# Sunil Kumar

Assistant Professor-cum Junior Scientist,

Department of Agronomy,

Bihar Agricultural University, Sabour,

Bhagalpur-813210, Bihar, India

Date of Birth: 10-01-1980

S/o Ramashish Chaudhary, Road no.4 B,

Jaiprakash nagar, Bettiah,

West Champaran, Bihar-845438

Mobile: 09470621225

Email: sunilkumaragromet@gmail.com

Alternate Email: <u>iitsunil@gmail.com</u>

#### **WORK EXPERINECE (12 Years 8 Months)**

- Sept. 2012 up to till date: Working as Assistant Professor-cum-Junior Scientist (Agro meteorology), Department of Agronomy, Bihar Agricultural College, Bihar Agricultural University, Sabour, Bihar. (5 Years 10 Months)
- ❖ Nov, 2011 up to Aug 2012: Worked as a Lecturer in the Institute of Agricultural Sciences, Bundelkhand University, Jhansi, U.P. (10 Months)
- ❖ Jan, 2009 up to Oct 2011: Worked as a Guest Faculty in the Institute of Agriculture Sciences, Bundelkhand University, Jhansi, U. P. (3 years)
- ❖ June, 2007 to Dec 2008: Worked as a Junior Research Fellow (CSIR-JRF) in the Department of Civil engineering, BIET, Jhansi, U. P. (1.5 years)
- ❖ Feb, 2006 to May, 2007: Worked as a Junior Research Fellow (CSIR-JRF) in the Department of Civil Engineering, IIT Kanpur, U. P. (1.5 years)

#### AREA OF INTREST

Agrometeorology, Crop modelling, Weather forecast and agromet advisory, Remote sensing

## **PROJECT PROFILE**

❖ Worked on project, õClassification of clouds in Indian Ocean region, Arabian Sea region

and Bay of Bengal region based on cloud's top pressure and optical thickness.ö

- ❖ Worked on project, õImpact of environmental changes on land use-land cover and its management through remote sensing and GIS, in Bundelkhund region.ö
- ❖ Worked on project, õImpact of aerosol on cloud formation, onset of monsoon, rainfall variability and yield of rice and wheat crop in Bihar.ö
- ❖ Working on the project õGramin Krishi Mausam Sewa Project (Agromet Advisory Services), funded by IMD, Ministry of Earth Sciences, Delhi.ö
- ❖ Working in the project, õAICRP on Agro meteorology.ö
- ❖ Worked on the project as Co-PI, õModeling the impact of temporal variability of ricewheat production system and its adaptation to climate change.ö
- ❖ Worked on project as Co-PI, õPredicting regional crop yields and predictor variables affecting yields using modeling approach for stochastic crop decision planning in Agro climatic zone III A, III B.ö
- ❖ Working as Co PI in IRRI-BAU collaboration Project on õSustainable, Diversification and intensification of Rainfed Rice Ecologies of South Bihar funded by IRRI, Philippines.ö

#### ACADEMIC ACCOMPLISHMENTS

M.Sc.(Agriculture), Agrometeorology, G. B. P. U. A. & T. Pantnagar	79.3%	2004
B.Sc.(Agriculture), <b>B.H.U. Varanasi</b>	77.5%	2002
Intermediate, St. Xavier's College, Ranchi, (B.I.E.C., Patna)	60%	1997
Matriculation, K. R. High School, Bettiah, (B.S.E.B, Patna)	72%	1995

# M.Sc. (Ag) thesis work):

"Studies of evapotranspiration in wheat and soybean in mollisol in tarai region of Uttaranchal" A comprehensive study on evapotranspiration of plants i.e. wheat and soybean and applied different existing models for finding out the exact model that can explain the evapotranspation of wheat and soybean in the region of Uttaranchal.

#### PROFESSIONAL RECOGNITION, AWARDS, FELLOWSHIPS RECEIVED:

- ICAR- JRF in physical Sciences in 2002 to complete MSc (Ag).
- **CSIR-NET** in Lectureship category in the subject Earth, Atmosphere, Ocean and Planetary Sciences in the years 2004, 2005 and 2006.
- CSIR-JRF (Junior Research Fellowship) in Earth, Atmosphere, Ocean and Planetary Sciences in 2005 and 2006.
- **ICAR-NET** in Lectureship category in the subject of Agronomy in 2009.
- ICAR-NET in Lectureship category in the subject of Agronomy and Agricultural meteorology in 2010 and 2011.
- "Young Scientist Award" for outstanding contribution in the field of Agronomy in the International Conference on Advances in Agricultural and Applied Sciences for performing food Security on 13-15 May 2017 at Kathmandu, Nepal.

## NO. OF STUDENTS GUIDED AT MASTER DEGREE LEVEL: 03 (Three)

NO. OF COURSE PREPARED: 1 (One) AAG 305 (Climate Change and Agriculture) 3(2+1)

# TRAINING ATTENDED:

- ❖ Workshop and group meeting on info crop model and yield forecasting was held at CCHAU, Hisar on 22-30 April 2013 with collaboration of IMD, Delhi.
- ❖ Completed training on õ Agro meteorology towards better advisories for serving end users requirementö organized by Agricultural Meteorology Division, IMD, Ministry of Earth Sciences, Govt. of India scheduled at Pune, Maharashtra during November 26<sup>th</sup> to December 16<sup>th</sup>, 2013. (Winter school)
- ❖ Completed training on, õApsim exposure workshopö 27-29 Jan 2015 organized under SRFSI Project at BAU Sabour
- ❖ Participated in õWorking group meeting cum workshop on use of DSSAT Crop Simulation Model for Crop Yield Forecasting and Developing DSS for Agromet Advisory Servicesö under GKMS and FASAL Scheme, held at OUAT, Bhubaneswar during 07-14 Dec, 2015.

❖ Completed training on, õHands on practices on simulation Modelling-cum-Climate risk management in Agricultureö held at OUAT, Bhubaneswar during 23-29 July 2016.

## WORKSHOP/SEMINAR/TRAINING/KISHAN GOSTHI ORGANIZED:

- Farmers Awareness Programme on the topic õPariwarik kheti aur Mausam Pooravanumanö was organised to make the farmers aware about the Agrometeorological advisory and weather forecast and to use them in farm management on 21 March, 2015 at BAU Sabour.
- 2. Farmers Awareness Programme at village Birnauth, Bhagalpur, Bihar was organized to make the farmers aware about the Agrometeorological advisory and weather forecast and to use them in farm management on 14 February, 2017.
- 3. Farmers Awareness Programme at village Basudevpur, Banka, Bihar was organized to make the farmers aware about the Agrometeorological advisory and weather forecast and to use them in farm management in on 16 February, 2017.
- 4. Farmers Awareness Programme at village Kurpat, Bhagalpur, Bihar was organised to make the farmers aware about the Agrometeorological advisory and weather forecast and to use them in farm management on 22 February, 2017.

#### WORKSHOP/SEMINAR/TRAINING/KISHAN GOSTHI ATTENDED:

- 1. Participated in National symposium on õIntegrated Farming Systems for Sustainable Agriculture óChallenges and Opportunities (IFSSA-211)ö held at Institute of Agricultural Sciences, Bundelkhand University, Jhansi, U. P. during 19-21 February 2011.
- 2. Participated in the National Seminar on õRe-orientation of Agricultural Educationö held at BAU Sabour during 14-15 November 2014.
- 3. Participated in the National Seminar on õRural Youth in Family Farming: Need and Challenges (RYFF 2014)ö held at BAU Sabour during 18-19 December 2014.
- 4. Participated in the National Seminar on õIPR in Agriculture Needs and Future Prospects,ö held at BAU, Sabour, from 22-23, December, 2015.
- 5. Participated in the National Seminar on õSoil Health Management", held at BAU, Sabour, from 28-29, January, 2016.
- 6. Participated in poster presentation in National Seminar on õSoil Health Managementö held at BAU Sabour during 28-29 January 2016 on topic õRainfall Variability and its Impact on Soil

- Water and crop Production in Sub humid climateö.
- 7. Participated in poster presentation in National Seminar on õSoil Health Managementö held at BAU Sabour during 28-29 January 2016 on topic õImpact of Aerosol on Climate and Productivity of Rice and Wheat Crop in Sub humid Regionö.
- 8. Participated in National Conference on õBringing Self-sufficiency in Pulses for Eastern Indiaö held at BAU Sabour during 5-6 August 2016.
- 9. Participated in Kisan mela every year at BAU Sabour. i.e. 2013, 2014, 2015 and 2016.
- 10. Participated in poster presentation in National Conference on õClimate Change and agricultural production: adapting crops on climate variability and uncertaintyö held at BAU Sabour during 6-8 April 2017 on topic õImpact of Aerosol on Climate and Productivity of Rice and Wheat Crop in Biharö.
- 11. Rapporteur in the National Conference on õClimate Change and agricultural production: adapting crops on climate variability and uncertaintyö held at BAU Sabour during 6-8 April 2017.
- 12. Participated in oral presentation in National Seminar on Indian Society of Extension Education 2017 on, õDoubling Farmersø Income and Farm Production through Skill Development and Technology Applicationö held at BAU Sabour during 28-30 November 2017.

## ADMINSTRATIVE WORK/ADDITIONAL ASSIGNMENT

S. No.	Responsibility	Period	
		From	То
1.	Nodal Officer, AMFU Sabour	31 October, 2013	08 Dec, 2016
2	Technical Officer, AMFU Sabour	September 2013	Till date
2.	Secretary member of Agromet Advisory  Committee of Bihar Agricultural College, Sabour	31 October 2013	Till date
3.	Member of Research advisory Committee for	02 January 2013	Till date

	Plant Protection group in Bihar Agricultural		
	University, Sabour		
4.	Co-ordinator of Agriculture Meteorology	07 Dec 2012	Till date
	Research Team of BAU Sabour		
5.	Member of Climate Change Research Team of	07 Dec 2012	Till date
	BAU Sabour		
6.	Member of Crop Simulation Modelling Research	07 Dec 2012	Till date
	Team of BAU Sabour		

## **PUBLICATIONS**

## **Research Papers:**

- 1. **Kumar**, **S**. and Kumar, B. (2014). Thermal time requirement and heat use efficiency in wheat crop in Bihar. *J. of Agrometeorology*, 16(1): 137-139. (NAAS: 6.40)
- 2. **Kumar**, S. and Kumar, S. (2014). Long term trends and probability of rainfall for crop planning in Bihar. *J. of Agrometeorology*, 16(1): 146-148. (NAAS: 6.40)
- 3. **Kumar**, S. and Kumar, S. (2016). Assessment of impact of climate change on rice and wheat crop in sub humid climate of Bihar. *J. of Agrometeorology*, 18(2): 249-251. (NAAS: 6.40)
- 4. **Kumar**, **S.** and Kumar, S. (2017). Impact of aerosol on climate and productivity of rice and wheat crop in Bihar. *J. of Agrometeorology*, 19 (1): 23-28. (NAAS: 6.40)
- 5. **Kumar**, S. and Kumar, S. (2017). Climatic variability and extreme weather events in Bihar. *J. of Agrometeorology*, 19 (1): 93-98. (NAAS: 6.40)
- 6. **Kumar**, S., Kumar, S. and Sharma, R. P. (2014). Probability of Wet spells, expected amount and long term trends of rainfall for crop planning in Bihar. *Indian Journal of Ecology*, 41(2): 243-246. (NAAS: 4.96)
- 7. **Kumar**, S. and Kumar, S. (2015). Rainfall variability analysis and its impact on crop production in Bihar. *African Journal of Agricultural Research*, 10(9): 983-989.

- 8. Tyagi, S., Kumar, S., Singh, M.K. and **Kumar, S.** (2017). System of root intensification in mustard: Climate change mitigation and climate resilience strategy. *Indian J. of Ecology*, 44 (special issue-4): 28-32. (NAAS: 4.96)
- 9. Kumar, R., Shambhawi, S., Kumar, R., Singh, Y. K. and **Kumar**, **S.** (2017). Spatial distribution in lead in soils of different agro-climatic zones of Jharkhand. *Indian J. of Ecology*, 44 (special issue-4): 65-70. (NAAS: 4.96)
- 10. Roy Chowdhury, A., **Kumar**, S., Ghosh, M., Acharya, S. S. and Deol, J. S. (2017). Yield improvement of wheat (*Triticum aestivum L.*) through foliar supplement of potassium nitrate under low Photothermal quotient during anthesis. *Indian J. of Ecology*, 44 (special issue-4): 132-136. (NAAS: 4.96)
- 11. **Kumar, S.** (2017). Trends and variability of rainfall and its likely impact on crop production in four agro-ecological regions of Bihar. *Agricultural Research Journal*, 54 (2): 208-213. (NAAS: 4.71)
- 12. **Kumar S.,** Katiyar, V. K., Panwar, G. S. and Tyagi S. (2017). Effect of Biofertilizer on growth and yield of chickpea (*Cicer arietinum*). *Progressive Research: An International Journal*, 12 (Special-1): 1274-1277. (NAAS: 3.84)
- 13. Tyagi, S., Sharma, G. R., **Kumar S.**, Kumar, V. and Kumar P. (2017). Yield enhancement in wheat, lentil and vegetable pea by application of superabsorbent polymer. *Progressive Research: An International Journal*, 12 (Special-1): 1120-1124. (NAAS: 3.84)
- 14. **Kumar**, **S**., Kumar, B. and Tyagi, S. (2017). Adaptation of wheat to climate change under different crop growing environment. *J. of Soil and Water Conservation*, 16(2):186-190. (NAAS: 5.08)
- 15. **Kumar**, S. (2017). Impact of elevated temperature and CO<sub>2</sub> on yield of wheat in Bihar. *J. of Agrometeorology*, 19(3):230-232 (NAAS: 6.40)
- 16. **Kumar**, **S.** (2017). Reference evapotranspiration (ET<sub>0</sub>) and irrigation water requirement of crops in Bihar. *J. of Agrometeorology*, 19(3): 238-241. (NAAS: 6.40)
- 17. Dutta, S. K., Ghosh, M., **Kumar**, **S.**, Kumar, S. and Mahdi, S. S. (2017). Thermal utilization and heat use efficiency of rice cultivars under different dates of transplanting in Indo-Gangetic plains of Bihar. *Indian Journal of Ecology*, 44(Special issue-5): 309-316. (NAAS: 4.96)

- 18. **Kumar**, **S.**, Kumar, R. and Tyagi, S. (2017). Trends and interactions of aerosol and weather parameters and their effect on crop yield. *Indian Journal of Ecology*, 44(Special issue-5): 373-376. (NAAS: 4.96)
- 19. Acharya, S., **Kumar, S.** and Nirala, R.B.P. (2017). Comparative assessment of the effect of weather parameters on linseed (*Linum Usitatissimum L.*) crop production in adaptation to climate change. *Indian Journal of Ecology*, 44(Special issue-5): 416-421. (NAAS: 4.96)
- 20. Tyagi S., Mandal, S. K., Kumar, B., **Kumar S.** and Kumar V. (2017). Efficacy of different herbicides on weed dynamics, yield attributes and yield of maize. *Bulletin of Environment, Pharmacology and Life sciences*, 6 (special issue-1): 498-503. (NAAS: 4.95)
- 21. **Kumar, S.** and Jha, A. K. (2017). Impact of climate on biomass production of azolla and their interactions. *Journal of Agrometeorology*, 19(4):319-322. (NAAS: 6.40)

#### **Book chapters:**

- 1. Haque, M., Roychaudhory, A. and **Kumar**, **S.** (2014). Jalwayu parivartan ka khadyan fasalon par prabhav. (In): *Jalwayu pariwartan ke paripekshya me tiaku kheti*, PP: 18-25.
- 2. **Kumar**, S., Haque, M. and Tyagi, S. (2015). Krishi Mausamiya Prasar aur Pariwarik Kheti. (In): *Pariwarik Kheti aur Krishi samadhan*, PP: 36-37.
- 3. **Kumar, S.** and Tyagi, S. (2016). Monsoon ki aniymitata me akasmik fasal pranali prabandhan. (In): *Mrida swashthya prabandhan dwara tikau kheti*, PP: 53-60.
- 4. Tyagi, S., Kumar, P. and **Kumar**, S. (2016). Jal uplabdhta badhane me mrida anukulan ki mahatta. (In): *Mrida swashthya prabandhan dwara tikau kheti*, PP: 30-36.
- 5. Chaudhary, S. K., Gupta, S. K., **Kumar, S.** and Singh, M. K. (2016). Jalwayu pariwartan ke paripekshya me samposhniya krishi ki awashykta. (In): *Mrida swashthya prabandhan dwara tikau kheti*, PP: 67-69.
- 6. Tyagi, S., Kumar, P. and **Kumar, S.** (2016). Mrida swashthya ke paripekshya me krishi vaaniki ki upyogita ewam mahatwa. (In): *Mrida swashthya prabandhan dwara tikau kheti*, PP: 126-130.
- 7. Kumar, A., Kumar, S., Lal, M. and **Kumar**, S. (2016). Climate change and its impact on management of pulse crop diseases. (In): *Diseases of pulse crops and their sustainable management*. (Eds. S. Kumar, S.K. Biswas and G. Chand) PP: 13-21.

8. **Kumar**, S., Kumar, S. and Mahdi, S. S. (2017). Contingent crop planning in flood and dry spell of monsoon in Bihar. (In): *Souvenir National conference on climate change and agricultural production*. PP: 87-96.

## **Extended summary:**

1. **Kumar**, **S.** Kumar, B. and Tyagi, S. (2016). Adapting wheat for climate change under different crop growing environment and irrigation conditions. (In): *Extended summaries vol.* 1: 4<sup>th</sup> International Agronomy Congress, Nov, 22-26, 2016, New Delhi, India PP: 84-86.

#### **Abstracts published:**

- 1. Kohli, A., Singh, Y.K., Gupta, S.K., Ghosh, M, Vimal, B.K., Lal, M. and **Kumar, S.** (2016). Performance of Lathyrus under varying moisture regimes of different crop establishment scenarios. *Souvenir & Abstract, National Conference on Bringing Self-Sufficiency in Pulses for Eastern India*, PP: 110-111.
- 2. Tyagi, S., **Kumar**, **S.** and Kumar, P. (2016). Yield performance of Lentil and Pea as influenced by soil application of super absorbent polymer (Hydrogel) under rainfed situations of Bihar. *Souvenir & Abstract, National Conference on Bringing Self-Sufficiency in Pulses for Eastern India*, PP: 159-160.
- 3. Tyagi, S., **Kumar**, **S.** and Kumar, P. (2016). Effect of Various organic sources of nutrients on growth characters, yield attributes and yield of soybean. *Souvenir & Abstract, National Conference on Bringing Self-Sufficiency in Pulses for Eastern India*, PP: 198-199.
- 4. **Kumar**, S. (2016). Impact of Aerosol on Climate and Productivity of Rice and Wheat Crop in Sub humid Region. *Book of Abstracts, National seminar on Soil Health Management*, PP: 14-15.
- 5. **Kumar, S.**, Ghosh, M., Chowdhury, A. R. and Acharya, S. S. (2016). Rainfall Variability and its Impact on Soil Water and crop Production in Sub humid climate. *Book of Abstracts, National seminar on Soil Health Management*, PP: 98-99.
- Ghosh, M., Sharma, R. P., Kiran, N., Dutta, S. K., Chowdhury, A. R., Gupta, S. K., Kumar, S., Kohli, A., Singh, Y. K., Acharya, S. S., Kumar, S., Haque, M. and Pathak, S. K. (2016). Precision N Management for Improving Productivity and N use Efficiency of Wheat (*Triticum aestivum* L.). Book of Abstracts, National seminar on Soil Health Management, PP: 152-154.
- 7. Kumar, V., Tyagi, S., Paul, S. C., Shushant and **Kumar**, **S.** (2016). Effects of Sources and Doses of Sulphur on N, P, K, S content of Soil and Sulphur Uptake by Mustard (*Brassica*

- Juncea L.). Book of Abstracts, National seminar on Soil Health Management, PP: 19-20.
- **8.** Tyagi, S., Kumar, S., Singh, M.K. and **Kumar, S.** (2017). System of root intensification in mustard: Climate change mitigation and climate resilience strategy. *Proceedings of National Conference on Climate Change and Agricultural Production: adapting Crops to Climate Variability and Uncertainty*, PP: 54-55.
- **9.** Roy Chowdhury, A., **Kumar**, **S.**, Ghosh, M., Acharya, S. S. and Deol, J. S. (2017). Yield improvement of wheat (*Triticum aestivum L.*) through foliar supplement of potassium nitrate under low Photothermal quotient during anthesis. *Proceedings of National Conference on Climate Change and Agricultural Production: adapting Crops to Climate Variability and Uncertainty*, PP: 76-77.
- **10.** Achraya, S.S., **Kumar, S.**, Ghosh, M., Nirala, R.B.P., RoyChowdhury, A., Gupta, S.K., Choudhary, S.K. and Mahdi, S.S. (2017). Comparative assessment of the effect of weather parameters on linseed (linum usitatissimum L.) crop production in adaptation to climate change scenario in Bihar. *Proceedings of National Conference on Climate Change and Agricultural Production: adapting Crops to Climate Variability and Uncertainty, PP: 78-79.*
- 11. **Kumar** S., Kumar, S., Mahdi, S. S., Chooudhary, S., Tyagi, S., Kumar, P., Gupta, S. K. and Kumar R. (2017). Trends and impact of aerososl on yield of rice and wheat crop in Bihar. *Proceedings of National Conference on Climate Change and Agricultural Production:* adapting Crops to Climate Variability and Uncertainty, PP: 80-81.
- 12. Dutta, S. K., Ghosh, M., **Kumar**, S., Kumar, S., Mahdi, S. S. and Panwar, G. S. (2017). Thermal utilization and heat use efficiency of rice cultivars under different dates of transplanting in Indo-Gangetic plain of Bihar. *Proceedings of National Conference on Climate Change and Agricultural Production: adapting Crops to Climate Variability and Uncertainty*, PP: 88-90.
- 13. Bhamini, K., Rani, R., Singh R. R., Ahmed, F., **Kumar, S.** and Kumar, R. (2017). Influence of temperature on plant growth, flowering and fruiting of strawberry in agro climate of Bihar. *Proceedings of National Conference on Climate Change and Agricultural Production:* adapting Crops to Climate Variability and Uncertainty, PP: 113-114.
- 14. Gond, M. K., Kumar, P., Singh, R. K., Tyagi, S., Kumar S., Singh, A. K., Chaudhary, S. K.

- and Pandey, S. K. (2017). Quantification of carbon sequestration in open field and Agri-Horti system. *Proceedings of National Conference on Climate Change and Agricultural Production: adapting Crops to Climate Variability and Uncertainty*, PP: 117-118.
- 15. Mahdi, S. S., Haque, M., Sohane, R. K., **Kumar**, S., Dutta, S. K., Gupta, S. K. and Choudhury, S. R. (2017). Modelling rice-wheat estimation over a sub-humid climate environment of Bihar, India. *Proceedings of National Conference on Climate Change and Agricultural Production: adapting Crops to Climate Variability and Uncertainty*, PP: 156-157.
- 16. Kumar, R., Shambhawi, S., Kumar, R., Singh, Y. K. and **Kumar, S.** (2017). Spatial distribution in lead in soils of different agro-climatic zones of Jharkhand. *Proceedings of National Conference on Climate Change and Agricultural Production: adapting Crops to Climate Variability and Uncertainty*, PP: 278-279.
- 17. Kumar, S., Dutta, S. K., Singh, R.G., Panwar, G. S., Kumar, R., Kumar, S., Beura, K., Kumar, S., Kumar B., Suman, S. and Kumar P. (2017). Influence of different establishment techniques in rice based cropping systems on productivity, economics and soil health. *Proceedings of National Conference on Climate Change and Agricultural Production:* adapting Crops to Climate Variability and Uncertainty, PP: 297-298.
- 18. Gupta, S. K., Ghosh, M., Panwar, G. S., Kumar, R. Kumar, A., Ghosh, M. Mahdi, S. S. and **Kumar**, **S.** (2017). Production potential and feasibility of different forage based cropping system in Bihar. *Proceedings of National Conference on Climate Change and Agricultural Production: adapting Crops to Climate Variability and Uncertainty*, PP: 655-656.

#### **Popular Articles:**

- 1. Kumar, B., Choudhary, S. R. and **Kumar**, **S.** (2013). Sankar Dhan ki Kheti, *Krishak Sandesh*, July-Sept, PP: 6-12.
- 2. Tyagi, S., **Kumar**, S., Kumar, S. and Kumar, V. (2014). Rabi tilhani fasalon ki vaigyanik kheti, *Krishak Sandesh*, PP: 8-11.
- 3. Tyagi, S., **Kumar**, **S.**, Kumar, S. and Kumar, V. (2014). Rabi dalhani fasalon ki oonnatshil kheti, *Krishak Sandesh*, PP: 12-14.

- 4. Gupta, S., Haque, M., **Kumar**, S., Ghosh, M. and Shushant (2015). Garma mausam me chara faslon ki unnat kheti, *Krishak Sandesh*, (April-June), 4 (2), PP: 21-22.
- 5. Tyagi, S., **Kumar**, **S.** and Kumar, V. (2015). Rai-sarson ewam tori ki vaigyanik kheti, *Krishak Sandesh*, (October-December), 4 (4), PP: 19-21.
- 6. **Kumar**, S., Tyagi, S. and Kumar, V. (2015). Rabi faslon me pale se suraksha, *Krishak Sandesh*, (October-December), 4 (4), PP: 43-45.

#### **E-Newsletter:**

- 1. Weather forecast was prepared regularly for zone I, II, III A, III B of Bihar for Happening at BAU fortnightly E-newsletter published from Bihar Agricultural University, Sabour.
- 2. Weather forecast was prepared for zone I, II, III A, III B of Bihar in BAU ek Najar at fortnightly E-newsletter published from Bihar Agricultural University, Sabour.

## **Agro Advisory Service:**

- 1. Agro advisory Bulletin for 17 Districts of zone III A, III B of Bihar were prepared on the basis of Weather Forecast for 5 days and were disseminated through different print media and web sites and by email.
- 2. Mobile SMS were sent to the farmers of Bihar on their mobile about weather forecast and agro advisory.
- 3. Regular weather forecast and agro advisory for farmers published in the Hindustan, Dainik Jagaran, Dainik Bhaskar, Rashtiya Sahara, Nayi Baat daily Newspapers.
- 4. Interacted and solved the problems of progressive farmers of Bihar through Plant Health Clinic.

#### T.V. /radio talk:

- a) T.V. Talk:
- 1. T.V. talk on the topic of õMausam puravanooman and its effect on Agricultureö was recorded at BAU Sabour and telecasted by Doordarshan kendra, Patna in Krshi darshan programme on 27-03-2015.
- b) Radio Talk:
- 1. Radio talk on the topic of, õMonsooni varsha ka krishi par prabhawö recorded on 17-07-2014 and broadcasted on 23-07-2014 at 6:00 PM to 6:30 PM in Kheti grihasthi programme.

- 2. Radio talk on the topic of, õDhan utpadak kisano ko samayik salahö recorded on 07-07-2015 and broadcasted on 10-07-2015 at 6:30 PM to 7:00 PM in Kheti grihasthi programme.
- 3. Radio talk on the topic of, õMausam ki bhwisyavani ke navintam taknikö recorded on 26-10-2015 and broadcasted on 01-11-2015 at 11:30 AM in Vigyanvani programme.
- 4. Radio talk on topic õJalwayu pariwartan ka asarö on 15 March 2016 in Vigyanvani programme.
- 5. Radio talk on topic õJalwayu pariwartan ka parbaton par asarö on 11 December 2016 and broadcasted on 09 December 2016 in Vigyanvani programme.
- 6. Radio talk on topic õJalwayu pariwartan ke mahtwapurn karakö on 28 July 2017 and broadcasted on 01 August 2017 in hamara paryawaran programme.

(Sunil Kumar)