Weeds of Western Australia - Prickly pear (Opuntia spp.)

G. R. W. Meadly
PRICKLY PEAR
(\textit{Opuntia sp.})

In 1925 it was estimated that 60 million acres of pastoral land in Queensland and New South Wales were affected with prickly pear. On half of this area the growth was so dense that the land had no productive value. An amazing transformation was brought about by the introduction of the Cactoblastis insect.
PRICKLY PEAR

(Opuntia spp.)

THE prickly pears are native to America, but, following settlement of that country by the white man, have been introduced to many other parts of the world. Besides presenting a problem in their natural habitat, their increase to the extent of becoming serious weeds has occurred in South Africa, India, Ceylon, Madagascar and Australia. The spread of prickly pears has been due to three main reasons—firstly the establishment of the cochineal industry, secondly the edible nature of the fruit and thirdly the curious form of the plants along with their attractive flowers, which have encouraged their cultivation as garden subjects.

Until synthetic dyes were developed, the cochineal industry flourished in many places, notably the Canary Islands, and various types of cactus were introduced to a number of countries with a view to providing food for the cochineal insects. In Mexico and other Latin-American countries certain kinds of prickly pear are cultivated for their fruits which represent a staple article of diet. So important is the plant to the natives of South Madagascar that fear has been expressed that its destruction may cause starvation among the natives.

Various species of Opuntia, as well as other cacti, are frequently sold as ornamental plants in many countries including Australia. The first introduction of prickly pear to Australia was due to the desire to establish the cochineal industry. It is recorded that plants and insects were brought to Port Jackson from Rio de Janeiro in 1787 by Captain Arthur Phillip. This prickly pear was undoubtedly the smooth or drooping tree pear (O. monacantha), a troublesome plant but not one of the two main pest species, O. inermis and O. stricta which have never been recorded from Brazil. Governor Phillip is often unjustly blamed for the initiation of Australia’s prickly pear problem. With the exception of O. monacantha the method of introduction of the prickly pears is not known with any degree of certainty. It is significant, however, that the important species occur in the immediate vicinity of trade ports of consequence—Galveston in Texas, Valparaiso in Chile and Montevideo in Uruguay. It is likely that their botanical curiosity prompted their introduction.

DESCRIPTION

The name, prickly pear is self-explanatory. The fruit itself has the shape of a pear and those acquainted with the plant need no introduction to the prickles. Besides the species already mentioned, two others have caused concern in Queensland. They are the velvety tree pear (O. tomentosa), a large and tree-like plant and the tiger pear (O. aurantiaca), a low, much-branched and exceptionally spiny type.

The shrub pears—those having the greatest economic significance in Australia—have a more or less upright, shrubby growth, branching from near the ground,
PRICKLY PEAR.
A branch of Prickly Pear (Opuntia spp.) together with a typical flower and young fruit.
The top picture shows portion of an abandoned selection at Chinchilla, Queensland, in May, 1928, when the prickly pear had over-run the property. The lower photograph was taken in October, 1929, when the cactoblastis moth had destroyed the pear.

without a definite trunk and attaining a height of 3-10 feet.

The characteristic feature of prickly pears is that the stems contain chlorophyll and function as leaves. These flattened stems are known as cladodes or segments. The true leaves take the form of short stiff bracts and soon fall off. The flowers are 1 in. to 3 in. across and are brightly coloured, ranging from bright yellow, orange and red to pink. The fruits are succulent, more or less pear-shaped. They are produced in large numbers and contain many hard-coated seeds which remain viable for a number of years.

SIGNIFICANCE

The problem of prickly pear in Australia can be stated briefly as that of a vigorous, rapidly-spreading weed occupying very
large tracts of grazing country where mechanical and chemical methods of eradication were economically impracticable as the cost of treatment exceeded the value of the land.

The two main pest pears obtained their footing in Australia when pastoral holdings were very large and the population was sparse. From the time of the turn of the century they spread very rapidly until the peak of the invasion was reached in 1925. At that time about 60 million acres were affected, half of which comprised infestations which were so dense that the land had no productive value. More than 80 per cent of the area was in Queensland, the remainder being in New South Wales. Fortunately Western Australia was not involved.

The pear territory has an annual rain-fall of 20-30 inches and comprises good grazing land suitable for dairying and general farming. In the peak years the pest spread at an alarming rate and year by year more properties were engulfed.

Isolated patches of prickly pear occur in Western Australia but nowhere in this State has it become a problem, although conditions in parts of the north appear to be favourable for its growth. For this reason the plant has been declared a primary noxious weed for that portion of the State North of the 26° of latitude.

Attention is now being given to an infestation at Cossack, near Roebourne, where the plants have tended to spread in recent years. A liking for the fruit has prompted some people particularly market gardeners and vignerons near the metropolitan area, to grow a few plants. In some districts this has caused concern as the fruits or pears are attacked by fruit fly. Mainly for this reason prickly pear has been declared a noxious weed in some districts to enable destruction to be enforced if necessary.

CONTROL

The suppression of prickly pear is the most outstanding achievement of biological weed destruction, imported insects having brought most of the species under control in Queensland and New South Wales. The common pest pear has been largely eliminated by the grub of the Cactoblastis moth, drooping pear is kept in check by the Indian cochineal, tiger pear by Argentine cochineal and velvety tree pear to a certain extent by the Mexican cochineal.

The progress of these insects, particularly the Cactoblastis has been spectacular, great tracts of country previously made useless by the presence of prickly pear having been transformed to prosperous farming districts. The larvae are gregarious and, by tunnelling into the segments and stems, reduce the plants to a rotting mass. South America was partly responsible for providing Australia with the pest but was also the origin of some of the natural enemies which have been of inestimable value to this country. It is very fortunate that these insects are selective as far as their host plants are concerned and do not move to other plants after the prickly pear has been destroyed.

Plants can be destroyed by grubbing but no portion of the plant should be permitted to remain in contact with the soil as this enables rooting to take place. Spraying with arsenical solutions such as arsenic pentoxide is also effective.
Whoever heard of
HYDRAULIC HARROWING?

Hydraulics and Harrowing just don't go together—but now Shearer brings you the TRASH PORTER, a hydraulically operated overcarriage to which you simply attach your harrow sections and standard beam as supplied by the harrow makers.

By operating the ram, the harrow sections are lifted and dropped without any effort on your part. This means you can harrow your paddocks without getting out of your tractor seat—and when you want to move into another paddock, you simply throw the Transport Arm into position, unhook your ram, "fix" the rear wheels, hook on to the end hitch and drive off through gates, across country.

Dirty paddocks are no worry either. One flip of the ram lifts the sections and the rubbish falls out ... another flip, and they're back at work. The TRASH PORTER is self-contained, too—all ready to use with standard 8 or 10 section harrows.

For full details on the "TRASH PORTER," call on your nearest Wigmore Branch:

★ CARNAMAH
★ KATANNING
★ GOOMALLING
★ MERREDIN

The Wigmore Agent in your District, or write to us direct:

WIGMORES LIMITED
613-619 WELLINGTON ST. PERTH...PHONE BA 2281

Please mention the "Journal of Agriculture of W.A. " when writing to advertisers.
AUSTRALIA’S FINEST 250 AMP.
FARM WELDER
AND THE CHEAPEST

Now you pay only for the big modern

LINCWELDER
250BT FARM WELDER

Quality finish and BIG output are unchanged, only the price is reduced—so now is the time to buy. Ask any Lincwelder owner, see what he’s done and made; and you’ll agree the Lincwelder 250BT is the most useful tool of its type in Australia today. See your local Wesfarmers Agent for a demonstration or post the coupon for details.

MAIL COUPON FOR FULL DETAILS

LEVELS equipment breaks on the spot. Welds thick metal sections, brazes, solders and cuts.

BUILDS new equipment, steel buildings, stockyards or gates for a fraction of shop price.

EXTENDS the life of worn ploughshares, tynes, discs, etc. by hard-surfacing. Increases life five to six times for a few pence per unit.

LIGHTS your workshop or home, powers tools, etc., with handy 32-volt current at the flick of a switch.

Wesfarmers Tutt Bryant Pty. Ltd., Railway Avenue, Bassendean.
Please send me details of the BIG Lincwelder 250BT without obligation.

NAME

ADDRESS

If required for school project, tick here □

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