

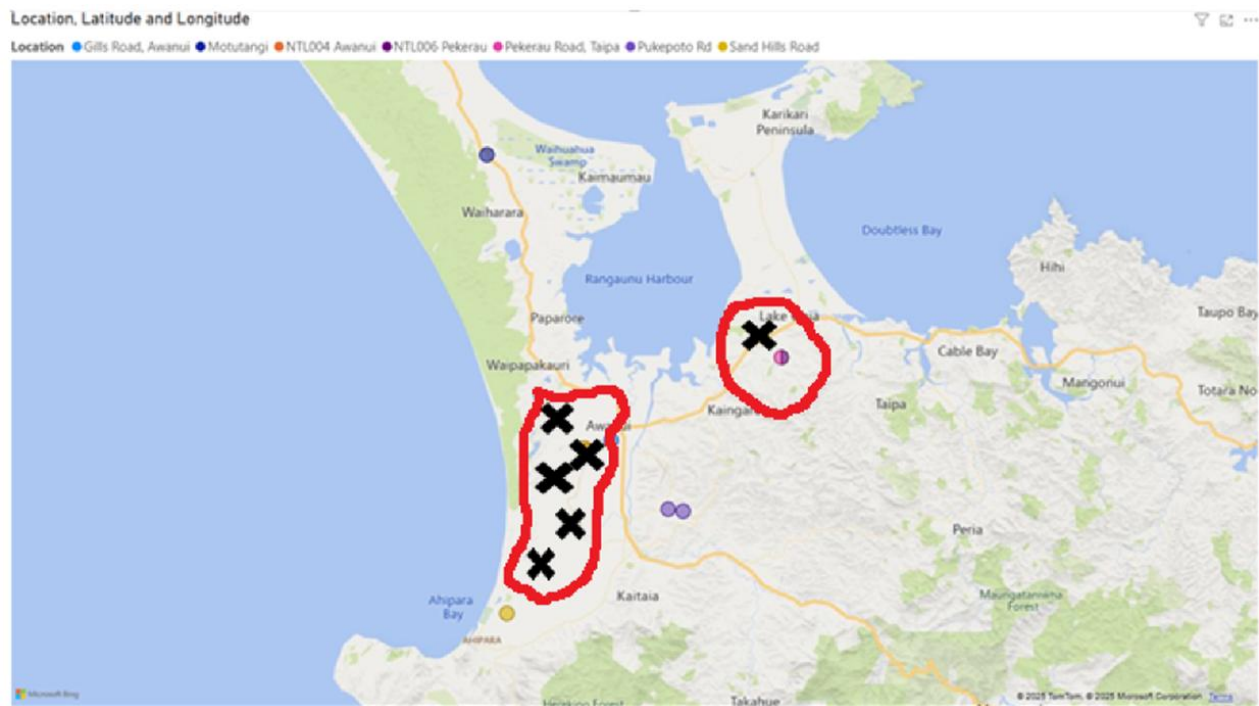
Fall armyworm (FAW), *Spodoptera frugiperda*, populations in the Far North of New Zealand
2025/26

Dr J J Dymock

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Fall armyworm (FAW), *Spodoptera frugiperda*, bucket pheromone traps were stationed at 5 sites in the Awanui, Sweetwater and Pukepoto areas near Kaitaia, and trapping continued from previous years at one site at Pekaerau, Lake Ohia, 15 km east of Awanui (see Map). Each station involved a single trap placed on the perimeter of each of 6 maize crops (5 maize silage crops and 1 maize grain crop). Traps were serviced weekly and fresh FAW pheromone deployed every 4 weeks.



FAW male moth flights

The first flight of FAW moths in the Far North in 2025 was recorded in the week to 2 November 2025, with one male FAW caught in the pheromone trap at Pukepoto (Table 1). This is the same site where FAW larvae were found in volunteer maize in the preceding winter (23 June 2025). The first flight extended several weeks until early December across the region sampled.

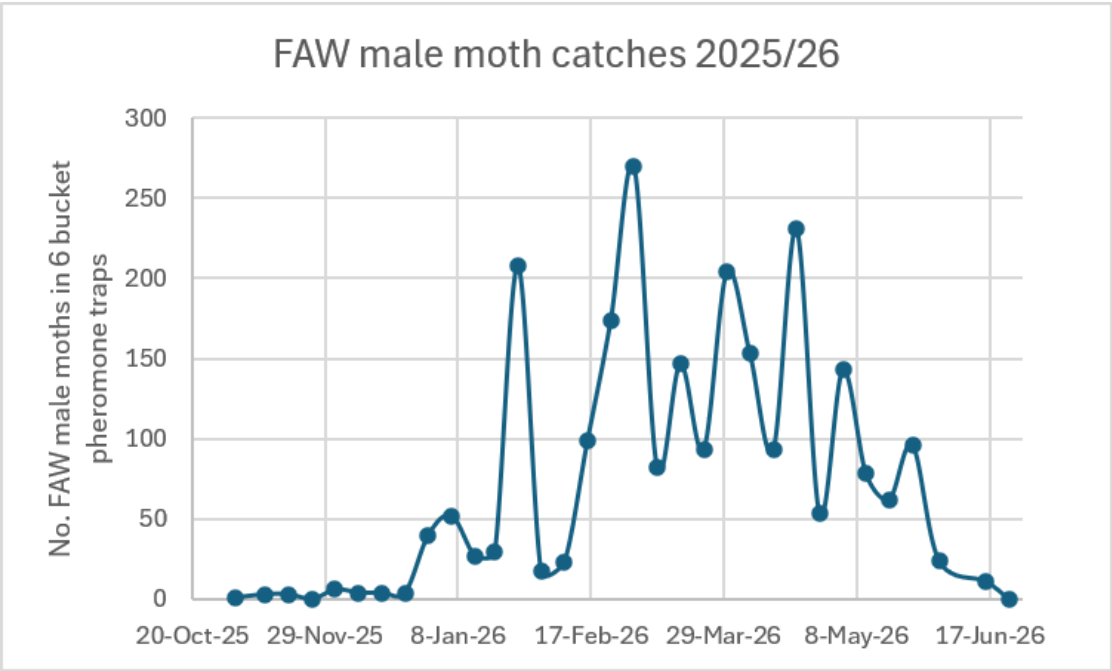
Table 1. Date of first male FAW *Spodoptera frugiperda* moth flight, and number of FAW males trapped in 6 pheromone bucket traps in the Far North of New Zealand in November 2022, 2023, 2024 and 2026.

Spring	Date of first male FAW moth in pheromone traps	No. FAW male moths caught in November
2022	23 Nov 2022	7
2023	28 Nov 2023	2

2024	12 Nov 2024	1
2025	2 Nov 2026	15

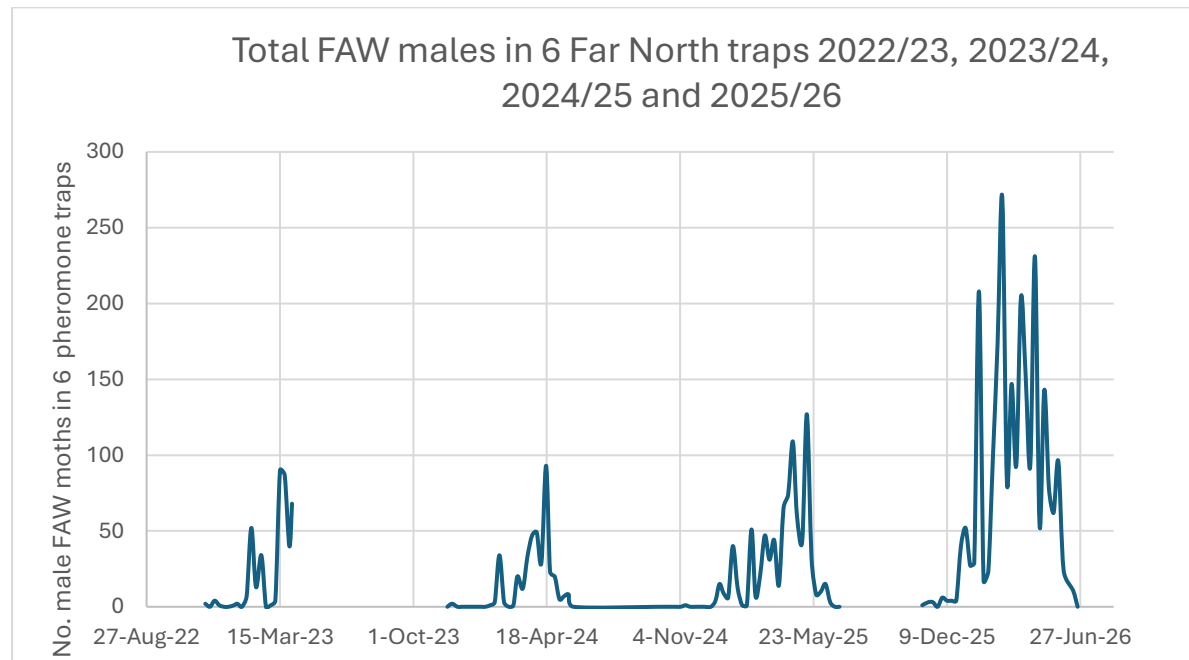
The second male FAW moth flight, which started in mid-December 2025, was not as clearly defined as in the previous three years (Fig.1).

Figure 1. The number of male fall armyworm moths (FAW), *Spodoptera frugiperda*, caught each week in 6 pheromone bucket traps in the Far North, New Zealand, from beginning November 2025 to end of June 2026.



Again, for the fourth autumn in a row, in 2026 the large flights of male FAW moths occurred in April and May 2026 after maize had been harvested (Fig.2).

Figure 2. Number of fall armyworm moths (FAW), *Spodoptera frugiperda*, caught per pheromone bucket trap from 6 traps, cleared weekly from November 2022 to 2 April 2023 and from November to June in 2023/24, 2024/25 and 2025/26 in the Far North of New Zealand.



The total number of male FAW moths caught in pheromone traps in 2025/26 was the highest recorded in the Far North (Table 2). 2435 male FAW moths were trapped in 6 pheromone bucket traps from 2 November 2025 to 23 June 2026. 1882 (77%) of the total FAW male moths were trapped at the Sandhills Rd site (Fig. 3 and Table 2). Bucket pheromone traps at various sites along Sandhills Rd have shown consistently high numbers, with 61% of the total FAW moths trapped there in 2023/24. Sandhills Rd is sheltered from 90 Mile Beach and south-westerly winds by sand dunes.

Figure 3. The number of male fall armyworm moths (FAW), *Spodoptera frugiperda*, caught each week in 6 pheromone bucket traps at 6 maize sites in the Far North, New Zealand, from beginning November 2025 to end of June 2026.

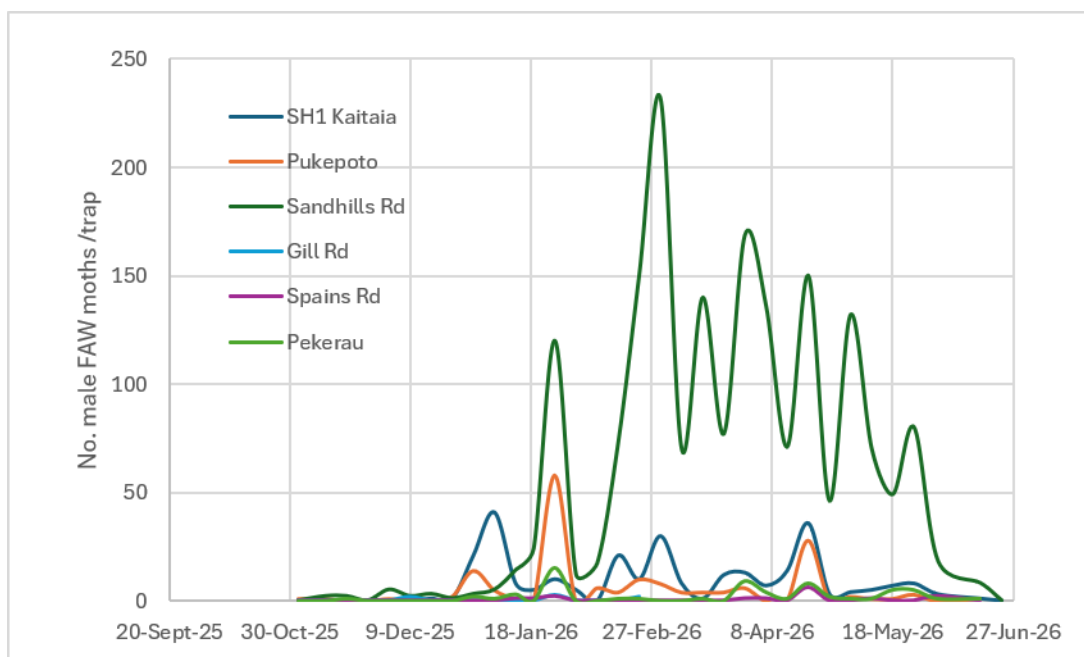


Table 2. The number of fall armyworm (FAW) *Spodoptera frugiperda*, caught in pheromone bucket traps at sites in the Far North of New Zealand November to June in 2023/24, 2024/25 and 2025/26.

Trap site	No. male FAW moths trapped Nov 2023-June 2024	No. male FAW moths trapped Nov 2024-June 2025	No. male FAW moths trapped Nov 2025-June 2026
Pekerau, Lake Ohia	49	14	63
Pukepoto	28	79	166
Gill Rd, Awanui	41	210	34
Brass Rd, Ahipara	-	196	-
Spains Rd, Sweetwater	-	15*	15
Corner Gill/Sandhills Rds, Sweetwater	-	341	-
Motutangi	5	-	-
Sandhills Rd	239	-	1882
SH1, Kaitaia	28*	-	275*
Total in 6 traps each summer	390	852	2435

*Maize sprayed with insecticide

Numbers of FAW male moths trapped can be compared in all 4 summers in 2022/23, 2023/24, 2024/25 and 2025/26 at Pekerau (Lake Ohia area) (Fig.4) and at Pukepoto (between Kaitaia and Ahipara) (Fig.5).

Figure 4. Number of fall armyworm moths (FAW), *Spodoptera frugiperda*, caught in the Pekerau (Lake Ohia) pheromone bucket trap weekly from 1 November to 30 June in 2022/23, 2023/24, 2024/25 and 2025/26 in the Far North of New Zealand.

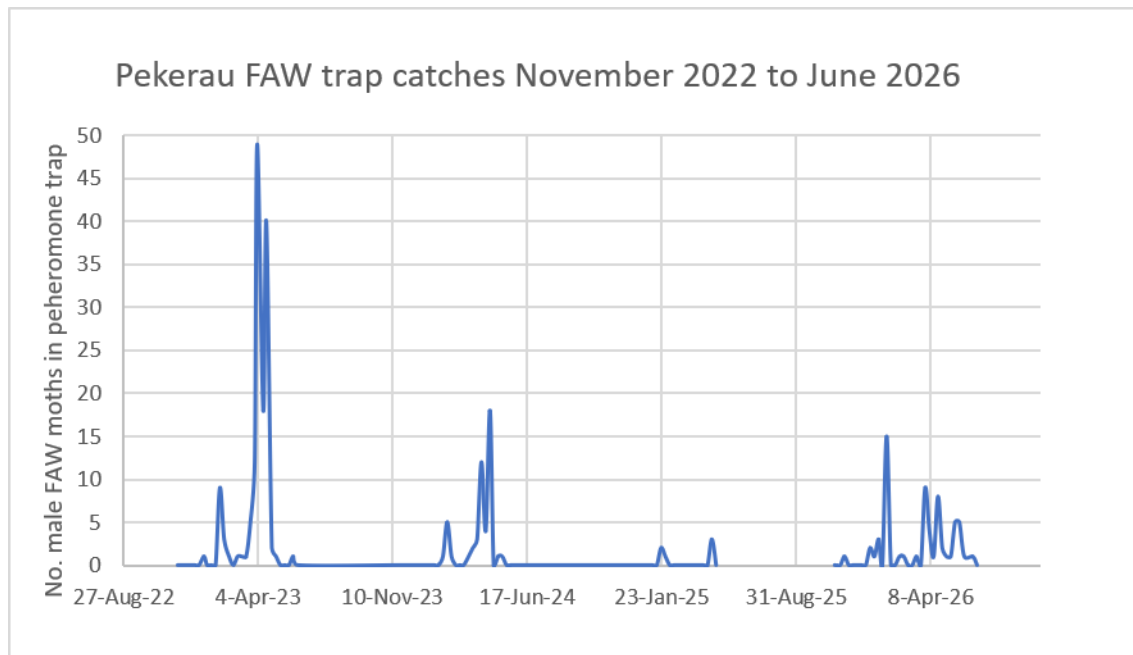
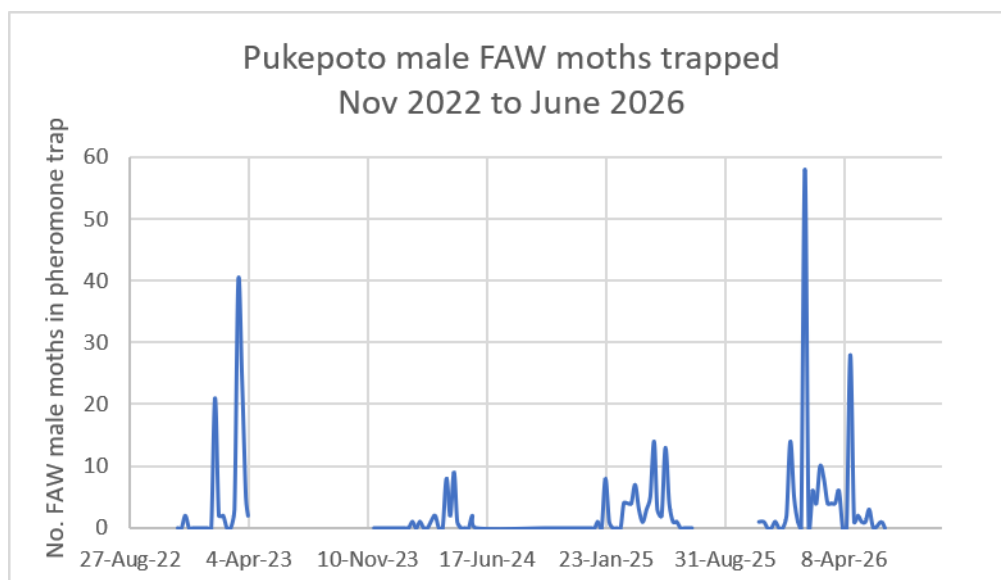


Figure 5. Number of fall armyworm moths (FAW), *Spodoptera frugiperda*, caught in the Pukepoto pheromone bucket trap weekly from 1 November to 30 June in 2022/23, 2023/24, 2024/25 and 2025/26 in the Far North of New Zealand.

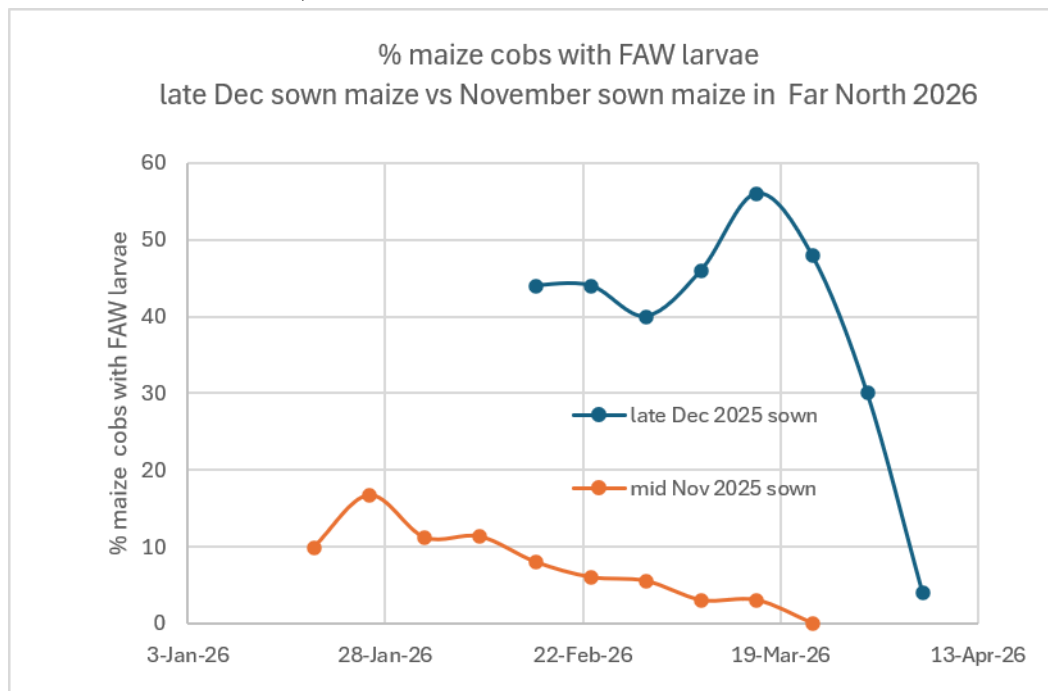


Immature stages of FAW

The number of FAW larvae was recorded at 6 sites each week in 50 randomly selected maize cobs from 19 January to 6 April 2026. The percentage of cobs with FAW larvae present did not exceed 18% at 5 of the 6 crops surveyed; however, at the SH1 Kaitia maize crop FAW larvae

were present in up to 58% of cobs. Germination of maize following initial sowing of maize at the SH1 Kaitaia site 18 November 2025 was poor and so the crop was resown on 2 December 2025. High numbers of FAW larvae and damage by the end of December in knee-high maize seedlings was then noted – presumably resulting from oviposition by the second flight of FAW moths at this time. The crop was sprayed with insecticide on 10 January 2026. The number of cobs with FAW larvae were higher throughout February and March 2026 at the SH1 Kaitaia maize crop compared to at the other 5 maize crops monitored (Fig 6).

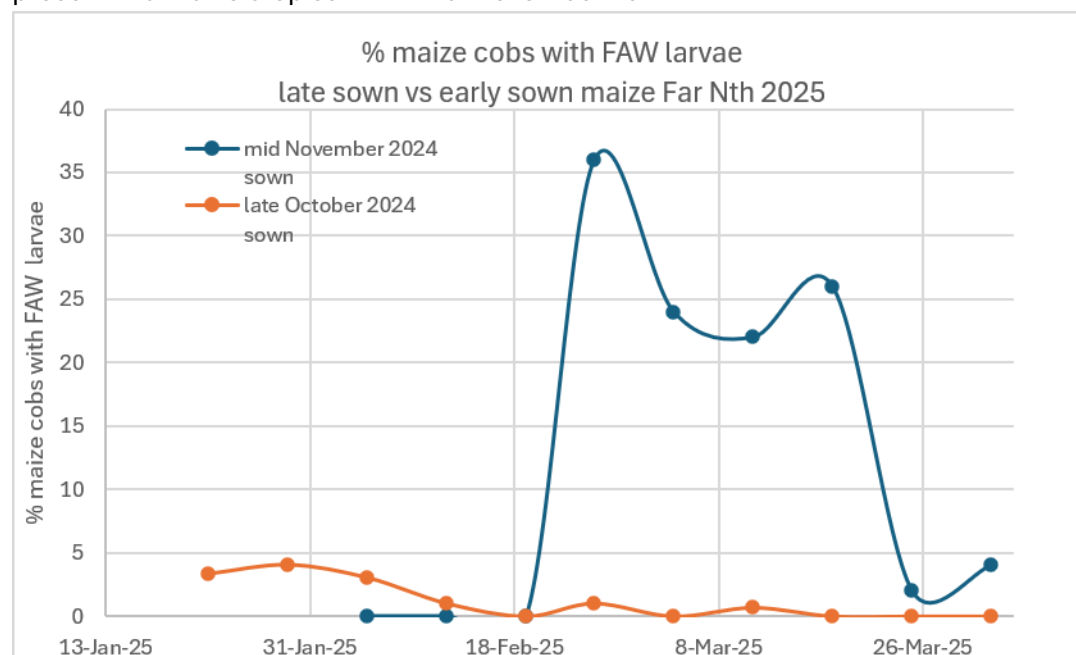
Figure 6. Percentage maize cobs with FAW larvae in crops sown in the Far North in November 2025 (5 sites) compared to the percentage of maize cobs with FAW in a crop sown at the end of December 2025 at SH1, Kaitaia.



The timing of sowing maize is crucial in the Far North to avoid feeding damage to seedlings from the second generation of FAW. If maize seed germination is delayed or occurs later the vulnerable seedling stage is present in late December/early January so losses can occur. If maize is sown too early (i.e. in October), there is a risk from feeding damage from the first generation of FAW; however, this generation is much smaller as it follows on from the low survival of FAW over winter.

A lower percentage of maize cobs with FAW larvae present was also recorded in 2025 from early maize crops (sown in spring 2024) compared to maize cobs in a crop (Gill Rd) that had been sown later in 2024 (mid-November) (Fig. 7).

Figure 7. Percentage maize cobs with FAW larvae present in crops sown in the Far North at the end of October 2024 (5 sites) compared to the percentage of maize cobs with FAW larvae present in a maize crop sown in mid-November 2024.



The percentage of maize cobs with Lepidoptera larval feeding damage recorded was 85% in 2026 (Table 3) compared to 99% damage in 2024 and 67% in 2025. Weekly monitoring of the presence of Lepidopteran larvae in cobs showed some prior cob feeding damage by Lepidopteran larvae but these larvae were not present since they had reached maturity and left the cob to pupate.

Table 3. Maximum recorded percentage of maize cobs with *Helicoverpa armigera* and *Mthymina separata* larvae recorded in maize cobs and cumulative percentage Lepidopteran feeding damage recorded in cobs in 2024, 2025 and 2026 in the Far North of New Zealand.

Summer	% cobs with <i>Helicoverpa armigera</i> larvae present	% cobs with <i>Mythimna separata</i> larvae present	% cobs with Lepidopteran feeding damage
2024	40 %	6 %	99 %
2025	18 %	12 %	67 %
2026	37 %	11 %	85 %

Parasitism of FAW larvae by *Cotesia ruficrus* in the Far North

Second to fourth instar FAW larvae collected from field crops of maize were individually reared in 5 ml glass vials on lima bean diet (diet provided by Anne Barrington at the NZ Bioeconomy Institute) (see photo).



The overall percentage of 2-4th instar FAW larvae collected November 2025 to February 2026 found to be parasitised was 30.1% (Table 4); 43.5% successfully pupated. The remainder died of unidentified causes. During March 2026, only 5-6th instar FAW larvae were found in maize and previous collections of 5-6th instar larvae in 2024/25 showed that these were not parasitised by *C. ruficrus*.

Table 4. Percentage parasitism and survival to pupation of 2-4th instar FAW larvae collected from maize in the Far North of New Zealand in 2024/25 and 2025/26

	No. FAW larvae reared	% <i>Cotesia ruficrus</i> parasitism	% <i>Meteorus pulchricornis</i> parasitism	% pupation	% died of unknown causes	Total % parasitism
2024/25	129	40.3%	2.3%	34.9	22.8	42.3%
2025/26	352	28.4%	1.7%	43.5	26.4	30.1%

Late autumn parasitism

Parasitism was also recorded from FAW larvae in volunteer maize in Spains Rd, Awanui, in late March/early April 2026. One 3rd instar FAW larva collected on 30 March 2026 was parasitised and one 2nd instar FAW larva parasitised from 38 larvae collected on 6 April. From 13 April to 4 May 2026, no 2-4th instar FAW larvae of the 46 larvae collected from volunteer maize at Spains Rd were parasitised by *C. ruficrus*. However, two 3-4th instar FAW larvae collected on 20 April 2026 were parasitised by *M. pulchricornis*.

Conclusions

- There were 2435 FAW male moths caught in 6 bucket pheromone traps from November 2025 to June 2026 – the highest number since trapping began in November 2022. 77% of those caught were from one trap at Sandhills Rd, sheltered in the lee of sand dunes.
- First FAW male moth was trapped on 2 November 2025.
- Second flight of FAW moths occurred from Dec 2025 to Jan 2026.
- Timing of maize germination is crucial to avoid seedling damage from FAW larvae. Seedlings and cobs from maize sown later (in December 2025) were more vulnerable to feeding damage by the second generation FAW larvae than maize sown in late October and first half of November 2025.
- Percentage maize cobs with FAW larvae present at 5 sites monitored ranged from 4 to 17% – compared to up to 56% in a later-sown maize crop.
- The largest flights of FAW moths occurred in April and May 2026 after maize had been harvested.
- Percentage parasitism of 2-4th instar FAW larvae by *Cotesia ruficrus* from Nov 2025 to Feb 2026 was 28.4%, and parasitism by *Meteorus pulchricornis* was 1.7%. Parasitism by both *C. ruficrus* and *M. pulchricornis* was recorded in FAW larvae in post-harvest volunteer maize in autumn 2026.
- Volunteer maize supported populations of FAW larvae at all harvested sites monitored in May and June 2026.