Lecture 21 - Diseases of Tea

Blister blight – *Exobasidium vexans*

Symptoms

Small pale or pinkish circular spots appear on leaves and attain a size of 2.5 cm diameter. The spots in the upper surface of the leaf becomes light brown in color and depressed while in under surface of leaf it bulges farming a blister like swelling. Lower budget portion is covered with a white powdery growth of fungus. When many spots coursers, curling of leaves will occur. When it spreads to young succulent stems affected portion are withered. The leaf yield is reduced vigor of the tea bush is affected.

Pathogen

The mycelium is confined to the blistered areas on the leaves. They are septae and collect in bundles below the lower epidermis. Later by rupturing the epidermisa continuous layer of vertical hyphae are projected on the surface of spot. The fungus produces two kind of spores viz.,the conidia and basidiospores. The conidia are most abundant, borne singly at the tip of long stalks. Basidia are formed on the surface in large number but never form a continuous hymenium.

Mode of spread and survival

The fungus completes its life cycle in 11-28 days and several generations of spores are produced in a season. It produces conidia and basidiospores in the same blister. Spores are air borne. The perpetuation of the fungus appears to be form the pre existing infected bushes.

Management

Removal and destruction of the affected portion. Spraying with Copper oxychloride 0.25 % in effective. Spray with 210 g of COC + 210 g nickel chloride/ha at 5 days interval from June – September and 11 days interval in October – November gives economic control. Spraying with

systemic insecticides like Atemi 50 SL at 400 ml/ha (or) Baycor (300 EC) at 340 ml/ha a weekly interval is also effective. Chlorotalonil, Bayleton, tridemorph is also effective. Tridemorph at 340 and 60 ml/ha is satin factory under mild and moderate rainfall condition.

Black rot

Symptoms

Small dark brown irregular spots appear on leaf. They coalesce to produce a dark brown patch which eventually covers the whole leaf and drop off. Before the leaf turns black the lower surface assumes a white powdery appearance.

Pathogen

Corticium invisum and *C. theae*

Mode of spread and Survival

Basidiospores carried by workers. The disease develops rapidly when temperature is high and air is humid. At the beginning of rainfall they germinate and produce hyphae which start fresh infection.

Epidemiology

Occur in nursery shaded with Crotalaria. Basidiospores germinate only in wet weather or when leaves are covered with dew.

Management

Prune in December end, remove the prunings immediately, burn after drying. Collect all dead and dried leaves. Spray a copper fungide in third week of April.

Red rust: C*ephaleurus mycoidea*

Symptoms

Orange yellow, circular patches appear on upper surface of leaves. The spots become brown and dry up. When it affects the given stem it hardens prematurely.

Pathogen

C*ephaleurus mycoidea* also attacks *Tephrosia* sp. and *Desmodium gyroides* grown as green manure and shade.

Epidemiology

Rainy season is best suited for propagation of algae.

Management

Removal of infected portion and spraying with Copper oxychloride 0.25 %

Black root: *Rosellina areuata*

Symptoms

The fungus originate from the dead heaped leaves of 5 – 7.5 above the soil level. From there if spreads to roots region of tea bushes. When bark is removed star like growth of mycelium can be seen. At the surface of the soil the mycelium surrounds the stem and kills the bank for the length of 7.5 – 10.0 cm. A swollen ring of tissue is formed round the stem above the dead patch.

Pathogen

The fungus produces two kinds of fructification, a conidial stage and a perithecial stage. The conidia are borne on short bristle like stalks. The perithecia are black and spherical. They bear asci which in turn bear ascospores.

Mode of spread

The disease is spread by wind

Management:

Removal and destruction of infected plant. Clean cultivation with out fallen leaves

Dig a drench around the infected bush to provide sunlight in the drench which prevent the spread of mycelium.