Net blotch of barley

W A. Shipton

Follow this and additional works at: https://researchlibrary.agric.wa.gov.au/journal_agriculture4

Part of the Agronomy and Crop Sciences Commons, Plant Pathology Commons, and the Weed Science Commons

Recommended Citation
Available at: https://researchlibrary.agric.wa.gov.au/journal_agriculture4/vol7/iss3/8

This article is brought to you for free and open access by Research Library. It has been accepted for inclusion in Journal of the Department of Agriculture, Western Australia, Series 4 by an authorized administrator of Research Library. For more information, please contact jennifer.heathcote@agric.wa.gov.au, sandra.papenfus@agric.wa.gov.au, paul.orange@dpird.wa.gov.au.
NET BLotch OF BARLEY

By W. A. SHIPTON, Ph.D., Plant Pathologist

NET BLotch is the most prevalent disease of barley in Western Australia, and is capable of reducing yields considerably.

It is caused by the fungus *Pyrenophora teres* Drechsl.

In an experiment conducted at Avondale Research Station in 1965 it was demonstrated that a moderate to severe outbreak of the disease reduced the yield of Beecher barley from 51.9 to 44.2 bushels per acre. The disease also caused a lowering of the bushel weight and reduced the malting quality of the grain.

**Symptoms**

Lesions may begin to appear on the leaves and leaf sheaths soon after seedling emergence. The spots are at first light green to yellowish green in colour, but soon turn brown. Darker areas occur in the blotches and these extend both in a parallel and perpendicular direction to the leaf axis, giving the lesion a distinctly netted appearance (Fig. 1).

Infection of the leaf sheaths may be extensive, but generally the net blotching is not as distinct as that on the leaves (Fig. 2). Infection of the culm, peduncle and floral bracts occurs as a light to dark brown discolouration.

Infection of the grain is characterised by a light brown localised discolouration.

**Carry-over, Spread, and Alternate Hosts**

The net blotch organism may be seed-borne, and initial plant infection may arise from the diseased seed (Smith and Rat-tray, 1930). This type of infection is favoured by low soil temperatures (Butler and Jones, 1949).

The organism also survives in infected plant debris (Singh, 1962), and on volunteer barley and susceptible grasses. In Western Australia barley grass (*Hordeum leporinum* Link), sea barley grass (*H. hystrix* Roth.), and rip-gut brome grass (*Bromus gussonii* Parl.) have been found to be alternate hosts to the disease (G. C. Mac Nish and T. N. Kahn, personal communication).

Spores produced on infected plant debris and on the lesions on infected plants are dispersed by wind. These spores infect barley over a wide range of temperatures when there is sufficient moisture present (Singh, 1963a, b).

**Control**

Control of the disease is difficult, but some control can be achieved by the following measures:

- Dust the seed with an organic mercury dust. This will control the seed-borne phase of the disease (Hainsworth, 1961; Harris, 1964).
- Destroy infected barley and grass straw either by burning or by deep ploughing.
- When practicable avoid sowing barley on the same land in successive years or in paddocks close to those cropped to barley the previous year.

A number of barley varieties show some degree of resistance to Net blotch, and further studies are now being made of this.
Fig. 1.—Leaves of Beecher barley infected with Net blotch

Fig. 2.—Infected leaf sheaths

REFERENCES


NEW, exclusive Agitator prevents clogging . . .

on the Portvale Fertiliser Dropper

Patented feed agitator mixes, levels and forces material out of port openings, will not pack or clog. Will break, mix, level and force out hard, lumpy fertiliser.

- Clutch and control rate levers in easy reach of tractor driver.
- Any number of port openings may be blanked off for special applications.
- Can be fitted with hoses if required.
- Available in two models M50—5' wide, M75—7' 6" wide.
- Will sow superphosphate in quantities varying from 30 lb. to 10,000 lb. per acre.

Portvale Droppers spread Superphosphate, Sulphate of Ammonia, Lime, Mixed Meal, Special Potato Manures, etc. Specially adaptable for Vineyards, Orchards, Gardens, Dairy Farms.

Portvale FERTILISER DROPPERS

113 St. George's Terrace,
PERTH.
Telephone: 21 0141, 21 2691
Branches and Agents throughout the State

Portmeadow BROADCASTER

- Tractor mounted
- Safety clutch for shock protection
- 240 lb. or 450 lb. hopper capacity
- Wide range of sowing rates

Portfield

The Fertiliser Broadcaster that thrives where conditions are toughest
- Cushion drive
- Heavy duty oil bath gearbox
- Strong, rugged frame
- Wide range of sowing rates available from simple lever control.

POST THIS COUPON TODAY

Please send me illustrated literature on the

Name .............................................
Address ...........................................

Please tick if for school project
Farmers and pastoralists throughout Australia are now being asked to co-operate in the annual statistical survey of farm and station activity. In Western Australia about 25,000 questionnaires have been posted to primary producers who are asked to complete the forms and return them to the Bureau of Census and Statistics, by the 7th April, 1966.

The Acting Deputy Commonwealth Statistician for Western Australia (Mr. F. W. Sayer) has emphasised that the returns are used to compile important information used for planning at both Commonwealth and State levels. All returns will be treated as strictly confidential and in no circumstances will particulars from an individual return be divulged to any other person, authority or Government department.

Farmers are urged to contact the Bureau immediately if they have sold, leased or otherwise disposed of their holdings since the 1st April, 1965, so that the new owners or occupiers can be approached for a return. Advice or assistance on these matters and any other queries concerning the completion of returns, may be obtained by telephone (21-8041), by letter or by personal interview at the Bureau’s Office, Eleventh Floor, T. & G. Building, 37-39 St. George’s Terrace, Perth.

As the Bureau’s lists of primary producers are compiled from a number of sources it occasionally happens that two sets of forms (originals and duplicates) may be received for the one holding. In these cases one return only is required, but the second original should be returned to the Bureau with a note advising that full details for the holding are supplied on the first return (the reference number of which should be quoted).

Primary producers who have not previously furnished returns are advised that they are required to do so under the provisions of the State and Commonwealth Statistics Acts. Spare copies of forms may be obtained from Police Stations throughout the State or by contacting the Bureau.
MOST EFFECTIVE
LOW COST
SHEEP DRENCH

IN TERMS OF EFFICIENCY PLUS LOW COST ‘NEW MICROPHENE’ IS UNDOUBTEDLY THE BEST DRENCH AT THE BEST PRICE!

This season cut the cost of strategic and tactical drenching without losing effectiveness with ‘NEW MICROPHENE’.

‘NEW MICROPHENE’ is safe . . . slows pasture contamination . . . stops losses fast . . . controls adult and immature worms . . . is easy to use.

‘NEW MICROPHENE’ has been proved in field tests to be almost 100% effective against major worm parasites of sheep. Each 4lb. pack of ‘NEW MICROPHENE’ is sufficient to treat—

280 lambs 140 hoggets
187 weaners 112 adult sheep

SICKLE CHEMICALS AVAILABLE IN W.A. ONLY FROM

Wesfarmers

569 WELLINGTON STREET, PERTH. PHONE 210191
BRANCHES—AGENTS—CO-OPS

Please mention the “Journal of Agriculture of W.A.” when writing to advertisers