**Series beginning August 2015**



Program 8: Bean diseases 1

**Radio transcript – translation into English**

First broadcast 22 September 2015 on Radio Sauti ya Injili (Broadcast in Kiswahili). Farm Radio International facilitated the development of this program with technical and financial supported from CABI - Africa Soil Health Consortium program.

**Section 1:** English translation

**Section 2:** Kiswahili transcript

**Presenters:** Helen Madijongo and Samwel Shayo

**Expert:** Edith Kadege

**Farmers:**

Rashid Shabani Kimaro

Joani Amazi Msangi

Chonge Ramadhani

Abinu Ramadhani Mfinanga

Shaban Mfinanga

Jackline Amori Singa

**00:15 Music**

**00:00 Presenter:** Helen Madijongo

Dear listener, welcome to Kilimo ni utafiti radio program brought to you by Radio Sauti ya Injili Moshi.

This program talks about bean production where you are going to get a chance to participate by asking questions and get explanation from our bean farming expert.

Today we are going to look at disease attacking beans and how to fight the diseases, we are also going to be with beans farmer from Gona village Moshi and agriculture expert Edith Kadege from Selian Agricultural Research Institute in Arusha.

This program is brought to you by Radio Sauti ya Injili and Farm Radio International in Arusha, my name is Helen Madijongo. Welcome…

**Jingle Playing**

Dear listener, participate in this program by beeping number; 0687140142 hang up your call and wait for a while, you will receive a phone call.

Listen careful to the instructions and answer this week question by pressing corresponding number on your phone.

This week question is; which among the following diseases attacks you beans?

**Press 1**: If it is shrinking

**Press 2:** If it is Chule

**Press 3:** If it is mosaic

**Press 4**: If it is white mosaic

**Press 5**: If it is root diseases

**Press 6:** If it is other diseases

Participate now by beeping number: 0687240142

Listen to Kilimo ni Utafiti program every Tuesday at 6:00 pm and 6:30 pm

**02: 24** **Presenter:** Helen Madijongo

Dear listener you can participate by beeping number: 0687140142 or 0687140143 to register in this program, to be able to ask question and getting farming tips.

There are successful beans farmer, let’s listen to this farmer and hear how he fight pest and diseases on his land

**Farmer:** Rashid Shabani Kimaro

My name is Rashid Shabani Kimaro I am a common bean farmer, I have been growing beans since 1982. I grow soya in 6 acre and in every acre I expect to get 6 to 7 sacks of beans.

When I see my beans are affected I apply Dudu hole pesticide. If you grow beans and apply fertilizers and pesticides you will get good harvest that can improve your living standards because beans is marketable you can sell 1 sack of soya for 210,000 shillings.

**04:34** **Jingle Playing**

Dear Radio Sauti ya Injili Kilimo ni utafiti program listener, participate in this program by beeping number; 0687140142 your call will be hanged up wait for a while you will receive a phone call

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**05: 23 Presenter:** Helen Madijongo

Dear Kilimo ni Utafiti listeners, today I am at Gona Moshi Village in Kilimanjaro, I am with farmers and we are going to discuss about diseases affecting beans. We are going to know what diseases affect beans in this area. Farmers will introduce themselves and tell us which diseases affect their farms.

What is your name and tell me what diseases that affect your beans are?

**Farmer:** Joani Amazi Msangi

My name is Joani Amazi Msangi I live in Gona, mostly my beans is affected by Mosaic and insects that punctures the leaves

**Farmer:** Chonge Ramadhani

My name is Chenge Ramadhani I am beans farmer from Gona. Diseases that affect my beans are Mosaic, shrink, and cold

**Farmer:** Abinu Ramadhani Mfinanga

My name is Abinu Ramadhani Mfinanga, disease that attacks our beans are mosaic and shrink and red spider insects.

**Farmer:** Shaban Mfinanga

My name is Shaban Mfinanga. Diseases that affect my beans are mosaic disease, insects punctures beans leaves and seeds and leaves to change colour.

**Presenter:** Helen Madijongo

What are sign that shows you the beans are affected?

**Farmer:** Joani Amazi Msangi

You can see leaf change color become yellow at the early stage as if it is matured. When I see this, I apply pesticides.

**Farmer:** Chonge Ramathani

The bean leaves start to dry.

**Presenter:** Helen Madijongo

How do you fight these diseases?

**Farmer:** We are trying to apply pesticide that we have. When beans becomes yellow I apply pesticide and booster

**Presenter:** Helen Madijongo

Could you mention the pesticide name?

**Farmer:** We use pesticides like Blue copper and Zebo. I use AMIDA CPR, when beans is affected by mosaic I apply BAMIC

**Presenter:** Helen Madijongo

Joan, how do you fight beans diseases?

**Farmer:** Joani Amazi Msangi

When I see beans leaf becomes yellow I apply powder pesticide called IBORY 72 and sometimes I apply Super crone, I mix it with booster and apply on beans. I was trained by selian research institute

**Farmer:** Chonge Ramadhani

I apply AMIDA C, ATAKAN C, SPADEX, VERTIGO I select different pesticide depending on the insect attacked my beans, if you are not certain you can ask extension officers.

**11:00 Presenter:** Helen Madijongo

That was farmer discussion from Gori Village in Moshi explaining diseases symptoms and how they fight pest and diseases

This week question says; what are diseases affect your beans plants?

There are listeners that beeped number 0687140142 and other beeped 0687140143, lest listen to some of their voice.

**Message left by farmer:** First make sure there is enough light in the land second do weeding in time, and third use pesticides.

**Message left by a farmer:** Farmers should start planting when first rains start and they should remove weed on the land.

**Message left by a farmer:** Farmers should consider the following; do weeding in time, apply phosphate fertilizers, organic manure and apply pesticide.

**Message left by a farmer:** In high land beans root disease is common, beans roots dries. It is a common diseases here we have consulted extension officer but he said he has no knowledge of this but he is going to seek for more answers and he will get back to us.

**Message left by a farmer:** Ways to fight diseases is to apply pesticides, weed on time to kill pest host and also you can consult extensional officer.

**Message left by a farmer:** As I have mentioned earlier the best way to fight diseases is to apply pesticides and weeding on time.

**14:57 Presenter:** Helen Madijongo

Those were farmers who participate in this week question explaining how they fight against pest and diseases

Lest now listen to Jackline Singa from Gona Moshi Kilimanjaro explaining beans diseases symptoms and how to fighting diseases

**15:44** **Farmer:** Jackline Amori Singa

My name is Jackline Amori Singa. There are many diseases that affect beans like mosaic, fungus and kimamba.

**Presenter:** HelenMadijongo

How can you tell if your beans are affected by Kimamba?

**Farmer:** Jackline Amori Singa

You will see small insects like ants climb the beans stem.

**Presenter:** Helen Madijongo

Once you see kimamba, what do you do?

**Farmer:** Jackline Amori Singa

Before I use any pesticide I take one beans plant that is affected and show it to extension officer for advice - Usually for this case we apply Dasband or VIT

**Presenter:** Helen Madijongo

The other disease that you mentioned was mosaic.

How do you tell symptoms for mosaic?

**Farmer:** Jackline Amori Singa

You can see beans do not grow well and leaves tend to bend.

**Presenter:** Helen Madijongo

What pesticide do you use to fight mosaic?

**Farmer:** Jackline Singa

In one acre I apply Ivory 72 diluting 5 gram in 20 litres for seven days.

**Presenter:** Helen Madijongo

How do you tell if the beans are affected by fungus?

**Farmer:** Jackline Singa

You will tell when you see the beans plant is dry and when you uproot beans you will see the root are rotten.

There is no pesticide for fungi diseases, we have asked our extensional officer for help and he said there is a way to look at the soil before planting beans but it is expensive to measure the soil.

We simply try to avoid planting beans on land that water does not move, soil like this can be a habitat for fungus that attack beans.

**Presenter:** Helen Madijongo

You have mentioned white mosaic disease, how do you tell if beans is affected by this disease?

**Farmer:** Jackline Singa

There are small insects that populates lower part of beans leaves when beans plant is shaken white powder drops and almost whole plant changes color from green to yellow from 28th day after planting this symptom is mostly seen when beans start to give first flower

**Presenter:** Helen Madijongo

What pesticide kills this disease?

**Farmer:** Jackline Singa

We apply THIOVIT mixed with Ivory 72 powder. When you delay weeding or if there are neighbor crops that are affected can transmit this disease to beans, weed act as host for pests

Intercropping can help prevent diseases but the harvest is not as good as it would be in convectional farming. Plant like maize can protect beans from winds that might be carry infections

**21:38 Presenter:** Helen Madijongo

That was Jackline singer from Moshi Kilimanjaro explaining diseases that affect beans and how to prevent them

Lets listen to our expert Edith Kadege from Selian Agricultural Research Institute Arusha as interviewed by Samwel Sahyo

**Samwel Shayo**

Today we are looking at diseases affecting beans, we have our expert who is going to explain these diseases symptoms and how to fight them.

**Expert:** Edith Kadege

My name is Edith Kadege from Selian Agricultural Research Institute in Arusha, I am an expert on beans diseases.

Disease affect beans quality and quantity, we are supposed to find a way to fight diseases so as to get good harvest, but we must find a good way to fight pest and diseases that is not harmful for human and environment!

Here are the main beans diseases:

*Beans Anthracnose***:** This disease affect beans leaves, branches stem and seeds source of disease is affected seeds and remained affected seed in the land.

It is common in area with lots of rain and cold.

Symptom of this disease is lower part of beans to become red and black along bean leaf veins.

Good way to prevent this is by planting good seed with no infection, dig and bury beans remaining after harvesting and rotation farming, meaning if this year you have grown beans the next year grow maize.

Good pesticides are: Thionet, Methyl, Benomel and Cabendazin apply before the beans give flower.

*Angular leaf spot:* This disease affect leaf and beans seed. Source of disease is affected seeds and remained affected seed in the land. It is common in area with lots of rain. It affects upper part of the leaf form big dots on the leaf.

Good ways to prevent this is by planting good seed with no infection and mixed with pesticides, dig-in and bury beans remaining after harvesting and rotation farming, meaning if this year you have grown beans the next year grow maize.

This disease can be cured by Betternol, Chlorothanoly, Mangozb, Zineb and Metaram. Apply before the bean has given flower.

**Samwel Shayo**:

Do you think farmers know how to get these pesticides?

**Expert:** Edith Kadege

Mostly we advise farmer to consult agriculture expert near them so when they get these pesticides extension officers can show how to use it and to know the alternative pesticide because I might recommend type of pesticide but in the shop they might have a different one that cure the same disease

Another disease is *white mould*. This lives in the soil and attacks stem, beans and leaves.

Symptoms for this disease are white color mixed with grey color on top of beans leaf and later this color change, leaves become wet and later the leaf will start to be rotten and eventually the plant will dry.

Way to prevent this disease is by planting beans in line and in space to avoid plant touching another plant.

We advice farmer to plant in space as consulted by expert which is 50 cm from one line to another line of beans and 20 cm from one bean plant to another and put 2 beans in one hole.

Another way is to weed in time, consider a rotation of crops and farmers are advised not to attend farm when it is wet. Wait until the crops are dry to attend the farm, touching affected plant and touching another plant when it is wet can easly spread the disease. You can also use pestcides to cure the diseases SANSA and COPPER.

Another disease is *bean root nematode*. The affected plant roots forms node that have small worms inside, remember legumes have nodes in the root that fix nitrogen, do not confuse these nodes.

Other syptoms for this disease is leaf will start to dry and later plant will die. These worms live longer and attacks other crops in the land. It is mostly spread when cultivating the land and watering the crops.

Affected plant becomes weak and dry when you uproot the plant you will see nodules in the roots. Ways to fight this disease include plant treated seeds, cultivate well the land and avoid growing beans in area that retain water.

Plant seeds mixed with APRON STAR and apply METRO before beans gives flower, to cure the disease.

We do not encourage you to use pesticides always try prevent diseases by trying crops rotation, plant diseases resistant seeds.

29:39 **Presenter:** Helen Madijongo

Dear listerners that was Edith Kadege from Selian Agriculture Research Institute in Arusha, explaining the diseases affecting beans, including the symptoms and how to fight them.

This is the first session of these programs where we are talking about diseases that attack beans and how to fight them.

We have heard farmers from Gona Vollage Kilimanjaro, Edith Kadege from Selian Agricultural Research Institute. Keep Beeping the number 0687140142, to get agriculture tips and also be able to ask questions and give comments.

If you have questions or comments about this program, write to us through Kilimo ni utafiti, Redio Sauti ya Injili, BOX 777 Moshi or write an email to radio@elct.org or you can also contact an extension officer near you .

This program is brought to you by Radio Sauti ya Injili Moshi and Farm Radio International in Arusha.

On behalf all those participated in making of this program I say goodbye until next time, I am Helen Madijongo.

**31:05 Jingle**

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Program 8: Bean diseases

Section 2: Kiswahili transcript

**00:15 Mtangazaji**

Mpendwa msikiklizaji karibu katika kipindi cha Kilimo ni utafiti, katika kipindi hiki tutaongelea uzalishaji wa zao la maharage, utaweza kujifunza kwa kushiriki katika kipindi hiki kwa kuuliza maswali na kupata maelezo ya kina kutoka kwa mtaalamu wa kilimo

Leo tunakwenda kuangalia Magonjwa yanayoshambulia Maharage na jinsi ya kukabiliana na Magonjwa haya. Leo tutakuwa na Wakulima kutoka kijiji cha Gona Wilaya ya Kilimanjaro Moshi na pia tutakuwa na mtaalamu wa kilimo kutoka kituo cha utafiti cha Seliani Arusha

Kipindi hiki kinaletwa kwenu na redio sauti ya injili wakishirikiana na Farm radio international

Mimi mtangazaji wako, Helen Madijongo.

Karibuni!

**01:11 Jingo**

Mpendwa msikilizaji shiriki katika kipindi hiki cha kilimo ni utafiti kwa kubipu nammba: 0687140142

Baada ya kupiga simu yako itakatwa, subiri kidogo na utapigiwa simu kisha sikiliza kwa makini na fuata maelekezo kuweza kushiriki katika swali la wiki hii lisemalo; Ni yapi kati ya magojwa yafuatayo yanashambulia maharage yako? Bonyeza;

1 kama ni kusinyaa

2 kama ni Chule

3 kama ni ukungu

4 kama ni ukungu mweupe

5 kama ni magonjwa ya mizizi na

6 kama ni magonjwa mengineyo

Sikiliza kipindi cha kilimo ni utafiti kila siku ya jumanne kwanzia saa 12 jioni mpaka saa 12 na nusu.

Kuna wakulima waliopata mafanikio makubwa kwa kulima Maharage, embu tuwasikilize wanavytuelezea jinsi wananavyopambana na magonjwa na wadudu wanaoshambulia maharage.

Sauti ya mkulima.

Jina langu ni Rashidi Shabani Kimaro, mimi mkulima stadi wa maharage tofauti na kilimo kingine mimi nimeanza kulima maharage tangu mwaka 1982. Ninalima shamba la ekari 6 na katika kila hekari moja ninategemea kuvuna magunia 6 mpaka 7 ya maharage

Huwa ninapoona maharage yangu yanadalili za kushambuliwa na wadudu au magonjwa ninapulizia dawa ya Dudu hole, huwa siweki mbolea za viwandani natumia mbolea ya samadi tu. Unapoweka dawa za kuuwa wadudu na kulima kilimo cha mbolea unaweza kupata mazao mazuri yatakayo boresha maisha yako, maharage yanasoko kwa sasa gunia la soya linaweza kuuzwa hata kwa shilingi 210,000

**04:34** **Jingo**

Mpendwa msikilizaji shiriki katika kipindi hiki cha kilimo ni utafiti kwa kubipu nammba: 0687140142.

Baada ya kupiga simu yako itakatwa, subiri kidogo na utapigiwa simu kisha sikiliza kwa makini na fuata maelekezo kuweza kushiriki katika swali la wiki hii lisemalo; Ni yapi kati ya magojwa yafuatayo yanashambulia maharage yako? Bonyeza:

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2 Kama ni Chule

3 Kama ni ukungu

4 Kama ni ukungu mweupe

5 Kama ni magonjwa ya mizizi na

6 Kama ni magonjwa mengineyo

Shriki sasa kwa kupiga namba 07687140142.

Sikiliza kipindi cha kilimo ni utafiti kila siku ya jumanne kwanzia saa 12 jioni mpaka saa 12 na nusu.

**05: 23 Mtangazai**

Mpendwa Msikilizaji leo niko katika kijiji cha Gona Mkoani Kilimanjaro Moshi, Leo tutakuwa na mjadala juu ya magonjwa yanayoshambulia maharage Kijijini hapa na hapa niko na wakulima wa maharage, watakwenda kujitambulisha na kutuelezea magonjwa yanayoshambulia mazao yao ya maharage

Jina lako nani na ni magonjwa gani yanashambulia maharage yako;

**Sauti za wakulima**

Jina langu ni Joani Amazi Msangi Naishi kijiji cha Gona, mimi ni mkulima wa Maharage.

Maharage yanashambuliwa na ukungu na wadudu wanao toboa majani ya maharage

Ninaitwa Chenge Ramadhani, mimi ni mkulima wa maharage kutoka kijiji cha Gona magonjwa yanayo athiri maharage yangu ni ukungu, kusinyaa na ugonjwa wa baridi

Mimi naitwa Abinu ramadhani mfinanga, Magojwa yanayo shambulia maharage yangu ni ukungu, ugonjwa ule wa kusinyaa na red spider

Jina langu ni Shaban Mfinanga, Magonjwa yanayoshambulia maharage hapa gona san asana no Ukungu, wadudu wale wanao toboa majani ya maharage na magojwa mengine ni lile la kubadilisha rangi ya maharage

Mtangazaji: Ni dalili zipi unaziona kuweza kujua kwamba maharage yameathirika?

**Sauti za wakulima**

Joan:

Huwa na angalia majani ya maharage, unakuta yamebadilika rangi na kuwa ya njano wakati bado maharage ni madogo, yanakuwa kama vile yamekomaa, huwa nikiona hivi napiga dawa

**Chonge Ramathani:**

Majani ya maharage yanaanza kukauka

**Mtangazaji**: Unakabilianaje na magonjwa haya?

**Sauti za wakulima**

Tunapiga madawa, maharage yangu nanapoanza kuwa na rangi ya njano ninapiga dawa za kuuwa wadudu na kuichanganya na booster kusaidia maharage kukuwa

**Mtangazaji**: Unaweza kutaja jina la dawa unayopiga?

Ninapiga dawa kamaBlue copper na Zebo

Ninatumia AMIDA CPR, maharage yanaposhmabuliwa na ukungu ninapiga BAMIC.

**Watangazaji**; Joan, unakabilianaje na magojwa yanayoshambulia maharage?

Ninapoona maharage yamebadilika rangi na kuwa njano ninatumia dawa za unga ittwayo IBORY 72 na maranyingine ninatumia Super crone, ninachanganya na booster na kupulizia kwenye maharage. Mafunzo haya nimeyapata kutoka kituo cha Utafiti cha seliani

Chonge Ramadhani: Ninapiga AMIDA C, ATAKAN C, SPADEX, VERTIGO ninachagua dawa kulingana na aina ya ugonjwa au wadudu wanao shambulia maharage, kuwa na uhakika zaido unaweza ukaonana na mtaalamu wa kilimo aliye karibu na wewe

**11:00 Mtangazaji**

Hao basi walikuwa ni wakulima kutoka kijiji cha Gori Moshi wakielezea daliliza magonjwa ya maharage na jinsi wanavykabiliana na magonjwa ya maharage

Swali la wiki hii linasema; Ni magonjwa gani yanashambulia maharage?

 Kuna wasikilizaji ambao tayari wameshiriki kwa kubipu namaba; 0687140142 na wengine wamebipu namaba, embu basi tusikie sauti zao;

**Sauti za wakulima zilizo rekodiwa**

Kwaza ninahakikisha shamba lina uwazi wakutosha na pili fanya palizi kwa muda na tatu pulizia dawa za kuuwa wadudu

Wakulima wanapaswa kuanza kilimo baada ya mvua za kwanza kunyesha na watoe magugu shambani

Wakulima wanatakiwa kufanya palizi kwa muda , weka mbolea au mbolea za samadi na kupuliza dawa za kuuwa wadudu

Katika kanda za juu magonjwa yanayoshambulia mizizi yanasumbua sana, mizizi inakauka ikifuatiwa na shina la maharage. Tume omba ushauri kwa mtaalamu wa kilimo lakini anasema bado hajui dawa za kuuwa ugonjwa huu anafuatilia kwa wataalumu wengine

Jinsi ya kukabiliana na magonjwa ni kutumia madawa na kufanya palizi kwa mda, magugu yanaweza kutunza wadudu waharibifu na pia unaweza kuwasiliana na afisa ugani.

Kama nilivyosema awali unaweza kukabiliana na magonjwa kwa kupiga madawa na kufanya palizi kwa muda.

**14:57 Mtangazaji**

Hao ndio wasikilizaji walio shiriki katika swali la wiki hiii wakielezea jinsi wanavyo pambana na magonjwa na wadudu waharibifu.

Sasa tumsikilize Jackline Singa kutoka Gona Moshi Kilimanjaro akielezea magonja ya maharage na dalili za magonjwa na jinsi ya kupambana na magonjwa haya.

**15:44 Mahojiani na wakulima**

Jina langu ni Jackline Amori Singa, kuna magonjwa mengi yanayo athiri kama ukungu, fungus na kimamba.

**Mtangazaji:** Unawezaje kujua kama maharage yameshambuliwa na kimamba?

Utaona wadudu wadogo wadogo katika shina la maharage

**Mtangazaji:** unafanyaje baada ya kuona kimamba?

Kabla sijatumia dawa yeyote ninang’oa mmea mmoja ulioathirika na kumuonyesha afisa ugani ili kupata ushauri.

Kwa ugonjwa wa Kimamba huwa tunapiga Dasband au VIT.

**Mtangazaji:** magonjwa mengine uliyotaja ni ukungu, je utatambuaje kama maharage yameshambuliwa na ukungu?

Utaona Maharage yanadumaa kukuwa na majani yanajikunja.

**Mtangazaji:**Unatumia dawa gani kuuwa ukungu?

Ninapiga Ivory 72 5 grams nachanganya na lita 20 na kupulizia katika shamba la ekari moja

**Mtangazaji**: Je ugonjwa wa Fangasi utajuaje kuwa maharage yameshambuliwa na fangasi?

Utajua pale ambapo utaona maharage yamekauka na utakapong’oa mmea mizizi itakuwa imeoza

Tunajaribu kutopanda maharage katika maeneo yanayotuwamisha maji, maeneo haya yanaweza kuwa hifadhi ya fangasi

**Mtangazaji:** Pia umetaja ugonjwa wa ukungu unajuaje kuwa maharage yameshambuliwa na ukungu?

Kutakuwa na wadudu wadogo wanaokaa chini ya jani la maharage na unapotingisha mti wa maharage unga mweupe unadondoka na mmea unabadilika rangi kuwa wa njano, dalili hizi hutokea sana baada ya siku 28 baada ya kupanda maharage, pindi tu maharage yanapotoa maua ya kwanza

**Mtangazaji**: ni dawa gani inauwa ugonjwa huu?

Tuna piga THIOVIT na kuchanganya na 72 ya unga. Unapochelewa kupiga dawa au panapokuwa na mazao eneo jirani ambayo yameathirika yanaweza kuambukiza ugonjwa huu na magugu yanaweza kuwa mazalia ya wadudu waharibifu

Kilimo mseto kinaweza kukinga maharage yasishambuliwe na magonjwa lakini mavuno yake sio mengi kama mavuno ya kilimo cha zao moja.

Mazao kama Mahindi yanaweza kukinga maharage thidi ya upepo unaobeba magonjwa

**21:38 Mtangazaji**

Huyo alikuwa ni Jackline Singer Kutoka Moshi Kilimanjaro akielezea magonjwa yanayo shambulia maharage na jinsi ya kukabiliana nayo

Sasa tumsikilize mtaalamu wetu Edith Kadege kutoka Selian Kituo cha utafiti Arusha akihojiwa na Samwel.

Samwel shayo: Leo tunaangalia magonjwa yanayoshambulia zao la maharage na namna ya kuyakabili, tuko na mtaalamu wetu atakaye elezea dalili za magonjwa na jinsi ya kukabiliana nayo.

**Mtaalamu**

Jina Langu ni Edith Kadege kutoka kituo cha utafiti cha selian mkoani Arusha, Mimi ni mtaalamu wa Magonjwa ya Maharage.

Magonjwa yanaathiri ubora na kiwango cha uzalishani wa maharage , kama wakulima tunalazimika kutumia mbinu mbali mabli kukabiliana na changamoto hii, tunalazimika tuwe na ufahamu mzuri wa kisababishi wa tatizo lenyewe na tutumie mbinu halali ambayo ni salama kwa binadamu na mazingira.

Magonjwa makuu ya Maharage.

Ugonjwa wa kwanza ni ugonjwa unaoitwa chule, kitaalamu unajulikana kama bean anthracnose. Ugonjwa huu hushambulia majani, matawi, shina na mbegu. Viini vya ugonjwa huishi kwenye mbegu na masalia ya maharage shambani, hushamiri wakati wa mvua nyingi hasa sehemu zenye baridi. Dalili za ugonjwa huu ni pamoja na upande wa chini wa jani la maharage kuwa na rangi nyekundu yenye mchanganyiko na nyeusi iliyokomaa ikifutata mistari ya jani lamahage.

Mbinu zinazo faa kuzuia ugonjwa huu ni kupanda mbegu bora zenye uhimili, kupanda mbegu bora zisizo na magonjwa zilizo hakikiwa na kuchanganywa na dawa, kulima na kufukia masalia ya maharage mara baada ya kuvuna na kuzingatia kilimo mzunguko miaka miwili mpaka mitatu. Kilimo mzunguko inamaanisha, mwaka huu au msimu huu umepanda maharage basi msimu unaofuata usipande tena maharage panda mahindi na mwaka unaofuata panda jamii ya Mboga mboga.

Dawa ya kutibu ugonjwa huu ni; THIONET, METHYLY, BENOMEL na CABENDAZIN kabla ya maharage kuchanua

Ugonjwa wa pili ni Baka Pembe au kitaalamu tunaita Angula Leaf spot. Ugonjwa huu hushambulia majani mifuko ya maharage na mbegu, viini ya ugonjwa vinaishi kwenye mbegu na masalia ya maharage shambani. Ugonjwa huu hushamiri wakati wa mvua nyingi na joto la wastani, hutokea kwenye majani ya juu huwa na michirizi ya mizunguko ambayo ni mikubwa kuliko nukta kwenye majani matatu ya maharage.

Mbinu zinazofaa kuzuia ugonjwa huu ni kupanda mbegu bora zenye uhimili, panda mbegu zisizo na magonjwa ambazo zimehakikiwa na kuchanganywa na dawa, kulima na kufukia masalia ya maharage mara baada ya kuvuna, kuzingatia kilimo mzunguko miaka miwili mpaka mitatu na dawa ya kutibu ugonjwa huu ni kama BETANOL, CHLOROTHANOLINE, MANGOZE, ZINEB na AMETARAM kabla ya maharage kuchanua.

**Samwel Shayo**

Unapoelezea viwatilifu…mkulima anaelewa maana ya hizi dawa na namna ambayo zinapatikana?

Mara nyingi tunawashauri wakulima kwanza akutane na mtaalamu wa kiliomo aliyekaribu naye, kwahiyo ninavyo zitaja hizo dawa ni kwamba yeye pia anatakiwa aende kumuona mtaalamu ili amsaidia kuona ile dawa inatumikaje na pia kuona mbadala wa ile dawa kwasababu wakati mwingine huenda duka atakalo asiikute dawa ila lakini ikawa mbadala wa dawa hiyo ipo

Anatakiwa amuone mtaalamu iliampatie ni dawa gani inapatikana kwa ugonjwa husika.

Ugonjwa mwingine ni kuvu nyeupe ambao kitaalamu tunaita white mold. Viini vya ugonjwa huu huishi kwenye udongo, hushambulia shina, mifuko na majani ya mimea. Dalili za ugonjwa huu ni pamoja na weupe ulio chnganyikana na rangi ya kijivu au kijani kuonekana juu ya majani na mifuko ya maharage, baadaye ukijani huu hubadilika na kuwa na rangi ya maji maji ikiwa na utelezi na baadaye inaanza kuoza na hatimaye mmea unaanza kukauka.

Mbinu zinazofaa kuzuia ugonjwa huu ni kuepuka msongamani wa mimea kwa muzingatia nafasi ya msatari mpaka mstari iliyopendekezwa na wataalamu tunashauri wakulima wapande maharage kwa nafasi ambayo wameshauriwa na wataalamu ambayo ni sentimita 50 kati ya mstari na mstari na sentimita 20 kati yam mea na mmea maharage 2 kwa shimo moja. Njia nyimgine ni kupalilia kwa wakati na kuzingatia kilimo mzunguko lakini pia tunashuri wakulima msipite katika shamba lililoathirika, yaani kama unahudumia mmea unyevu wa mvua ni rahisi sana huu ugonjwa kutoka jani moja kwenda jingine kama mkulima atapika kwenye hilo shamba tnashauri asubiri unyevu ukauke ndipo aweze kupita Unaweza kutumia dawa kuzuia ugonjwa huu kama umeshatokea amabo ni SANSA na COPPER

Ugonjwa mwingine ni minyoo fundo kitaalamu tunaita root note nematot, mizizi ya ugonjwa huu inakuwa na uvimbe ndani yake kunakuwa na minyoo midogomidogo, kumbuka kwamba mizzi ya maharage pia inaviuvimbe ambavyo husababishwa na bacteria rafiki kwahiyo tusiichanganye hii mizizi.

Dalili tofauti unayeweza kuiona ni baathi ya majani ya mimea itaanza kukauka na hasa wakati wa jua kali na baadaye mmea utakufa, minyoo hii inaishi kwa muda mrefu na kushambulia jamii tofauti za mmea husambaa kwa urahisi wakati wa kulima na kumwagilia mmea ulio shambuliwa husinyaa na kuanza kunyauka na ukingoa mmea utaona vifundo.

Mbinu zinazofaa kuzuia ugonjwa huu ni kupanda iliyochanganywa na dawa, panda aina yenye uhimili, tifua na kulainisha vizuri udongo wakati wa kulima, epuka sehemu ambazo maji yanatuwama. Dawa ni kupanda mbegu iliyowekwa dawa aina ya APRON STAR na kupiga dawa ya METRO kabala maharage kuchanua. Hatushauri sana kutumia dawa, kutumia dawa iwe ni mbuni kwamba sasa ugonjwa umeshatokea, jitahidi kutumia mbinu mbadala kama kilimo mzinguko, kupanda mbegu zinazostahimili ugonjwa zilizowekwa dawa kabala hujapiga dawa shambani

**29:39 Mtangazaji**

Naam msikilizaji ni mtaalamu edith Kadege Kutoka kituo cha utafiti wa kilimo na maendeleo kanda ya kaskazini Seliani Arusha akielezea magonjwa yanayo athiri maharage, dalili zake na namna ya kuthibiti. Msikilizaji hii ni sehemu ya kwanza ya kipindi hiki ambapo tunazungumzia magonjwa, wiki ijayo tutaendelea kuzingumzia magonjwa yanyoathiri maharage na namna ya kuthibiti

Tumewasikia wataalamu wa kilimo kutoka Gona Kilimanjaro na pia tumemsikia mtaalamu wa kilimo Edith Kadege kutoka kituo cha utafiti wa kilimo na maendelea kanda ya kasakazini Seliani Arusha

Msikilizaji endelea kubipu namba; 0687140142 ili uweze kupata dondoo lakni pia uweze kuuliza swali pamoja na kutoa ushauri wako

Ukiwa na swali mapendekezo na ushauri kuhusu kipindi hiki, tuandikie kwa mtayarishaji wa kipindi kilimo ni utafiti redio sauti ya injili sanduku la barua 777 Moshi Tanzania au unaweza kuwasiliana nasi kwanjia ya email; radio@elct.org unaweza pia kuwasiliana na mtaalamu wa kilimo aliyeko karibu na wewe.

Kipindi hiki kinaletwa kwako kwa ushirikiano wa redio sauti ya injili moshi na farmradio international, kwa niaba ya wote walioandaa kipindi hiki mimi ni Helen Madijongo, hadi wakati mwingine, Kwaheri!

**31:05 Jingo**

Mpendwa msikilizaji shiriki katika kipindi hiki cha kilimo ni utafiti kwa kubipu nammba: 0687140142.

Baada ya kupiga simu yako itakatwa, subiri baada ya muda mfupi na utapigiwa simu kisha sikiliza kwa makini na fuata maelekezo kuweza kushiriki katika swali la wiki hii lisemalo; Ni yapi kati ya magojwa yafuatayo yanashambulia maharage yako? Bonyeza;

1 kama ni kusinyaa

2 kama ni Chule

3 kama ni ukungu

4 kama ni ukungu mweupe

5 kama ni magonjwa ya mizizi na

6 kama ni magonjwa mengineyo

Shriki sasa kwa kupiga namba 07687140142

Sikiliza kipindi cha kilimo ni utafiti kila siku ya jumanne kwanzia saa 12 jioni mpaka saa 12 na nusu.