

SHIRE OF GINGIN

2010-2011 STABLE FLY CONSULTANCY

The past 6 weeks (mid November to late December 2010) around the Shire of Gingin has again demonstrated that fly breeding, and in particular breeding of the stable fly, is occurring across a range of industries. All reference to the stable fly will now be replaced with “biting fly” to more accurately reflect what this fly is doing to livestock and humans alike. The name “stable fly” is an historical name given to the fly when it originally became a problem in the northern hemisphere when people housed their animals over the cold winter in stables and pens – unable to change the straw bedding for months on end resulted in the animals manure and urine mixing with the straw and allowing the “stable fly” to develop in high numbers. The name “stable fly” suggests that this fly only comes from stables, which is simply not the case in and around the Shire of Gingin. Horse stables rarely produce high numbers of biting flies as their manure is removed at least once daily and horse manure is just too dry for this fly to develop in.

It is no coincidence that the stable fly problem across this shire has continued to escalate with the infusion of large scale vegetable production from the early 1990’s. This is not about pointing the finger but making and doing something about it as quickly and effectively as possible. The vegetable growing industry has an urgent and ongoing responsibility to monitor their crop waste for fly breeding given the extent of their operations and the sheer numbers of biting flies that they are capable of producing if their crop waste is not properly managed. In particular, the three major areas of concern that have come out of the second month of work in the Shire of Gingin are:

- 1) **crop residues associated with vegetable crops (eg celery, lettuce)**
- 2) **effluent pond pig manure waste;**
- 3) **feedlot cattle manure management**

1) Crop Residues – once again month again highlighted that a continual major source of biting fly breeding is vegetable crop residue remaining after harvest is a continual and massive source of this fly. This material consists of primarily of stalks, leaves and fruit either left in or on the ground after harvesting is complete. The worst crops for producing biting flies are celery, cauliflower, cabbage and lettuce. When a broccoli, cauliflower, cabbage or celery crop is finished being harvested, the sheer amount of vegetable matter on the ground represents a significant potential risk for biting fly breeding if it is left to rot for more than 3-4 days and/or is simply rotary hoed into the soil with minimal physical breakdown in the size of the vegetable matter. The rotting residue of these crops produce almost exclusively biting flies every time a sample is collected and the numbers they can produce are alarming to say the least. The Shire of Gingin must continue to visit commercial vegetable growers because they are producing the vast majority of biting flies that are affecting livestock and people in this shire. Breaking down the crop residue down into small pieces will significantly minimize fly breeding

AND have the added benefit of allowing growers to put another crop in that area sooner and a reduced risk of disease transmission to the following crop by physically breaking down the residue so that it is rapidly decomposes and returns organic matter to the soil.

2) Pig Manure Effluent Ponds: Piggeries have an enormous amount of manure to dispose of from their intensive animal husbandry. The standard method of disposal is to run the manure it through a series of effluent ponds where microbial activity breaks down the manure over time till a substance “inert” to fly breeding is left. Unfortunately this process has revealed some serious misgivings in terms of fly breeding and if it goes wrong, the level of fly breeding can be astronomical. Pig manure mixed with straw bedding in particular presents a great risk of breeding biting flies with the manure/organic matter mix favouring their development. Piggeries typically attract huge numbers of flies due to their odour, but their ability to lay eggs and produce more adult flies can be significantly reduced by having a robust fly management plan in place involving trapping of adult flies, prevention of egg/larval breeding sites (principally sanitation), insecticides (surfaces where flies congregate and places of manure accumulation) and regular monitoring of high risk fly breeding situations.

3) Cattle Feedlot Manure Management: Housing large numbers of animals in a small area inevitably runs the risk of manure accumulation and potential fly breeding as highlighted previously with piggeries. Cattle held in a feedlot situation can produce biting flies if either (i) their manure gets wet either through leaking water troughs or poor drainage around where manure accumulates; or (ii) there are spilled areas or wet areas of grain feed, which rot and ferment and attract biting flies. As cattle dung ages, it becomes more attractive to biting flies, but it takes at least 21 days before cattle dung is utilized by biting flies. In a normal paddock situation, cattle dung rarely gets this old due to dung beetle activity and the rapid drying out of the dung in our hot climate. However, cleaning out of feedlot pens can produce a large amount of cattle dung, which must be handled properly to prevent biting fly breeding.

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10th January, 2011