

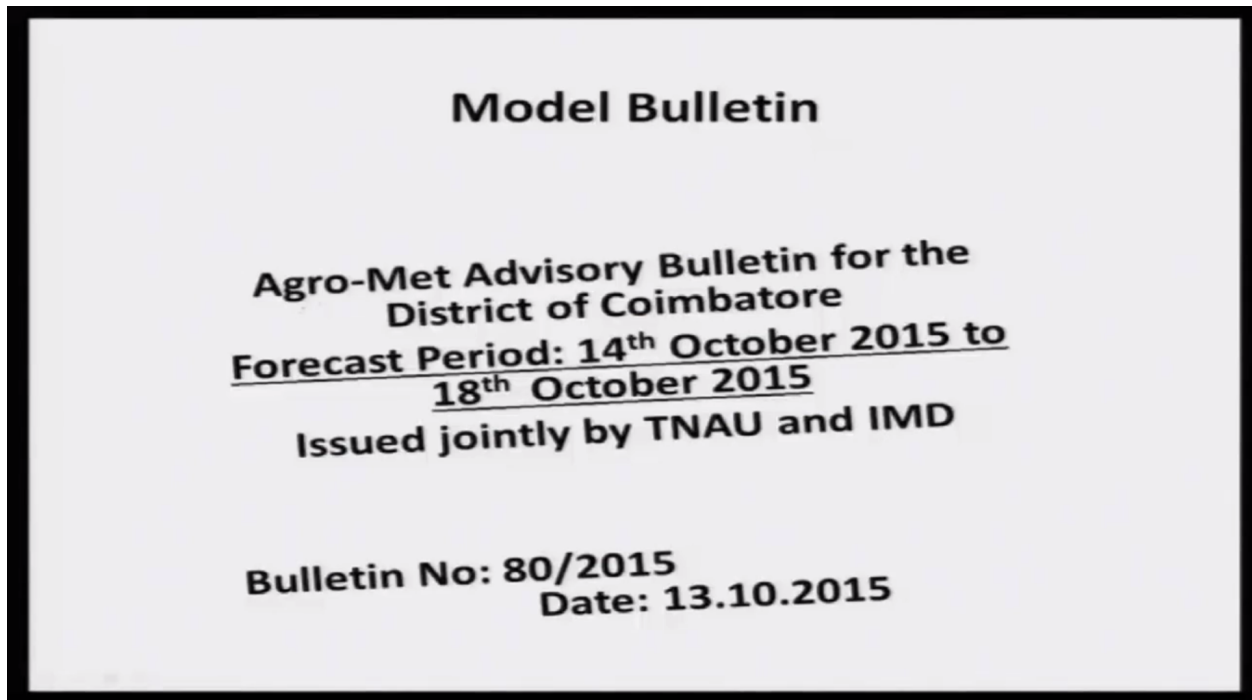
agMOOCs

Model agro advisories for selected five days weather forecast

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Friends, well, in the last class, we had a discussion on the agro advisory, how to prepare and how in India the organizations are involved in preparing the agro advisories based on the weather forecast procedure.



Now as a case study I like to provide an agro advisory model to you, so that he can appreciate very well. Now this is a model bulletin Agro-Met Advisory

Bulletin for the District of Coimbatore. This is from Tamil Nadu, example, you can put your own distinct, Forecast Period, and issued jointly by the organization TNAU and India Meteorological Department. Then Bulletin Number as I said, Bulletin Number or your note number, year and date, this is very important, this is the format. See in an India paper, part of the paper is being produced now. You should not prepare bit by bit. This is holistic. I have cut down and presented source to accommodate in the slides. So this is here the bulletin, the period, which organization is involved and the number and the date of the bulletin, this is very, very important.

Model Bulletin-contd

Weather Summary for the period since the issue of last bulletin 79 (09.10.2015) for Tamil Nadu.

Maximum temperature from 30°C to 37°C and minimum temperature range from 22°C to 27°C did prevail over the State. Kodaikanal and Uthagamandalam recorded maximum temperature from 18°C to 23°C and minimum temperature range was from 11°C to 13°C during the period. Light to moderate rainfall was recorded over in Tamil Nadu.

Now continued, weather summary of the period since the issue of the last bulletin, so here, I put 80, now what was happening this, this is very, very important. Maximum temperature from 30 degree Centigrade to 37 degree, and the minimum temperature range from 22 degree Centigrade to 27 degrees Centigrade to prevail over the state. Kodaikanal and Uthamgamandalam recorded maximum temperature from 18 to 23 degrees Centigrade and the minimum temperature range was from 11 degree Centigrade to 13 degree Centigrade during the period. Light to moderate rainfall was received very received. This is very, very important. We had a discussion earlier. Quantified, what is light, what is moderate, what is heavy? Those information have been rightly used, so that it will be highly useful to the farming community.

Model Bulletin-contd

Last week weather Summary for Coimbatore district

- **Cloud Cover (Octa)** 3 - 7
- **Rainfall (mm)** 31.9
- **Maximum temperature(°C)** 31 - 34
- **Minimum temperature (°C)** 22 - 25
- **Morning relative humidity (%)** 62 - 71
- **Evening relative humidity (%)** 56 - 67
- **Wind speed (Kmph)** 5 - 17

And continuing the bulletin again, this was, I have given not for the district, the state of the concerned district. This is also very, very important. Earlier I was saying that you prepare the summary of the past weather week. I did not mention weather for the region or the state, so first you give for your state, then you give for the location. What was cloud cover, 327, we have studied Octa 0 to 8, 8 means the entire sky is covered, now see the cloud cover. Rainfall 31.9 mm. In the case of the thumb rule, when the rainfall is more than 25-millimeter, what we have suggested, go for soy and drill and skip irrigation like that. So rainfall is 31. How these are interrelated, please kindly try to understand the subject. Maximum temperature 31 to 34, if the temperature is more than 32 degrees and continue for a week, you may get the second burst. So we were discussing everything in the last classes. Minimum temperature 20 to 25, morning hour H, evening hour H, and wind speed. So this was the weather that prevailed in this district, and the earlier one was the state.

ModelBulletin-contd

Weather forecast for next five days: 14.10.2015 to 18.10.2015

Date	Rainfall (mm)	Max Temp. (°C)	Min Temp. (°C)	Total Cloud cover (octa)	Max RH (%)	Min RH (%)	Wind speed (kmph)	Wind direction (deg)
14.10.15	1	31	23	5	77	64	12	200
15.10.15	0	31	23	5	75	62	12	200
16.10.15	1	31	23	5	74	61	12	200
17.10.15	2	31	23	5	72	60	12	200
18.10.15	1	31	23	5	71	60	12	200

Now coming to the weather forecast for next five days, from 14/10 to 18/10. They will be giving in this format, from the Regional Meteorological Center, this will give by the center. Date is given, rainfall quantity, maximum temperature, minimum temperature, total cloud cover, maximum RH. Don't worry, maximum RH is being recorded morning. Minimum RH, it is being recorded in the evening, then the wind speed, kilometer per hour, then wind direction degrees, this also have studied. 90 means east, 180 means south, 270 mean west, so we can have 16 directions, that you can see.

See in the case of a 14th rainfall, a rainy day. We have studied that the rainfall is more than 2.5 mm, it is called as a rainy day. Here what is the quantity. It is lesser than 2.5 mm, so rainfall does not make anything for the preparation of your agro advisory. am I clear to you? Yes. Now the maximum temperature, there is no variation. If you compute ever coefficient of variation, it becomes a 1 or 2, nothing, no variability. Minimum temperature also no variability. Total cloud cover, no variability, here slight variation, slight variation, no variation, no variation. So for preparing the weather forecast here what much be considered is to be taken a decision by you. So if you see here, the variability is we could see in the maximum RH and minimum RH, so let us see, what was the message prepared from this weather forecast.

Model Bulletin-contd

- **Weather forecast for next five days: 14.10.2015 to 18.10.2015**

According to district forecast issued by the India Meteorological Department, for Coimbatore district, sky will be mostly cloudy. Light rainfall is expected. Maximum temperature is expected to be around 31°C and minimum temperature is expected to be around 23°C. Morning relative humidity is expected to be from 71 to 77 per cent and evening relative humidity is expected to be from 60 to 64 per cent. Average wind speed is expected around to be 12 km per hour and the wind direction will be from south direction.

Model Bulletin weather forecast, so according to the district forecast issued by the India Meteorological Department for Coimbatore district, sky will be mostly cloudy. Sky will be mostly cloudy RH. Why? The maximum is 8, so even nearing 8. Light rainfall is expected. In the case of light rainfall, we have given lesser than 2.5 mm, so light rainfall is expected. No use to the crop production. Maximum temperature is expected to be around 31 degree and minimum temperature 23 degree Centigrade. Morning relative humidity is expected to be from 71 to 73% and evening is like this. Average wind speed is expected to 12 kilometer per hour. Then wind direction, from south direction, south direction, because if you take the wind direction as I say, this is north, east, south, west. This is we say, 0 degree, 90 degree, 180 degree, this is 270 degree. So 200 means, that may be here. So it is normally southwest or this direction, nearing to south. So like that you have to interpret things. So you have to interpret your weather forecast.

Model Bulletin-contd Crop stages

Blocks	Sugar cane	Banana	Turmeric	Vegetables	Pulses	Rice	Maize	Cotton
Thondamuthu	V	8 months	V	F	F	N&V	F	V
Karamadal	V	8 months	V	F	F	N&V	F	V
Sulur	V	8 months	V	F	F	N&V	F	V
Sultanpet	V	8 months	V	F	F	N&V	F	V
Pollachi	V	9 months	V	F	F	N&V	F	V
P.N Palayam	V	9 months	V	F	F	N&V	F	V
Kinathukadavu	NC	NC	V	F	F	N&V	F	V
Annur	NC	8 months	V	F	F	N&V	F	V
Madukarai	NC	8 months	V	F	F	N&V	F	V
Annaimalai	V	9 months	V	F	F	N&V	F	V
V:	F:	NC:	N&V:					
Vegetative,	Flowering	No crop	Nursery and	Vegetative				

Then crop stages, see you have considered your weather forecast, then you have critically given your weather forecast, then you have received information from the Department of Agriculture or Exertion Department, what are the crops that are being raised at that time of weather forecasts, what are their stages. So these are all blocks. V means, vegetative state, NC, no crop, vegetative and flowery, okay. So banana, eight months, banana 8 months must have some - it must be in bearing. So these are the things, turmeric, vegetables flowering, pulses flowering, rice, vegetative and your nursery area, flowering, flowering. So these are all -- this stage is very critical. Fortunately, this forecaste did not indicate any heavy rainfall. It is only light rain is anticipated, 1 to 2 mm. It does not harm the pollination of the vegetables, because the vegetables are in flowering stage. So like that, we have to critically analyze, put our mind, then finally we say that preparing agro advisory.

Model Bulletin-contd Agro-Advisory

- **Agro Advisory**
- Since no rain is anticipated, hand hoeing and weeding may be given to dry land crops of maize, sorghum and pulses of 20 days old.
- Since the minimum temperature is around 23°C, Zinc deficiency may appear in the samba transplanted rice seedlings. Spray ZnSO₄ at 0.5% along with 1% urea at 15 days interval thrice.
- With high in relative humidity and low in minimum temperature both powdery mildew and downy mildew will initiate in the grapes. To control powdery mildew spray 0.3% wettable sulphur and for controlling downy mildew, spray 1% Bordeaux mixture.
- Since the thermal humidity index is more than 72%, based on the prevailing weather, animals may be kept active by frequent bathing and operating fogger.

Since no rain is anticipated, no rain means light rain, does not make any difference. The daily evaporation is around 4 to 5 millimeter according to the season. You are going to receive only one 1 mm or 2 mm so your operation requirement will be partly from the rainfall, so no rain will get infiltrated into the soil and make the soil wet, so no rain is anticipated, hand hoeing and weeding may be given to trail of maize, sorghum pulses 20 days, okay. Hand hoeing and weeding can be given.

Now I have given some thumb rule, if you want to make a hand weeding and hoeing, there must be rainfall 5 to 10 millimeter. So this is based on anti cylinder soil moisture under drilling condition and irrigating condition in the irrigated area. Since the minimum temperature is around 23 degree, zinc deficiency may appear in the samba transplanted rice field. See normally, in the rice, it is being raised under submerged condition, and the winter comes means there will be deficiency of zinc to the rice crop. Rice requires zinc, so in this case if you apply zinc sulphate through soil, majoritily it will be fixed. So if you apply through foliar means it will take -- the rice will utilize very well. So they have a recommended to spray zinc sulphate 0.5% along with 1% urea at 15 days interval, two or three times.

Why urea is added? There is deficiency in zinc, why you recommend urea? The absorption of zinc sulphate with foliage will be very quicker. If at all any rain is received after one hour, the entire foliar application will be highly utilized by the crop. If urea is not applied or if some adhesive is not applied, then the absorption would be very less, and it will be washed away by the rain that occurs at later times. So this is very, very important. Then with the

high in relative humidity and low in minimum temperature, both the powdery mildew and the downy mildew will initiate in the grapes. Grape is highly vulnerable to your powdery mildew and downy mildew. So this is a caution given.

If at all if you notice monitor, go for spray. So prevention is better than cure, so go for preventive action. Since the thermal humidity index is more than 72% based on the prevailing weather, animals may be kept active by frequent bathing and operating fogger. So three agro advisories for your things and one for your animal.

Here thermal humidity index, thermal humidity index, they take temperature and relative humidity and the use the equation, when the product is more than 72, greater than 72, it is bad for animal, discomfort to animal. So put the animal under bathing and to make the cattle very pleasant, like what you have AC in your class or in your office or in your house.

Model Bulletin-contd
SMS advisory

With high in relative humidity and low in minimum temperature both powdery mildew and downy mildew will initiate in the grapes. To control powdery mildew spray 0.3% wettable sulphur and for controlling downy mildew, spray 1% Bordeaux mixture.

Professor and Head
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So this is the way we prepare our agro advisory. Then how to communicate to the farmers? So among your agro advisory given, this is considered to be very, very important to the farmer. Why? This may happen at 100%, number one, number two, grape is cultivated in larger areas and farmers are also ready to take your plant production measures, because grape is said to be a commercial crop and it is economical crop to the even small farmers also at this district. So SMS is given by considering the priority, so high in relative humidity and low in minimum temperature, this message will be communicated to the farmers through your SMS mobile phone.

So in this way, you can prepare agro advisory like that. I can also give one exercise in the next class or sometime, which is convenient to you, to prepare agro advisory based on your website information and try to reproduce. We will examine and try to check. If it is working, you have learned the subject in a good manner. Thank you very much.