Cutting Edge
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Problems with fruit fly control related to birds

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Fruit fly infestation of Satsumas in the Western Cape appeared to be more severe than usual during the 2008 season. Certain growers even experienced post-harvest interceptions and consignment rejections. This is despite growers diligently applying registered and effective control measures, which have provided them with acceptable control in the past.

After thorough inspection a common denominator was identified between all of the problematic orchards inspected. This is the occurrence of unusually high numbers of fruit eating birds, such as Mouse Birds and Cape White-eyes. Previous research has recognised that fruit fly can be a repercussion pest, resulting from high levels of such birds in orchards and the resultant damage to fruit which these birds cause.

We refer to Ware and Daneel (SA Fruit Journal April/May 2005: "The birds and fruit flies"), who in turn refer to numerous other authors, as well as drawing on their own research (paraphrased):

It is known that fruit flies require protein for sexual development and this is acquired by the flies feeding on leaf bacteria and bird faeces (and honeydew produced by mealybugs and aphids). Large flocks of birds in orchards ensure that there is a more than adequate supply of natural protein. It has been found that a fresh deposit of bird faeces was more attractive than a protein bait (with or without Malathion). Furthermore, the fermenting and decaying damaged fruit would provide a large source of bacteria. These factors could explain the ineffectiveness of the fruit fly control programme in these orchards. In the 2003/4 season in the Patensie area, it was evident that only those Clementine mandarin orchards that had suffered bird damage had a fruit fly problem.

Solutions to the problem have not yet been fully researched but loud noises may be used to frighten the birds away. Reflected light might also be used to disorientate birds. Exclusion netting is another option. If growers can successfully chase the birds from their orchards, then extraordinary fruit fly control measures may not be necessary. However, if birds are not controlled, routine fruit fly control measures will not be adequate on their own. Doubling up on the frequency and density (number of spray droplets per hectare) of routine fruit fly baiting will almost certainly be necessary. Simultaneously, growers need to ensure that adequate volumes of bait are applied per tree: 300-800 ml of protein/toxicant mixture per tree, depending on tree size. In addition, even greater attention than usual needs to be paid to orchard sanitation. Flies can preferentially lay their eggs on the bird inflicted wounds. Regular removal of these damaged fruit, both from the orchard floor and from trees, would contribute towards a reduction in fruit fly pressure.

These problems only appear to occur in orchards of easy-peelers, particularly Satsumas and to a lesser extent, Clementines. However, navel orange orchards should also be inspected for the possible occurrence of the same problem. Growers in areas other than the Western Cape should also be on the lookout for such an eventuality.

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Probleme met vrugtevliegbeheer verwant aan voëls

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Vrugtevlieg-besmetting van Satsumas in die Wes-Kaap gedurende die 2008 seisoen was blykbaar erger as gewoonlik. Sekere produsente het selfs na-oes onderskeppings van vlieë en afkeuring van besendings ondervind. Hierdie is ten spyte van die deeglike toepassing van geregistreerde en doeltreffende beheermaatreëls, wat in die verlede aanvaarbare beheer gegee het.

Na ‘n deeglike ondersoek is ‘n gemeenskaplike faktor tussen al die probleemboorde wat ondersoek is, geïdentifiseer. Dit is die voorkoms van buitengewoon hoë getalle van vrugvretende voëls, soos onder andere Muisvoëls en die Kaapse Glasogie. Vorige navorsing het al bevind dat vrugtevlieë ‘n reperkussie-plaag kan wees as gevolg van hoë getalle van hierdie voëls in boorde en die skade wat hulle op vrugte kan aanrig.

Ons verwys na Ware en Daneel (SA Vrugte Joernaal April/Mei 2005: “The birds and fruit flies”), wat na verskeie ander navorsers se werk verwys, asook na hul eie navorsing (omskrywing):

Dit is bekend dat vrugtevlieë proteien vereis vir seksuele ontwikkeling, wat ingeneem word deur te voed op blaar-bakterië en voëlmis (en heuningdou van witluis en plantluise). Groot swerms voëls in boorde verseker dat daar meer as genoeg natuurlike proteien beskikbaar is. Dit is gevind dat vars voëlmis heelwat meer aantreklik vir vlieë is as ’n proteien lokaas (met of sonder Malathion). Verder sal die vrugte wat bederf en fermenteer ’n groot bron van bakteria verskaf. Hierdie faktore kan die ondoeltreffendheid van die vrugtevlieg-beheerprogramme in hierdie boorde verduidelik. In die 2003/4 seisoen in die Patensie area, was dit duidelik dat slegs díe Clementine mandaryn boorde wat voëlskade ervaar het, ook ’n vrugtevlieg probleem gehad het.

Oplossings vir die probleem is nog nie volledig nagevors nie, maar harde geraas kan gebruik word om die voëls te verwilder.

Weerkaatsende lig kan waarskynlik ook gebruik word om voëls te disoriënteer. Die gebruik van nette is nog ‘n opsie. As produsente die voëls doeltreffend uit hulle boorde kan verwilder, sal buitengewone vrugtevlieg-beheermaatreëls moontlik nie nodig wees nie. Alhoewel, as voëls nie beheer word nie, sal roetiene vrugtevlieg-beheermaatreëls alleen nie voldoende wees nie. Dubbele herhaling en druppelbenatting per oppervlak van roetiene vrugtevlieg-lokaastoediening sal heel waarskynlik nodig wees. Tegelykertyd moet produsente seker maak dat voldoende volumes lokaasmengsel per boom toegedien word, dws 300-800 ml proteien/toksien mengsel per boom, afhangende van boomgrootte. In gebreke hiervan sal die konsentrasie van die lokaas in die mengsel dus ooreenkomstig vermeerder moet word. Boonop moet meer aandag as normaalweg aan boordsanitasie bestee word. Vlieë kan verkies om hul eiers op die wonde, wat deur die voëls veroorsaak is, te lê. Gereëlde verwydering van hierdie beskadigde vrugte, beide van die bome en van die grond, sal tot ‘n vermindering in vrugtevlieg druk lei.

Dit wil voorkom of hierdie probleme net in sagtesitrus boorde voorkom, veral Satsumas en tot ‘n mindere mate Clementines. Nogtans moet nawel-boorde ook vir die moontlike voorkoms van dieselfde probleem ondersoek word. Produsente in streke buite die Wes-Kaap moet ook op die uitkyk wees vir so ‘n gebeurlikheid.