insect infestations. *Eucalyptus nitens* was included in the experiment because there were no records of the new gall type being found on it, although it is a good host for *Rhicnopeltella eucalypti*. If they are the same species of insect then one would expect *E. nitens* to be attacked in an area with such a high pest population. A similar experiment was set up in the Waikanae site but several invasions by marauding sheep damaged the seedlings beyond hope of recovery.

The results from all of these experiments gave us some very good information. The level of infestation at Waikanae was only 25% of that at Foxton, indicating that what we suspected was true: exposure, i.e. increased wind effects, caused a lot of the adults to be dispersed or disturbed, leading to reduced galling. The growth increment over one year at Waikanae was almost double the rate at Foxton, although the Waikanae site was still sub optimal. The Foxton trees had almost stopped growing completely and several hundred seven-to-eight-year-old trees had died due to continual abscission of foliage. This site has since been cleared and replanted with different species by the owner.

The seedling experiment data showed that when *E. botryoides* was protected with regular applications of insecticide it had significantly greater growth increment and survival than the same species with no protection. *Eucalyptus nitens* was never galled during the whole period of the experiment and had the highest survival and growth increment rates. *Eucalyptus saligna* protected and unprotected, demonstrated an intermediate performance between *E. botryoides* at one extreme (most susceptible) and *E. nitens* at the other (least susceptible). These variations in growth were due to the depredations of the gall wasp. From these data it was postulated that *E. botryoides* was the primary host and *E. saligna*, because of its close evolutionary relationship, was also susceptible to the gall wasp.

The data also gave some insight into how this insect operates. It prefers new foliage, and if the leaves it infests are less than 12 months old, they can be abscised within four weeks of gall initiation. This is part of a tree's natural defence mechanism, but in areas of high pest population tree death can occur within three to five years because of the constant abscission of new growth. In the seedling experiment trees began to die within three to four months because they could not establish enough new growth.

Although chemical control with a synthetic pyrethroid conferred protection on the seedlings, this was not viewed as a long-term option for control. Once the trees reached two metres in height, the cost and effort of spraying every four weeks would be prohibitive. With this in mind we decided on a search for a biological control agent. Having postulated that *E. botryoides* is the primary host, we looked at the distribution of this tree on mainland Australia. The Sydney area was selected as a base for an initial search as there were large areas of coastal *E. botryoides* surrounding the city, and research facilities were available at the Research Division of State Forests of New South Wales (SF NSW) and at Macquarie University. Prior to travelling to Sydney contact was made with the research staff at both institutes and a request made for them to identify sites of *E. botryoides* and *E. saligna* before we arrived. The researchers also collected some galls for us before we arrived.

A heavily-infested tree north of Wellington (1992).

Bruce Treeby, of the Farm Forestry Association, and I travelled to Australia in November 1994. On examination of the precollected galls we immediately found larvae of the gall wasp. A great deal of time was spent field collecting galls from the two tree species around New South Wales. The species of gall wasp we were interested in was only found on *E. botryoides*. None of the galls collected from *E. saligna* contained wasps; the majority of gall causers were Cecidomyidae (a family of Diptera). During our extensive search for the galls we found that although they were widespread from just north of Sydney to Narooma in the south, they were locally rare. This indicated a strong control by indigenous natural enemies. Dissection of the field-collected galls revealed that three parasitoids were present. One of these parasitoids was found infesting 60% of the galls.

During a further visit to Sydney in September 1995 the best performing parasitoid was cultured and kept on seedling *E. botryoides* in an insectary supplied by SF NSW. The staff at SF NSW are taking care of this culture while we seek approval to import the parasitoid into quarantine for testing against our native fauna and its efficiency as a biocontrol agent. It is hoped that this will be a successful programme, as then we can anticipate releases of the parasite within two years.

In the meantime the gall wasp continues to spread, and the Forest Health group (NZFRI) receive regular reports of large plantings of *E. botryoides* and *E. saligna* seedlings, and well-established trees, being so badly affected that they are no longer a viable crop.

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INSTITUTE NEWS

MOTIONS AT THE 1996 NZIF AGM

A number of important issues were raised at the 1996 NZIF AGM, held in Invercargill on April 29. These will be reported on more fully in the August issue of NZ Forestry.

Three major items were resolved:

- The motion for the NZIF to sign the *Principles for Commercial Plantation Forest Management in New Zealand* was rejected.
- The new membership model, with the registration option was approved.
- The objectives, which accommodate the new mission, were amended and approved.

In addition, reports were received from various working parties at various stages of document development. The valuation guidelines are at a final stage before publication. A draft Indigenous Forest Policy and amendments to the NZIF Code of Ethics will soon be available for submissions.

Chris Perley