneurship- A Tool for Economic Development

Agripreneurship is a pathway to revitalize Indian agriculture and to contribute more towards socio-economic developments of the nation. Amrita School of Agricultural Sciences is very keen on encouraging agripreneurship among students. During this COVID-19 pandemic, students of ASA initiated their own agro startups. Mr. E. Ashok Balaji, (II year student) initiated cultivation of azolla at his own coconut farm and Mr. D. Indrajith, (II year student) took his commercial mushroom production to the next level. These startups supported by technical advice from experts at ASA.

Agripreneurship - Uplifting Agriculture

2. National Essay Writing Competition Appreciation

CERTIFICATE OF ACHIEVEMENT

This is to certify that

Mr/ Ms. ATHULYA RAJASEKHARAN

Participated in National Essay Writing Competition (Senior) 2020 organized by ENVIS RP, Amrita Vishwa Vidyapeetham, Coimbatore held in October, 2020 on the topic Importance of Biodiversity conservation.

Dr.Maya Mahajan
Envis Coordinator &Associate Professor
Amrita Vishwa Vidyapeetham

Dr.K. Sankaran
Registrar
Amrita Vishwa Vidyapeetham

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