Pelleted lime against club root in brassicas

Recognize the problem
Club root is a soil borne disease on roots of brassicas such as cabbage, cauliflower, broccoli, rape. Symptoms are first seen above ground as slight wilting, and yellowing of lower older leaves. Later stunting occurs in new growth and the plant eventually dies. Roots are largely swollen (forming galls of size of the plant stem), distorted, and malformed. Club root is often confused with root knot nematodes, but galls from root knot nematodes are usually more circular and are generally not as large (few millimetres) as the club root galls (few centimetres thick).

Background
The root malformation caused by the disease impairs the crop uptake of water. When roots die and decay, bacteria are released into soil, where they survive. This disease survives in the soil for 7 to 10 years! The disease likes soils that are moist, cool, and acidic. Such soils can be sandy soils, or soils prevalent in the Northern part of Zambia. Adding Organic Dolomite Lime (lime containing calcium and magnesium) reduces the acidity of soils. It is also a source of calcium and magnesium carbonate which are needed by the plant. Pelletized lime is easy to apply. It provides fast and efficient soil penetration making it an excellent choice for club root disease management. The product can be found in some agro shops.

Management
- Check whether you have acidic soil, such as sandy soils. You may ask a local extension officer.
- Apply lime minimum 1 week before transplanting and incorporate thoroughly.
- Apply 500g (2 handful) per square metre (1250 kgs/Lima 50 x 50 m) in the first year
- Apply a lower rate of 270g (about a handful) per sq m (675kgs /Lima) in subsequent years.
- Broadcast lime using hands with gloves onto the soil
- Incorporate using a hoe if soil is dry during first tillage and apply lime in the planting holes in subsequent years
- If soil is moist or rain is coming, no hoeing is needed.
- If lime applied was enough, then the plants will look green and healthy throughout growing season
- Use them at recommended rates of other fertilizers
- NPK : About 300kgs/ha (30 g per sq metre), and 2 hand full of manure per hole before transplanting
- Check each season if club root is still a problem or not.

Scientific name(s) > Plasmodiophora brassicae

Dolomite Lime. (Photo by Gerald Holmes, California Polytechnic State University at San Luis Obispo, Bugwood.org)

Dolomite Lime. (Photo by Thomas D. 'Tom' Landis, USDA Forest Service, Bugwood.org.)

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