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CHRONOLOGY

HISTORY

For 100 years, South Australian fruit growers have urged the Government to maintain a policy of excluding fruit fly from this state, and the Government has accepted this responsibility. The first introduction of fruit flies occurred 50 years ago, perhaps as a result of increasing movement of traffic into the state during and after the Second War. Outbreaks of fruit flies in the past 50 years have been predominantly two species, Queensland fruit fly (Qfly) and Mediterranean fruit fly (Medfly).



South Australia does not have an endemic population of any pest species of fruit fly, although it is likely that some species of fruit fly could establish in South Australia if they were introduced but not detected and eradicated. The two economically important fruit flies need a sequence of host plants to increase and carry over populations during winter. The most favourable sequence of crops, starting in spring, are: loquat, apricot, early, middle and late peaches, quince, pear, apple early, mid-winter and late-winter oranges, Valencia orange. This sequence of fruiting occurs in many cities and towns in South Australia and this, together with a favourable climate, indicates the likelihood of establishment of permanent populations of both species of fruit flies if they are not actively eradicated.

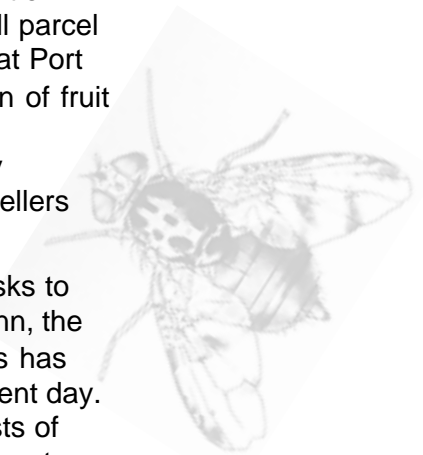
1897

News that Qfly was damaging fruit around Sydney in the mid 1890s was quickly noted by South Australian fruit growers, and in 1897 the Cherry Gardens branch of the Agricultural Bureau of South Australia requested that, “this conferencerespectfully requests the Central Bureau to....take all necessary precautions to prevent fruit fly being introduced on fruit from Queensland and New South Wales”. As a result, a Proclamation under the Vine and Fruit Protection Act 1885 was issued in 1897 prohibiting the introduction of Qfly. After the turn of the century, Medfly and all other insects known as the fruit fly,

were declared to be insects within the meaning of the Act, and their introduction prohibited. Many South Australian fruit growers were convinced that both species of fruit flies could establish in South Australia if they were introduced, but some argued that “fruit flies could not live under our conditions”.

In the ten years following 1897, much of the framework for the policy and operational procedures of excluding fruit flies from South Australia was formed. Fumigation of incoming fruit (with hydrogen cyanide) was first suggested in 1897 to prevent the “dreaded” (Queensland) fruit fly becoming established in the colony of South Australia. However fumigation was probably not used on a routine basis, and inspection of all incoming fruit appears to have been the main protection. After an outbreak of medfly at Horsham, Victoria, in 1907, all importation of fruit except through Port Adelaide was prohibited; any person introducing fruit by road or rail was liable to a £100 penalty. In 1907, the first report of fruit flies on incoming fruit was made after a small parcel of oranges infested with fruit flies was destroyed at Port Adelaide. Recognising that the risk of introduction of fruit fly was greatest from travellers rather than from commercial shipments, the fruit growing industry recommended a publicity campaign warning travellers against carrying fruit.

The first comprehensive analysis of the fruit fly risks to South Australia was given in 1907 by George Quinn, the Government Horticultural Instructor. This analysis has formed the basis of government policy to the present day. Quinn asked the question “what we, in the interests of our local producers and consumers should do to avert as long as possible, the advent of this scourge in our midst?”. He proposed, “the first step is for educating our people as to its identity”, then to “maintain a rigid hold over the ingress of all fruits”. In case of a small fruit fly outbreak, he noted “that there is hope that an isolated outbreak may be stamped out is supported by the fact that a small infestation in a garden in Launceston was eradicated by speedy treatment of the soil with kerosene and destruction of all fruit by boiling”

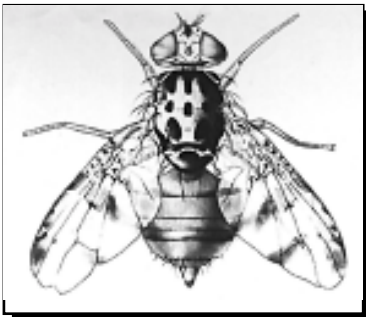


During the first ten years of the fruit fly “scare”, growers from commercial fruit growing areas of South Australia urged the government to ban imports of all fruit from other states, but Quinn opposed absolute prohibition because he recognised the two-way nature of trade, “we have large interests to maintain (by) keeping markets in the adjoining states open to our fruits”. This became apparent to South Australian producers when Victorian inspectors bred a “Mediterranean fruit fly” from oranges grown in South Australia in 1908. Quinn remarked that he was unable to confirm the presence of Medfly in the South Australian source orchard despite diligent searching, and implies the Victorian inspectors mis-identified medfly for the metallic-green tomato fly, *Lamprolonchaea brouniana*.

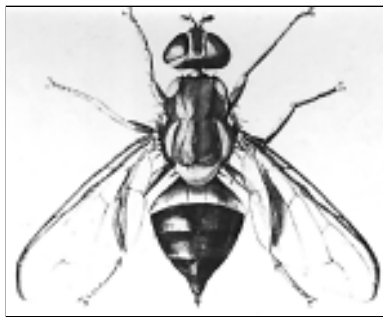
Once this quarantine procedure was operational, there are few records of fruit interceptions until 1947. But the restrictions caused irritation to at least one South Australian grower in 1924, who was the first person to be charged under the act for “obstructing an inspector, and accompanying his obstructions with threats of violence” and was fined £2 plus 15 shillings costs.

Queensland and Mediterranean Fruit flies

Fruit flies, members of the insect family Tephretidae (formerly known as Trypetidae) are found in many tropical and sub tropical parts of the world. Australia has a number of species of native fruit flies, the most important of which is Queensland fruit fly or Qfly, *Bactrocera tryoni* (formerly known as *Strumeta* or *Dacus tryoni*). An introduced species, Mediterranean fruit fly or Medfly, *Ceratitidis capitata*, presently occurs in parts of Western Australia. Males of the inland fruit fly, *Dacus newmani* are commonly found in traps in South Australia; neither females of this species, nor their host is known. They have never been recorded on commercial fruit.



Mediterranean fruit fly



Queensland fruit fly

The first recorded outbreak of fruit fly in South Australia occurred in 1947, when a large outbreak of Qfly was found in Adelaide. This report describes action taken by the State Government and its Department of Agriculture, and entomologists of the University of Adelaide's Department of Entomology, Waite Agricultural Research Institute, to eradicate that outbreak.



1947

Clipping from 'The News' 19/2/47.

The first recorded outbreak of fruit fly in South Australia occurred when larvae were found in nectarines from a tree on a property at the corner of Waite and Grandview Road, Glen Osmond, on 30 January 1947. The gardener took the infested fruit to the nearby Waite Institute. Identification was confirmed when adult Qflies emerged from the infested fruit after incubation by H G Andrewartha, entomologist of the Department of Entomology at the University of Adelaide's Waite Institute.

An emergency meeting of Executive Council was arranged with the Governor on 31 January to discuss the steps to be taken to proclaim an outbreak and specify procedures. As the Governor, Sir Willoughby Norri, was attending a Test match at the Adelaide Oval at the time, the meeting was held in a room at the Oval. A Proclamation, signed by the Governor, stated that steps were to be taken to ensure that 'All things necessary to seize or destroy fruit or trees infected (sic) with fruit fly' were taken.

INTENSIVE WAR ON ORCHARD MENACE

People Asked Not To Move Fruit

In a campaign to eradicate the Queensland (or Mediterranean) fruit fly, which has appeared in South Australia for the first time in the Glen Osmond district, more than 70 men stripped trees in the affected area on Saturday and yesterday.

An appeal to people who grow fruit anywhere in the eastern suburbs not to move their fruit for the time being to any other part of the city or country was made yesterday by the Chief Horticultural Adviser (Mr. A. G. Strickland).

He said that although the fly had been found in only a small area of the eastern suburbs, it would greatly assist the work of control and improve the prospects of eradication if no fruit were taken or sent out of those suburbs.

Mr. Strickland said last night that workers yesterday stripped trees in about half a dozen well rural the infected area, and it appeared that the area of obvious infestation had been covered. But the work would continue today and for a few days. Today there would be little fruit in the area until about midday until 8 p.m.

Mr. Strickland reported that leucostictus was one of the most common harbours of the fruit fly, and he had instructed his men to strip down such trees and destroy the bushes found in the Glen Osmond district.

He added that the Director of the Waste Agricultural Institute (Professor J. A. Pomeroy) and the Chief Entomologist (Mr. H. O.

parson, with each was allotted a number black to follow.

These activities were seen at the headquarters of the workers near Brisbane Agricultural High School. Cases of flies were used for most of the work and a copper was set up to supply fuel.

Divided in the men collecting fruit were 25 from the Government and Water Supply Department, who began work at 8.30 a.m. on Saturday. By 4.30 a.m. they had worked 65 hours for the entire district, which comprised an estimate near the work-end. The men worked all day Saturday and yesterday.

An order of help was received from Mr. C. H. Hagden, Scoutmaster of the First Scout Boy Scout Troop. He had intended to take the Scouts on a recreational outing, but made arrangements

Drive Against Fruit Fly Menace



Clipping from 'The Advertiser' 8/2/47.

Within hours of the discovery, decisions were made by the Department of Agriculture and the State Government to eradicate fruit fly and to prevent its establishment in South Australia. This policy has not been varied to the present. The reasons for this policy are to protect the commercial fruit industry in the Riverland and other growing areas of the state and also protection of fruit grown in home gardens in the metropolitan area, where large quantities of fruits and vegetables are grown. At the time, there were few guides to the size of the area to be treated. An outbreak of Medfly had been successfully eradicated from Florida in 1928 by treating an area within a 10 mile radius of the initial outbreak. With this in mind, a meeting of senior staff of the Department of Agriculture with Waite Institute entomologists H.G. ('Andy') Andrewartha and Duncan Swan, agreed that treatment of an area within one mile radius of the Glen Osmond Qfly outbreak was a compromise between the Florida experience and the availability of manpower and equipment in Adelaide.

Consequent to this meeting, an area within a one mile radius was declared, in which the trees would be stripped of fruit and the foliage baited, A.G. Strickland, Chief Horticulturist, was selected to direct the eradication campaign.

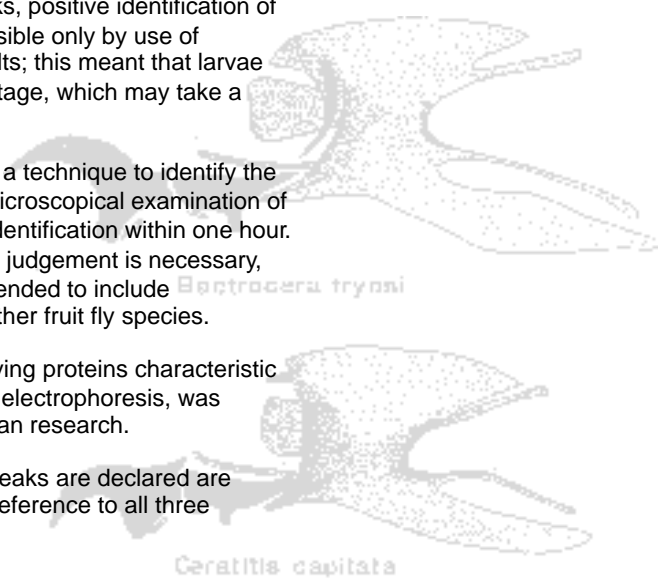
Identification of fruit flies

At the time of the first outbreaks, positive identification of the species of fruit fly was possible only by use of taxonomic keys to identify adults; this meant that larvae had to be reared to the adult stage, which may take a number of weeks.

In 1970, Harry Lower reported a technique to identify the larvae of Qfly and Medfly by microscopical examination of the mouthparts; this enabled identification within one hour. In a few specimens, subjective judgement is necessary, and the technique was not extended to include *Bactrocera tryoni* identification of the larvae of other fruit fly species.

In 1993, a technique of identifying proteins characteristic of each species using cellogel electrophoresis, was adapted from Western Australian research.

In 1997, larvae on which outbreaks are declared are identified to species by cross reference to all three methods.



The policy of eradication of the outbreak was based on likely damage to local, interstate and overseas markets and to home garden fruit and vegetable produce, and the recognition that it was the only opportunity to prevent fruit fly becoming established. This was a clear recognition of the likelihood of fruit flies becoming established in South Australia.

Removal of fruit from backyards

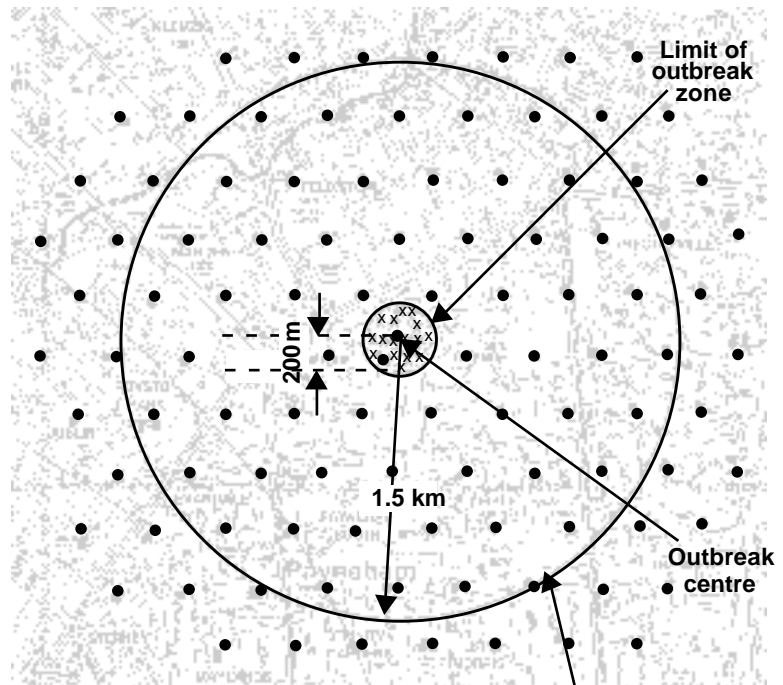
A G Strickland announced that 'The immediate destruction of the fruit is the only known preventative to the spread of this fly'. Stripping of fruit began on 31 January 1947 with staff for the campaign coming initially

from the Department of Agriculture and the Water Supply Department. Primary host fruit (all stone fruit) were removed first, followed by secondary hosts (pome fruit, figs, citrus; the vegetable plants tomato, cucumber, sweet melon). Fruit collected was placed in bags and taken to the refuse destructor in Halifax Street.

On 3 February 1947, an infestation of Qfly was reported from High Street, Glenelg where about 100 acres of gardens were moderately infested. Gangs from the Highways Department, together with their trucks, gangers, foremen and labourers, were mobilised. With two outbreaks, and a large amount of fruit and plants to

Outbreak area

The area within a 1 mile radius of the outbreak centre, where the infestation (larvae in fruit, or adult flies in a trap) is detected is the outbreak area. Fruit trees within the outbreak area are treated for fruit fly, and movement of fruit from the area is restricted. The size of the outbreak area was determined at the time of the 1947 outbreak as what was possible with the resources available; it has stood the test of time, and its metric approximation (1.5km) is used as the national and international standard for Qfly and Medfly. An area within a 200m radius of the outbreak centre, the outbreak zone, is given more intensive treatment than other parts of the outbreak area.



● = Permanent trap site with one trap for Medfly, one trap for Qfly.

X = Protein baited (wet' traps) and additional (supplementary) Lynfield traps are placed in a 200 m radius area using the fly trapping site or laval detection site as the centre.

Limit of outbreak area

be removed, additional assistance was required and a call from the Government went out for additional assistance. Help came from Councils and the Engineering and Water Supply Department, university and high school students (on holidays), scouts groups, the Henley Life Saving Club and individual householders in the outbreak areas. A group of 40 fruit growers from the Barossa Valley assisted in stripping fruit during the peak of the outbreaks. (The Government announced that volunteers would be put on the Government payroll.). Bases set up for the campaign were: Glen Osmond - near Urrbrae Agricultural High School; Glenelg - Corner of Anzac Highway and Osborne St.

Treatment in commercial areas included the removal of grapes from around Marion (unripe grapes went to Hamilton's Winery for spirit distillation), and the removal and destruction of a quince crop and tomato and cucumber crops and plants from properties around Warradale.

Disposal of fruit and plant material

The amount of fruit collected (about 20 tons per day) was too great for the refuse destructor at Halifax Street and a program was developed for bagged fruit (with added stones for weight) to be dumped at sea. The bags of infested fruit were lightly treated with DDT powder and left overnight before dumping.

Initially, loading of barges of the Harbour Board was done from the Glenelg jetty and the bags dumped about 15 to 20 miles out to sea (see photo on next page). As the labour and supervision required was costly, and the method was subject to delays caused by rough weather, barges were loaded at Outer Harbour and the fruit dumped at sea. Some bags were known to have broken open after a storm and fruit washed up on Adelaide beaches.

Boxthorns were reported as hosts of fruit fly, and whole bushes were removed from the Glenelg foreshore and around Glen Osmond using four bulldozers and two crawler tractors. Where this was not possible, two power-spray units were used to apply an arsenical spray.



Clipping from 'The Advertiser' 9/2/47.

Lure traps and sprays

Food-lure traps used to detect adult flies in the outbreak areas were initially made from Agee jars and treacle tins with Clensal (a commercial ammonia-based cleaner) or a vanilla-ammonia solution. Bell-shaped glass traps (McPhail) were used later in the season, with an orange rind extract-ammonia as lure. Only one Qfly was trapped during the first outbreak year, on 26 February 1947.

Bait spraying, using 2 oz tartar emetic (antimony potassium tartrate), 2 lb brown sugar in 4 gal water was applied as 6 fl oz per 'spot' at weekly intervals to attract and kill adult fruit flies.

In the peak eradication period of the two outbreaks, about 1300 individuals were employed, and for many weeks over 700 were employed. This proved such a drain on Adelaide's labour force that sewerage and water-supply work was severely curtailed.

A.G. Strickland acknowledged during the latter stages of the eradication program the willing cooperation that was being provided by householders in the two outbreak areas. Comments from readers in the local papers 'The Advertiser', 'The News' and 'The Mail' on the outbreak of fruit fly and on the eradication program were about equally numbered for and against the measures being

taken. Most of those who were against the program were home gardeners who were unaware of the serious nature of the outbreak and of the consequences to home gardeners as well as commercial growers if nothing was done; and wanting compensation for fruit taken from their property. The Minister of Agriculture, Sir George Jenkins, announced in 1948 that claims for compensation for the outbreaks in 1947 came from 971 home gardeners and 39 commercial growers.

1948

No outbreaks of Qfly were detected during the summer of 1947-48. There were, however, two outbreaks of Medfly. The first outbreak was found in the Clarence Park-Wayville area on 23 January, and was the first recording of Medfly in South Australia. This outbreak was found as a result of a housewife reporting maggots in apricots.

The Government decided promptly to initiate an eradication program but with increased use of DDT as a cover spray. For the first time, a map setting out the eradication boundary was published in 'The Advertiser'.

The finding on 2 February of large numbers of adult Medflies in traps, and later of maggots to the west of the eradication area, required an extension of the previous outbreak area. The eradication area was extended further on 20 February when maggots were found in Angas St, Adelaide. The area was increased to include the nearby suburbs of Hackney, Kent Town, Norwood, Rose Park and Dulwich.

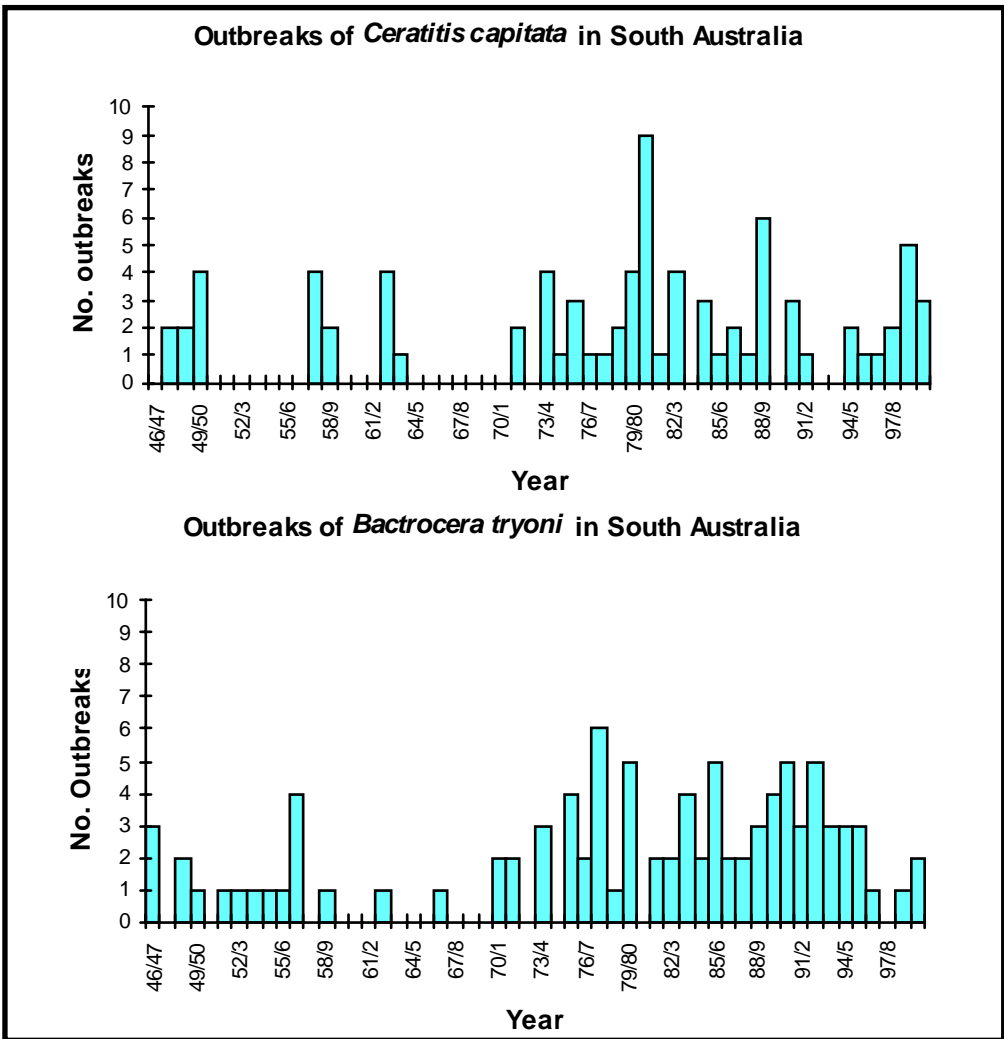
1947-1997

In the 50 years since the 1946/7 outbreak, a total of 162 outbreaks have been treated, 142 of which were in the Adelaide metropolitan area. All except one occurrence of *Dacus aequalis* (identified from larvae) at Swan Reach were Qfly or Medfly.

The origin of all Medfly introductions is likely to be Western Australia, as that state has the only established populations of Medfly during the past 50 years. Medfly outbreaks have occurred in a number of locations in

Outbreaks of Qfly and Medfly, 1946/7 to 1996/7		
Region	Qfly	Medfly
Adelaide metropolitan area	86	56
Other parts of South Australia	3 (+ 1 <i>Dacus aequalis</i>)	16
Total	90	72

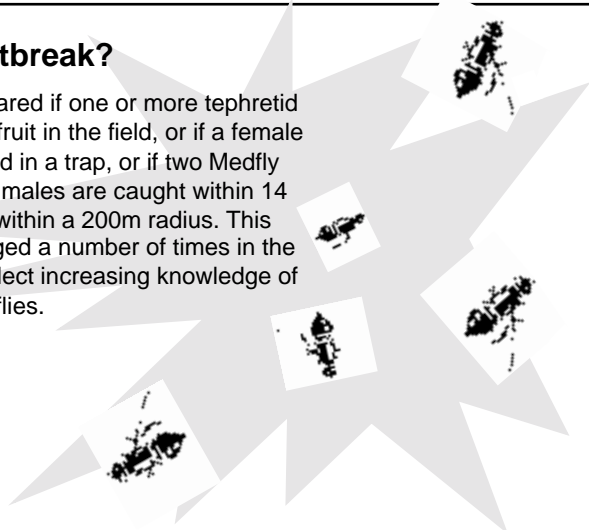
Adelaide during the past 50 years, but have also occurred in Port Augusta, Port Pirie, Port Lincoln, Whyalla, Ceduna, Orrorroo and Victor Harbor. Within Adelaide, there is no pattern of outbreaks in one area. These observations are consistent with random introductions of infested fruit, which are detected and eradicated.



Qfly outbreaks mainly occur in Adelaide, with one outbreak recorded at Loxton North and one at Victor Harbour. As with Medfly, there is no pattern of Qfly outbreaks in particular areas. This is consistent with the idea that the outbreaks are the result of random introductions of infested fruit.

What is an outbreak?

An outbreak is declared if one or more tephretid larvae are found in fruit in the field, or if a female fly with eggs is found in a trap, or if two Medfly males or three Qfly males are caught within 14 days of each other within a 200m radius. This definition has changed a number of times in the past 50 years to reflect increasing knowledge of the ecology of fruit flies.



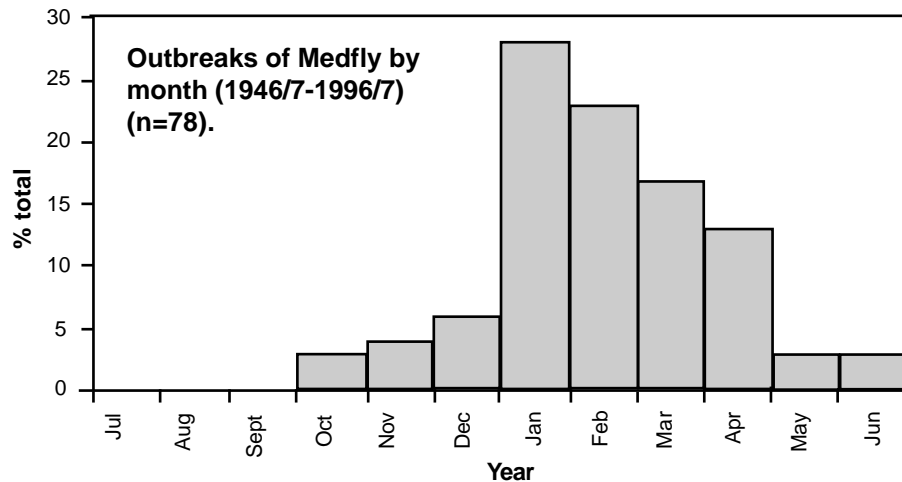
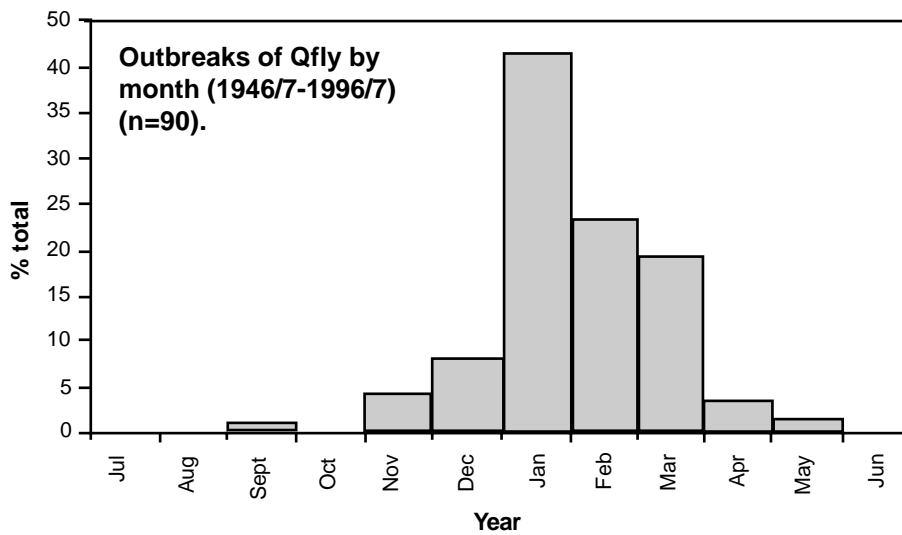
The changes in number of outbreaks over the years can be attributed to several factors, including favourable weather interstate for both Qfly and Medfly (more infested fruit being introduced during favourable seasons), the efficiency of border roadblocks and the efficiency of both the detection and eradication programs.

The size of an outbreak in recent years has been markedly reduced as the result of an expanded and more efficient method of detecting outbreaks by trapping adult flies. Of equal importance has been the cooperation of householders in reporting suspect larvae. Early detection by either the trapping of flies or reports of larvae by householders ensures prompt eradication procedures before the population expands.



Householders willingly share in the responsibility for detecting and eradicating outbreaks.

Seasonal occurrence and outbreaks





LEGISLATION

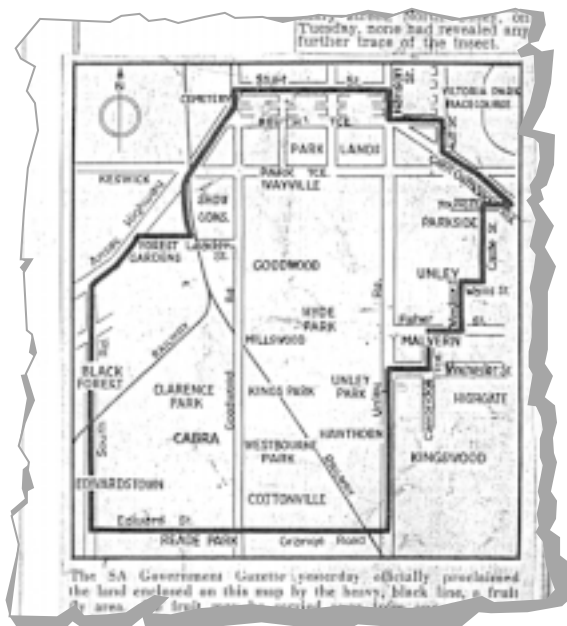
The Vine, Fruit and Vegetable Protection Act, of 1885, was designed 'to prevent the introduction and to provide for the destruction of certain insects, and the eradication of diseases which injuriously affect vegetation'. There have been many changes to the Act since 1885 which have reflected the State's approach to the prevention of entry of fruit flies into South Australia and to the eradication of outbreaks.

Under the Vine, Fruit and Vegetable Protection Act 1885-1936, the Governor proclaimed each outbreak and published Regulations for the prevention of the spread of infestations. Each Proclamation was printed in the South Australian Government Gazette and was effective for twelve months.

Many Proclamations have named particular species of fruit flies as insects under the Act, while Regulations, issued since 1931, have controlled the introduction of fresh fruit and vegetables into South Australia as well as detailing eradication and fruit compensation procedures.

Regulations for fruit entering South Australia

In 1931 a Regulation under the Vine, Fruit and Vegetable Protection Act permitted fruit that was grown in other states to be transported across South Australia. Introduction of trees, plants and fruit were regulated under these provisions in 1932. One section of the schedule was most important; no fruit could be introduced into South Australia from any State in



Clipping from 'The Advertiser' 30/1/48, showing outbreak area.

which Medfly was known to exist, unless accompanied by a certification signed by an authorised inspector. The certificate declared that the orchard in which the fruit was grown and all the land within fifty miles had been free from Medfly for at least the previous three years. During 1935, fruit from the River Murray districts of New South Wales and Victoria was allowed to enter South Australia by road vehicle whereas previously, all fruit had to enter by rail.

Fruit and Plant Protection Act of 1968

In 1968, the Vine, Fruit and Vegetable Protection Act and its amendments were repealed and assent was given to the Fruit and Plant Protection Act. This new Act attempted to achieve greater flexibility of operation than the previous act.

Host fruit (other than grapes) from any State where Qfly or Medfly are known to exist must be accompanied by a certificate of area freedom or specific commodity treatment. An area free of fruit flies was defined as the property on which the fruit was grown and packed together with the area within a 30 km radius of that property, being free of fruit flies for at least one year prior to the harvesting of the fruit.

Late in 1986, grape berries (previously prohibited entry) were permitted entry as long as they were grown and packed in an area free of fruit flies as defined in the Regulations. Also, specific insects were named as insects within the meaning of the Act. Qfly, Medfly and *Bactrocera jarvisi* (Jarvis' fruit fly) were declared again and *B. aquilonis* was added to the list. *B. jarvisi* and *B. aquilonis* were specifically declared because they were occasionally found in commercial consignments of fruit from the Darwin area.

A new Fruit and Plant Protection Act of 1992

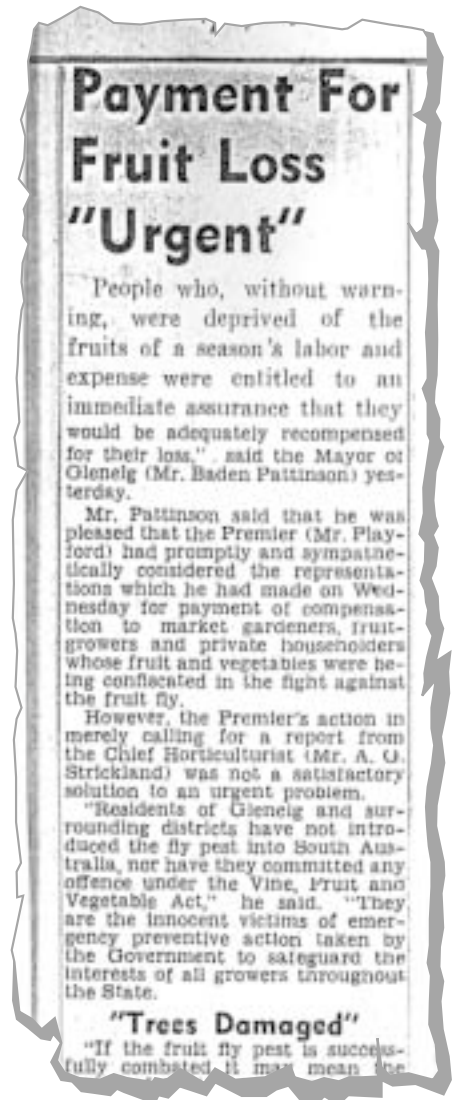
This Act improved the powers to prevent the introduction of defined hosts, improved the power to destroy this produce, substantially increased penalties, introduced expiation fees, provided for accredited production areas and provided for the declaration of quarantine stations.

Compensation

One of the treatments used in eradicating outbreaks of fruit fly from 1947 to 1975 was the intensive removal of host fruit and plants from the central area of the outbreak. The Fruit Fly Act of 1947 legitimised destruction and control of certain insects affecting fruit and vegetables and allowed growers to be compensated for loss by the State. The Act was amended in each outbreak year. The first schedule of the Proclamation stated the suburbs involved and accurately defined the boundaries. The second schedule was a form of authority for the removal of fruit from properties. A map of the outbreak area was published in the daily newspapers. Compensation for fruit destroyed was an important part of public acceptance of fruit fly operations intruding into the lives of citizens.

To promote goodwill, receipts were issued to householders for fruit and plants removed and they were later invited to submit claims for compensation. A Fruit Fly Compensation Committee was appointed under the Fruit Fly Act to adjudicate on claims, and an enabling Act (Fruit Fly Compensation Act) was passed each year that an outbreak occurred. After 1960, the area that was stripped of fruit and plants was progressively reduced from the area within one mile radius to one half mile radius, resulting in a drop in the costs paid in compensation. After 1975-76, only trees with infested fruit near the outbreak centre, and nearby trees with fruit, had ripe fruit removed.

The total compensation paid by the government through the Fruit Fly Compensation Committee between 1946 and 1976 for fruit removed from householder's trees was \$1,087,848.



**Clipping from
'The Advertiser'
14/2/47.**



PROFESSOR Manwell with his duck Christine arrive at the hearing yesterday.

The case of the damaged ducks

PROFESSOR SEEKS \$2500

WITH SAM frozen and carried in a wicker basket, and Christine tucked snugly under his arm, Professor Clyde Manwell strode into the South Australian Agricultural Department yesterday and demanded \$2500 for damages against his ducks.

A professor of zoology at Adelaide University, Professor Manwell attended a Fruit Fly Compensation Board hearing where he outlined a case of interference by fruit-fly sprays from his animal experiments.

The ducks he took to the hearing were tottered as evidence of the damage when pesticide was sprayed on his backyard trees during a fruit-fly outbreak near his house last year.

In March last year Professor Manwell marshalled his army against gangs of Agricultural Department workers spraying the district to eradicate fruit fly.

At that time, Professor Manwell and his wife, both 39, claimed they were experimenting on the lethal effects of pesticides on animals with a view to discovering the effects on people.

The couple succeeded in breeding a number of ducks with extremely low levels of residual pesticide in their bodies.

"We had a series of ducks, 16 in

fact, and three chickens, which were being used in our experiments on pesticide-free conditions," Professor Manwell said.

The sprayers attempted four times to gain access to our house to spray trees and shrubs. The department claimed the area in our backyard could have been infected with fruit fly, I said it wasn't."

Professor Manwell arrived at the hearing yesterday with his ducks, a female, Christine, and Sam, a male. Sam was dead and had been frozen so that the body could be preserved as evidence.

COLOR CHANGE

"After the spraying, Christine, who is normally black, started turning white when she began to molt and she was exactly the same breed as Ben," Professor Manwell said.

"Sam didn't die from the pesticide. He died of a heart attack, but I have brought him to prove the previous color of Christine.

"The damage I am claiming are not unreasonable. They are relatively low.

"At Adelaide, where they have tried to set up pesticide-free environments for similar experiments, it has cost up to \$20,000 to create such conditions."

"Our project is much more modest, but it has taken a great deal of time and effort to get as far as we did before the experiments were ruined by the spraying project."

Damages refused over spraying

A judge refused damages yesterday to a professor of zoology and his wife who had claimed that spraying for fruit fly had ruined research experiments in a suburban backyard.

Judge Mohr, in the Adelaide Local Court, dismissed the claim against the Fruit Fly Compensation Committee and awarded the committee costs.

Clyde Manwell, a professor of zoology at the University of Adelaide and his wife, Constance Ann Manwell, agriculturists, had sued the committee for \$4,811 for loss of

equipment for experimental animals.

They had built up a flock of 14 ducks and had carried out their experiments during 1970 and 1971.

In January, 1971, fruit fly had been found in the area and a Malathion mixture sprayed in a nee-tarine tree and a fig tree at the Manwell's property.

"The plaintiffs' contention is that this application of Malathion solution, in particular, to the fig tree under which their duck Christine was nesting on a clutch of eggs, ruined their experiment," the judge said.

"I have grave doubts about the veracity of the plaintiffs as to whether or not their experiment was ruined in the way they say," he said.

The judge found that

Clipping from
'The Australian'
9/6/72.

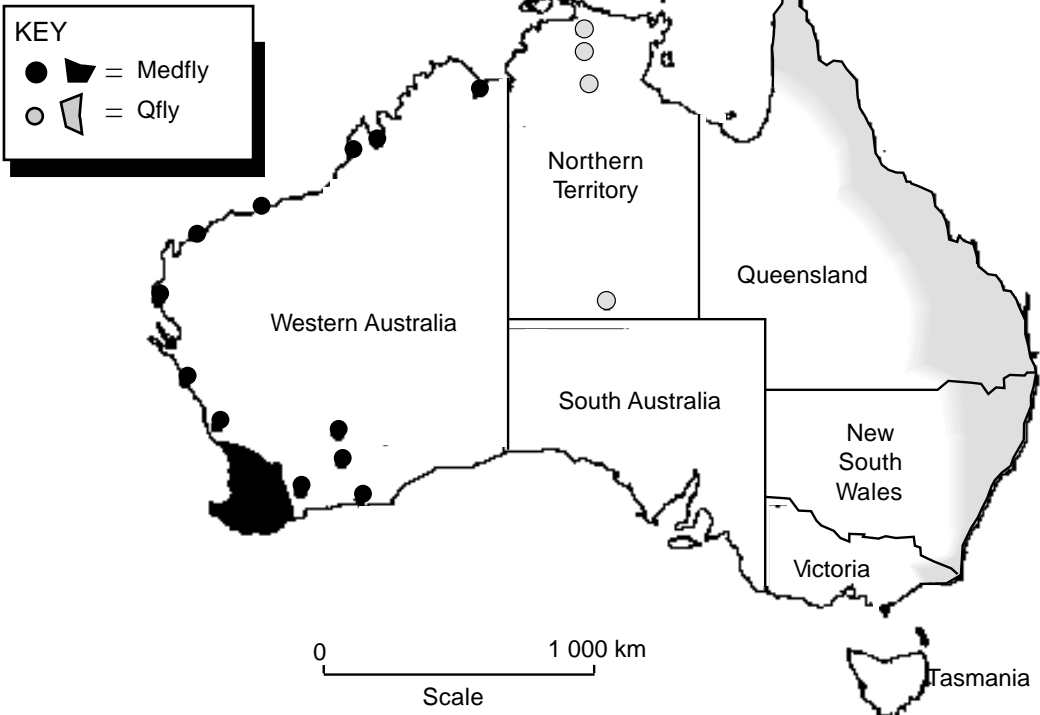
Clipping from
'The Advertiser'
10/10/74.

PREVENTION

Before roadblocks were established, only commercial consignments of fruit were inspected, usually at Mile End, Adelaide. However, movement of fruit into South Australia by travellers in vehicles was identified as a likely means of introducing fruit fly. Between 1953 and the summer of 1960-61, police motorcycle road patrols operated on the South Australian border near Renmark, Bordertown and Mt. Gambier. They had the power to enforce the provisions of the Vine

Distribution of Medfly and Qfly in Australia.

Approximate distribution of permanent populations of Qfly and Medfly in Australia in 1997. Qfly has extended its range since 1900 southwards into New South Wales and north east Victoria. Medfly has been established in south western Western Australia since the 19th Century and has been transported to some fruit growing areas in the north.



Fruit and Vegetable Act. Police enforced quarantine regulations in 1963 by routine observation of interstate traffic for breaches of quarantine regulations and regular clearing of fruit and plants left in the bins provided with quarantine signs.

Roadblocks

The South Australian Government has financed the establishment and operation of roadblocks as a means of reducing the risk of introduction of fruit fly. The Commonwealth Government was asked during 1961 to cooperate with States government in a plan to establish a line of roadblocks across the south-eastern part of Australia. The Federal Government did not participate, and the states have variously operated roadblocks



Yamba roadblock 1964.

according to their own needs with little co-ordination. Roadblocks operated by the Victorian Department of Agriculture along the Victoria - New South Wales border, provided a first line of defence against fruit fly entering South Australia through Victoria, until May 1983, when they were removed by the Government of Victoria.

An inspector under the South Australian Fruit and Plant Protection Act, 1992 may stop, detain and inspect any vehicle in or on which there is reasonable suspicion that any fruit or plant may be affected by a pest or disease. Under the Act, travellers are encouraged to surrender fruit for destruction. Since November, 1977 data collected by roadblock inspectors include the number of vehicles carrying fruit, the weight of the fruit taken, any evidence of larvae and the State and registration number of the vehicle from which the fruit was taken.

Location of roadblock and inspection points in South Australia.

