agMOOCs
Weather sensitive crops, stages and farm operations
T.N. Balasubramanian

Okay. In the last class we had some discussion on crop production risk. Our India course topic is weather forecasts in agriculture and agro advisories. For that you have to consider the crop protection risk. There are three risks you ought to consider.

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Again, coming to this class you have to consider weather sensitive crops, weather sensitive crop stages and weather sensitive farm operations for developing your agro advisories in response to weather forecast. So this area also must be given very important or must be addressed very precisely.

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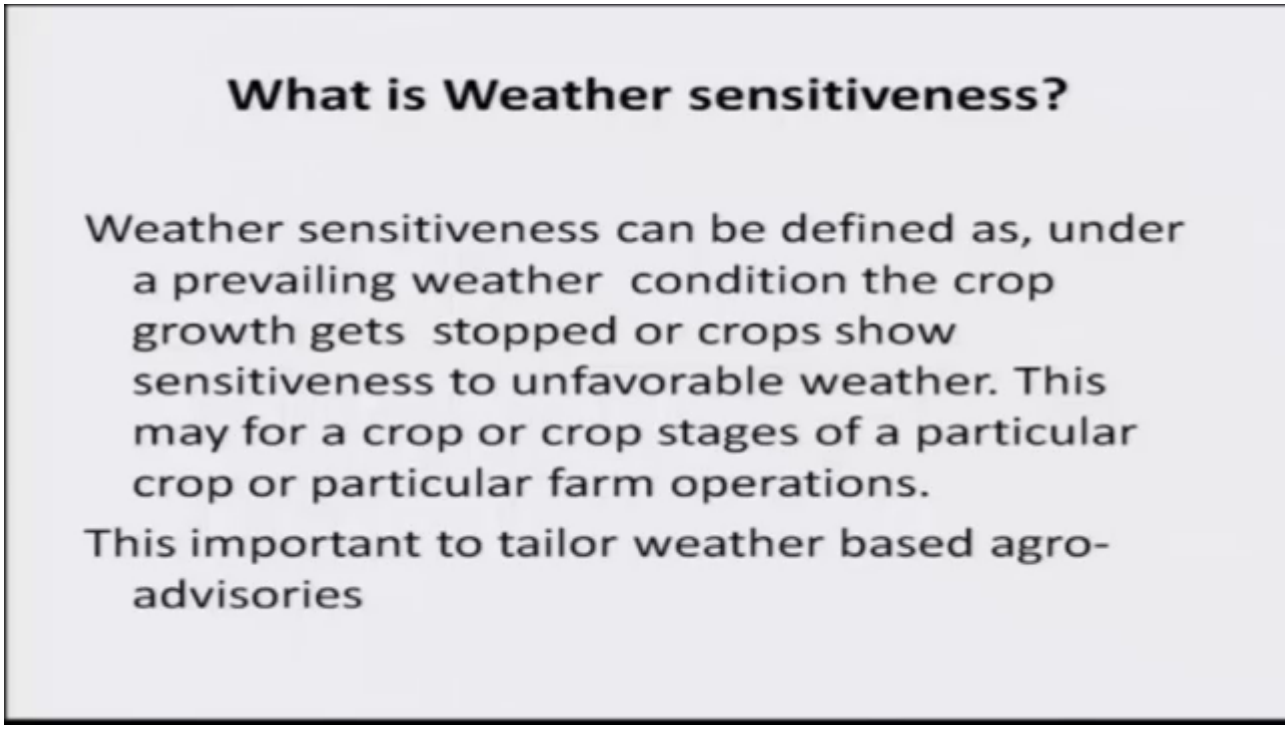

So let me move to the next area. What is weather sensitiveness? So weather sensitiveness can be defined as under a prevailing weather the crop growth gets stopped, closed stop then we were discussing about the cardinal temperature, the minimum temperature required for barley, orchids around three degrees centigrade .So here the weather sensitiveness, suppose the temperature is one degree or zero degree, the crop does not germinate. So weather sensitiveness can be defined as under a prevailing weather condition the crop growth gets stopped or crops, so sensitiveness to unfavorable weather that is very very important. This may be for a crop, entire crop, apple tree cannot be grown semi-arid climate, one example, so it is weather sensitive.

And also crop stages. You take wheat crop, it does does require a cool temperature during its vegetative stage from germination. If the temperature is more than 20 degree centigrade or 24 degrees centigrade during daytime the vegetative stage gets affected and your yield also got affected. So in the case of the weight, vegetative stage the rise in the flowering stage, so for different crops the different stages are there. Those stages are weather sensitive. And particular farm operations, farm operations also weather sensitive. So we were discussing about dry land agriculture. In the absence of the rainfall can you go for sowing on dry land, it is impossible but on irrigated condition you can take up sowing with the groundwater support. So this is weather-sensitive farm operation and your dry land agriculture

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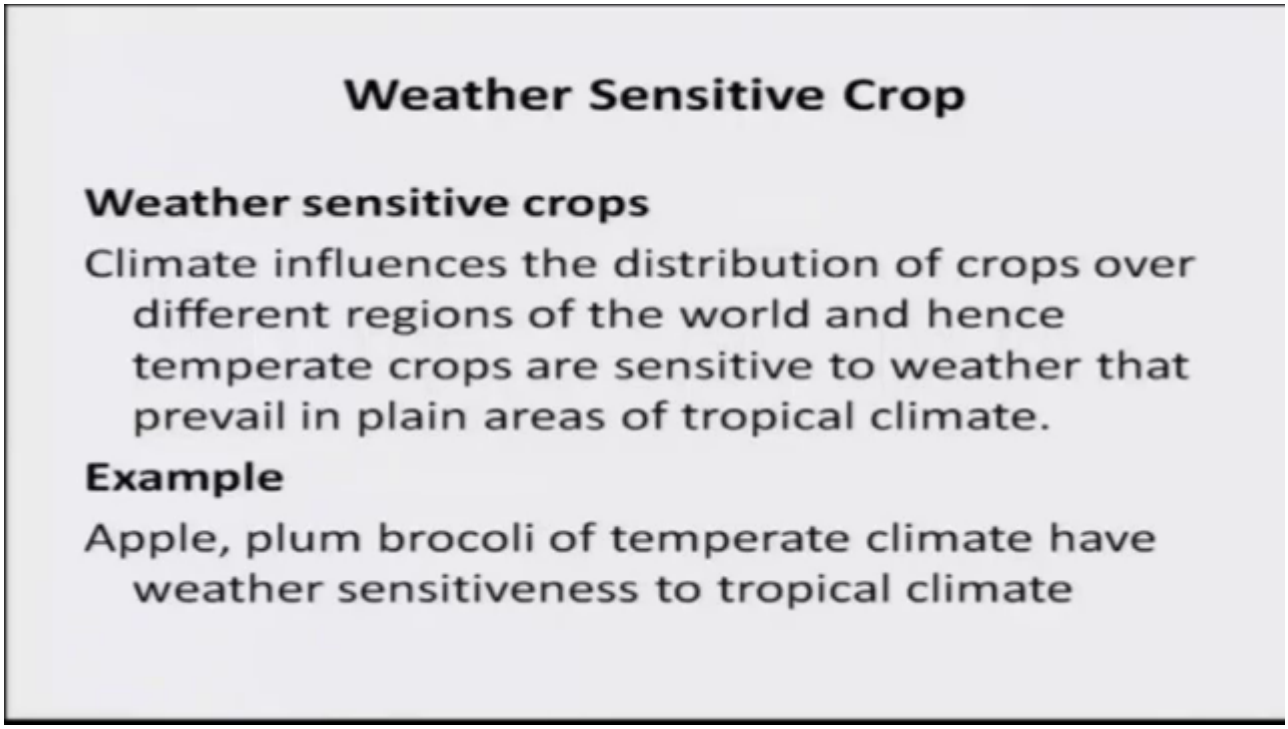

Now weather sensitive crops; now as I told the earlier the climate influences the distribution of crops over different regions of the world and hence the temperate crops are sensitive to weather that prevail in plain areas of the tropical climate. This is understood. We were discussing over and over on this subject, example, apple, plum, broccoli of temperate climate have weather sensitiveness to tropical climate. So weather sensitive, see accordingly we have to prepare our agro advisories based on the weather forecast. That will be retailing very much during our later classes.

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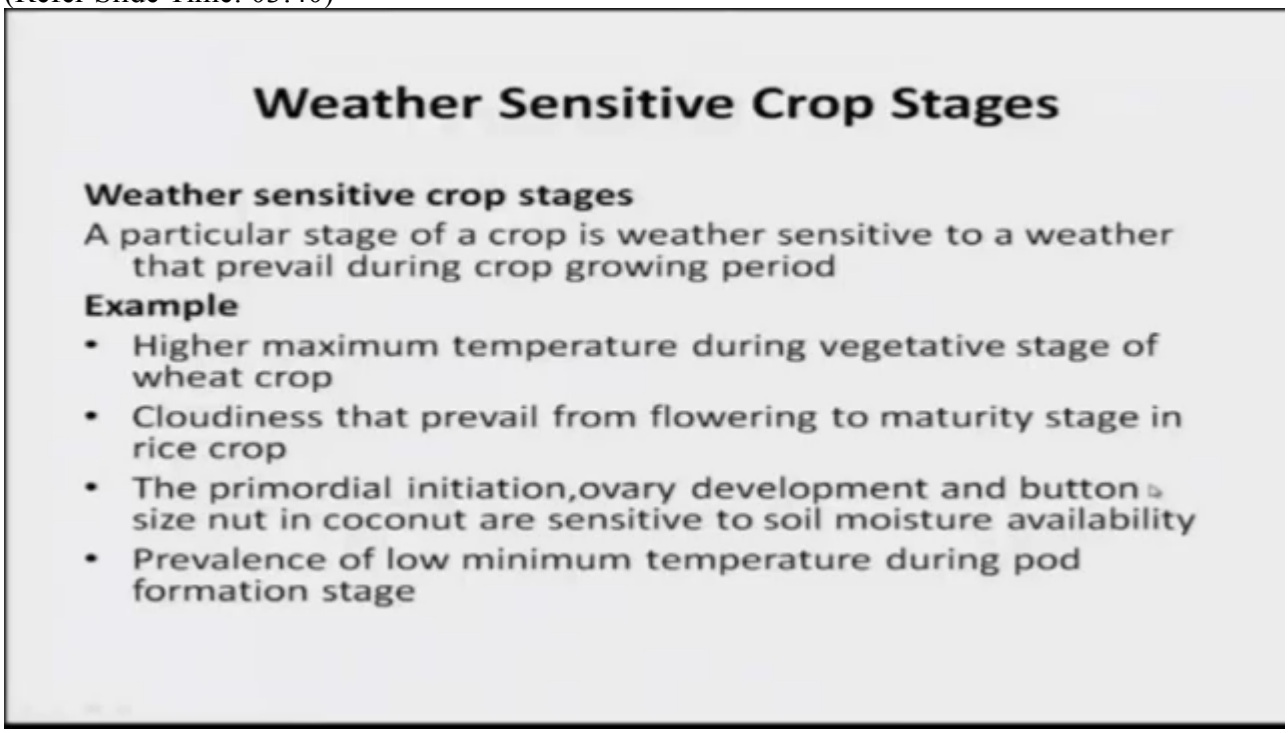

There are weather sensitive crop stages. A particular stage of a crop is weather sensitive to weather that prevailed during crop growing period. For example cotton is being grown across

the different countries. When a boil bursting is there it may occur under 15 days, if it rains it is highly weather sensitive. So accordingly we have to develop our agro advisories. Suppose if it is raining during boil bursting postpone your picking, go for next to sunny day for harvesting, like that you have to prepare weather sensitive stages.

Higher maximum temperature during vegetative stage of a wheat crop I told earlier. Cloudiness that prevailed from flowering to maturity stage in rice crop very very important. From flowering to 15 days earlier to harvest there must be a sunny day. They say that the radiation must be available to the rice crop to make the grains highly productive, so you will be getting more yield if it is there, otherwise your weed yield will get affected.

The primordial initiation and ovary development and button size nut in coconut are sensitive to soil moisture availability. Soil moisture means again under dry land situation it is with rainfall or under irrigated condition it with the groundwater. Groundwater is mainly controlled by your rainfall received in a particular climate whether it may be arid climate or semi-arid climate or sub-humid climate or your humid climate or per-humid climate, then prevalence of low minimum temperature during pod formation stage of ground that I have left it, pod is there, pod formation of stage of groundnut.

This I had a good experience with these crop. When I was working with some Indian resuscitation I could see that there was no pod developed in groundnut across more than 10,000 hectares in a particular district. The concerned extension officer asked me, what might be the reasons. We were examining so many reasons. We don't know what was happened in the area. Interestingly after review of literature I could see that the minimum temperature touring for a developer stage is very very low, your pod may not develop. Then we examined our local records. Interestingly, there was minimal temperature below 20 degree centigrade during about 20 to 30 days that made the crop steroid. So this pod formation stage is very sensitive to your temperature that is the information to be absorbed.
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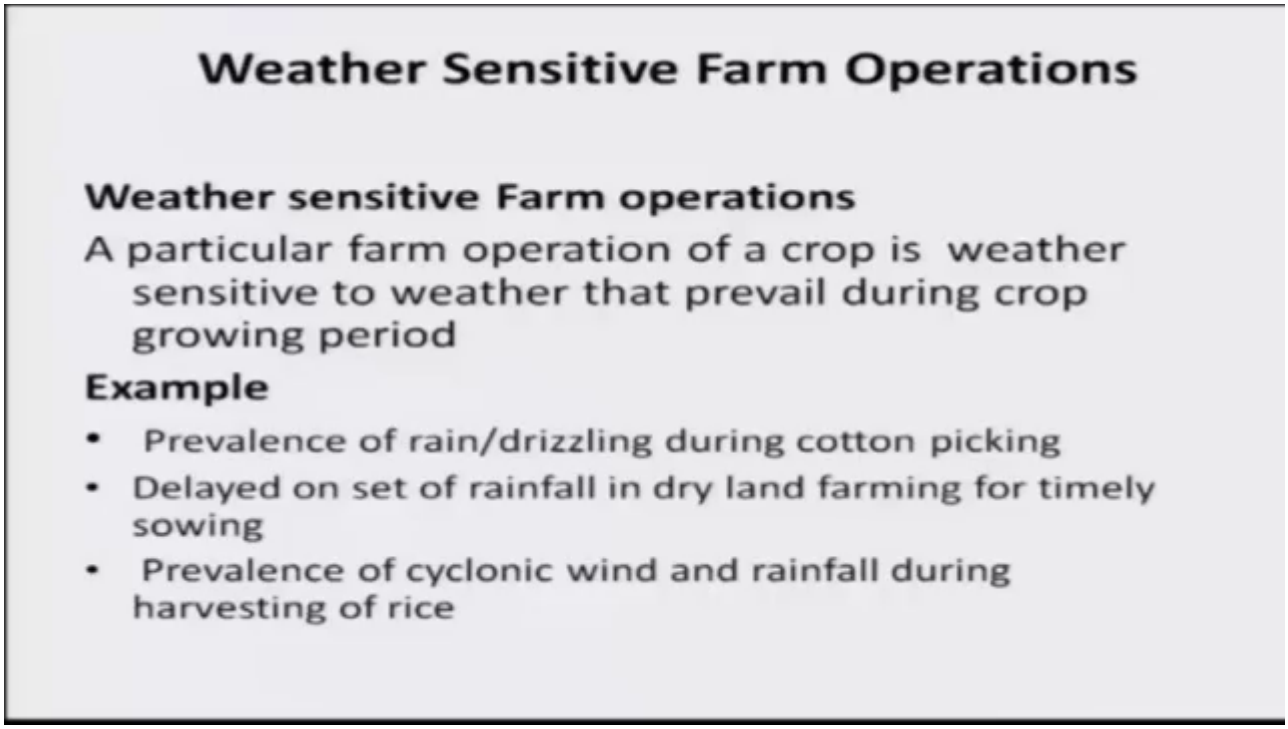

Then weather sensitive farm operations, as I indicated earlier a particular farm operation of your crop is weather sensitive to weather that prevail during the crop growing stage. This I was discussing about dry land and agriculture. Another one we have discussed already in detail when we were studying the wind, windward direction and leeward direction. Windward direction means from area from that point, wind comes to leeward means the wind goes. If you make plant version chemicals or dusting or spraying against opposite to your windward direction means there is a drifting, it may fall on the person who do the operation, he gets poisoned, number one, number two that is input efficiency is getting reduced. So these are all rather sensitive farm operations and the prevalence of cyclonic wind and rainfall during harvesting of rice. This is very important because in India about 43 million hectares we have rice.

If a cyclone exists means we will be losing our production very greatly and there is a crippling problem for our food availability and food demand. Now these are very very important. So as I told earlier crop production risk must be consider before developing agro advisories, weather sensitive crops, weather sensitive stages, weather sensitive farm operations how to be consider meticulously for developing 100% effective agro advisories. Thank you very much.