

### Key to Fungous Diseases of Some Common Fruits.

In his 1904 annual report, Prof. Lochhead, Professor of Biology, O. A. C., Guelph, presents a concise and useful key to the various fungous diseases which attack some of our common classes of fruits. For its value as a reference, we reprint the part dealing with the diseases of some of the more common fruits:

#### FUNGOUS DISEASES OF THE APPLE.

- A. The Roots:—**
- Enlargements near the ground, mainly on nursery stock. Crown Gall (*Dendrophagus globosus*).
- B. Stems and Twigs:—**
- Irregular or somewhat concentric open wounds, the bark being first destroyed. Apple-Tree Cankers (*Nectria ditissima*), (*Sphaeropsis malorum*) and (*Glomerella rufomaculans*).
  - Bark becomes black or dark brown; the inner bark and cambium layer destroyed. Tree has appearance of being scorched. Twig Blight (*Bacillus amylovorus*).
- C. Leaves:—**
- Small, roundish, smoky-greenish spots appear on upper surface which soon run together, forming irregular, blackish blotches. Apple Scab (*Fusicladium dendriticum*) (*Venturia inaequalis*).
  - White patches appear on both surfaces of young leaves and run together, forming a white felt. Powdery Mildew (*Podosphaera oxycanthae*).
  - Leaves become blistered, with orange-yellow spots on upper surface and scurfy bunches on the lower. Leaves may become distorted. Apple Rust (*Gymnosporangium macropus*).
- D. Fruit:—**
- Minute spots appear on half-grown apple, gradually enlarging, and running together, forming irregular patches. Black points often in concentric circles form on the patches. Ripe or Bitter Rot (*Gloeosporium fructigenum*) (*Glomerella rufomaculans*).
  - Scabby patches appear on fruit. Apple Scab (*Fusicladium dendriticum*) (*Venturia inaequalis*).
  - Sooty patches, accompanied by specks, appear on the fruit. Sooty or Fly-speck Fungus (*Leptothyrium pomi*).

#### FUNGOUS DISEASES OF BRAMBLES.

- A. The Leaves:—**
- Orange-red patches on the under surface of the leaves, forming a sort of waxy layer of orange-red spores. Orange Rust (*Cæoma nitens*, *Puccinia Peckiana*).
  - Light-colored, powder-like coarse dust or raised black dots on the under surface. Leaf Rusts (*Phragmidium rubi* and *P. Rubidæi*).
  - At first small reddish spots, increasing in size and forming irregular areas, gray in center and red on the margin. Anthracnose (*Gloeosporium venetum*).
  - Small brown or light-colored spots. Leaf spots (*Septoria rubi* and *Cylindrosporium rubi*).
- B. The Stem:—**
- At first small reddish spots on young canes, increasing in size, forming irregular areas, gray in the center, red on the margin. Anthracnose (*Gloeosporium venetum*).
  - The canes suddenly wilt about fruit-ripening time, the bark and wood of cane at some points are discolored. Cane Blight (*Coniothyrium rubi*).
  - Stunted growth, mottled yellowish-green foliage, and dry, insipid fruit. Yellows.
  - Rough, warty knots on canes, with small whitish eruptions surrounding the central knot, not common. Cane Knot.
- C. The Roots:—**
- Rough, knotty growth on the roots, granular, and becoming dark when old. Crown Gall (*Dendrophagus globosus*).

#### FUNGUS OF THE GROSELLES.

- A. Leaves:—**
- Cobweb-like patches first appear, later minute dark-brown bodies on the leaves of Gooseberry—usually worst on English varieties. Gooseberry Mildew (*Sphaerotheca morsuvæ*).
  - Dull brown spots appear in June and July on the upper surface of the leaves, which turn yellow and fall. Anthracnose (*Gloeosporium ribis*).
  - The leaves have a brown spotted appearance, and fall prematurely. Leaf Spot (*Septoria ribis*).
  - The presence of yellow "cluster-cups" on the leaves. Gooseberry Cluster-Cup (*Aecidium grossulariæ*).

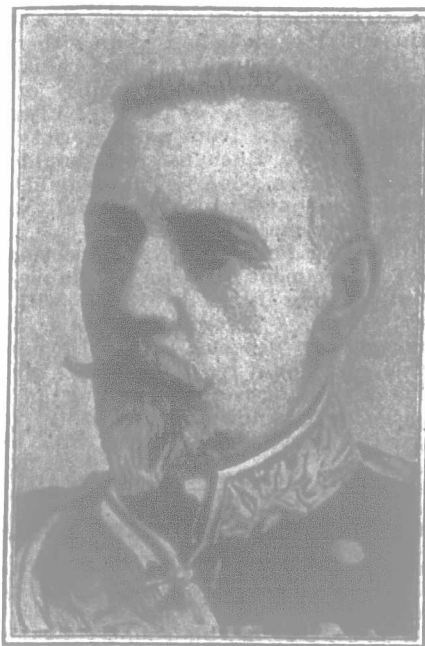
#### B. Canes and Shoots:—

- The tender tips of young shoots of Gooseberry covered with cobweb-like patches. Gooseberry Mildew (*Sphaerotheca morsuvæ*).
- Leaves of Currant wilt, color, and fall; fruit cluster shrivel and fall; the canes die rapidly. Pink tubercles of a fungus appear on dead canes. Currant Tubercle (*Tubercularia vulgaris*)—Conical stage of *Nectria cinnabarina*.

#### C. Fruit:—

- Cobweb-like patches occur on the fruit of gooseberry. Mildew (*Sphaerotheca morsuvæ*).
- Yellow blisters (Cluster-cups). Gooseberry Cluster-Cup (*Aecidium grossulariæ*).

### NEWS OF THE DAY.



Admiral Brileff.

A pointed to command of the defences at Vladivostok.

#### Canadian.

The Ontario Bureau of Mines is sending out several parties who will make a systematic exploration of New Ontario, with a view to finding out its wealth in minerals.

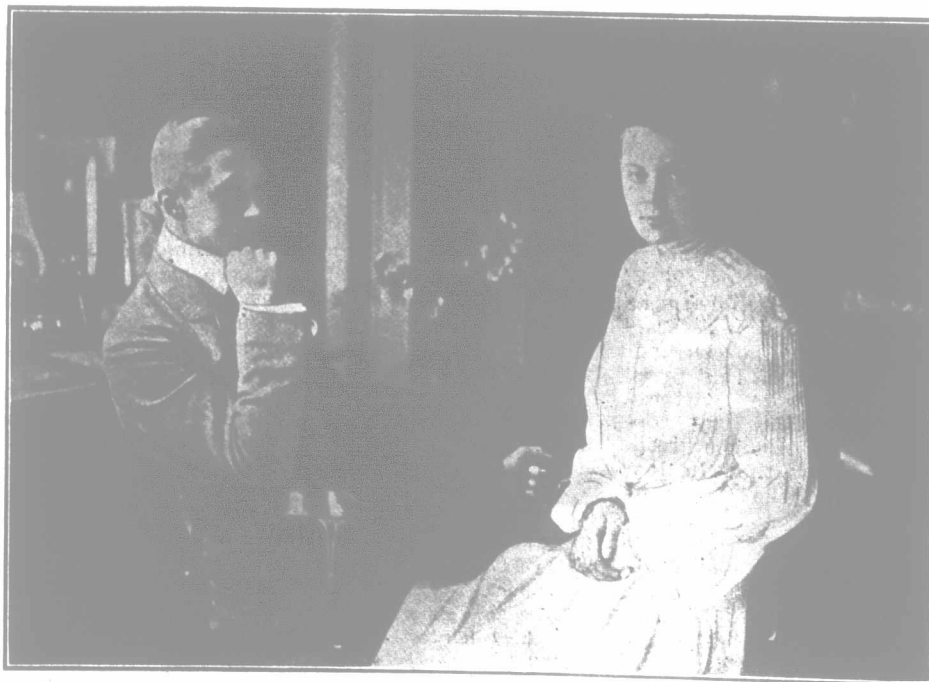
A resolution approving of the appointment of a Minister of Health has been passed by the Ontario Medical Association.

Mr. C. C. Castle, Warehouse Commissioner at Winnipeg, estimates the total acreage under all crops in the Canadian West at 5,800,000. Last year's acreage approximated 4,500,000, so that this year will show an increase of over 1,000,000 acres.

#### British and Foreign.

By an earthquake at Scutari, Albania, 500 people have been killed and 250 injured. The town was almost completely devastated.

The Russian steamer Variag, sunk near the begin-



Crown Prince Frederick William of Germany and His Bride.

ning of the war, has been raised by the Japanese, and will add another unit to Japan's growing navy.

Owing to his disagreement with the rest of the Cabinet over the Moroccan question, M. Delcasse has resigned as French Minister of Foreign Affairs.

A bomb factory has been discovered at the Phoenix foundry in St. Petersburg, and many people were imprisoned in consequence.

Submarine boat "A-8" was lost off the breakwater at Plymouth, England, on June 8th, and fourteen of her crew were drowned. An explosion on board was the cause of the accident.

In the bringing about of a possible peace between Japan and Russia, which seems to be assuming definite form at last, the United States of America is taking a creditable part. A note from President Roosevelt bearing upon the subject was despatched on June 8th to the Japanese and Russian Governments, with the suggestion that peace negotiations be carried on directly between the two nations without the mediation of any other nation. Upon receiving it Japan and Russia both signified their willingness to appoint representatives to confer as to the matter, Russia choosing Paris as the place at which the negotiations might be conducted. Whether the war will close or not will depend on whether the conditions offered by Japan will be such as Russia can accept. For the present it is understood that a formal truce will be proclaimed as soon as the place of meeting of the plenipotentiaries has been decided upon.

The strained relations which have so long existed between Norway and Sweden have at last come to a head, in the withdrawal of Norway from the union, and her declaration that King Oscar is no longer King of Norway, but of Sweden alone. Ever since the consummation of the Union in 1814, differences have arisen as to the interpretation of its character, and Norway has continually felt that her constitutional rights and independence were being interfered with. The fact that Sweden is protectionist, while Norway is for free trade, has still further tended to widen the breach. The immediate cause of the present quarrel, however, is a disagreement over the consular system, Norway having asked for a separate consular service, which would, of course, entail a Norwegian Minister for Foreign Affairs, and leave the person of King Oscar the only remaining bond of union. King Oscar refused to grant the demand, and the Storting immediately passed a resolution deposing him as King of the Norwegians. For the present a State Council is conducting the Government, but the probabilities are that the throne will be offered to Prince Waldemar, third son of King Christian of Denmark. In case he refuses to accept it a Republic may be set up.

#### Wedding of the German Crown Prince.

All Europe has been set a flutter by the recent marriage of Frederick William, Crown Prince of Germany, with Cecilia, Duchess of Mecklenburg-Schwerin, which was consummated with all the splendor that characterizes a European royal wedding, and all the quaintness that clings to the especially German ceremony. The wedding took place June 6th, but the Duchess entered Berlin on June 3rd, arriving in the morning. In the afternoon the elaborate procession which always characterizes the advent of a future Empress paraded the streets of the city. An hour before it set out the Crown Prince, according to traditional custom, led his company of foot-guards over the route, acknowledging the continuous cheering by saluting with his sword at every second step. The procession was formed in the following order: First, forty mounted postmen; following these (according to precedent established since 1666), one hundred master butchers in evening suits and opera hats; next, squadron of First Dragoons of the Guard, in blue tunics and black helmets; twenty mounted trumpeters; three six-horse carriages, driven by postillions and occupied by the Gentlemen-in-waiting of the Empress and future Crown Princess; half a squadron of the Body Guard in white tunics and golden helmets topped with eagles; the eight-horse court carriage (made in 1793), surrounded by grooms in scarlet and gold, and occupied by the Empress, the Duchess Cecilia and the two first ladies of the Court; the rest of the Body Guard; two other six-horse carriages, containing the