

Submission on Proposed Waikato Regional Plan Change 1 – Waikato and Waipa River Catchments

Full Name of Submitter
Authorised by

Genetic Technologies Ltd
Simon Dunlop
Chief Executive Officer
Genetic Technologies Ltd

Contact person
Full postal address

Ian Williams
Farm Systems Specialist
Genetic Technologies Ltd

Phone number

0274950789

Email

iwilliams@genetic.co.nz

- I confirm that I am authorised on behalf of Genetic Technologies Ltd to make this submission.
- Genetic Technologies Ltd wishes to be heard in support of this submission.
- If other parties make similar submissions, Genetic Technologies Ltd would not consider presenting a joint case with those parties at the hearing.
- Genetic Technologies Ltd will not gain a trade competition advantage through this submission. Genetic Technologies Ltd will be directly affected by adverse effects that will result if Proposed Waikato Regional Plan Change 1 – Waikato and Waipa River Catchments becomes operative in its current form. These adverse effects do not relate to trade competition or the effects of trade competition as defined by the Resource Management Act 1991.

Signed on behalf of Genetic Technologies Ltd



Name Ian Williams
Job title Farm Systems Specialist

8/3/16

Date

1. Introduction

- 1.1** Genetic Technologies Ltd is a New Zealand business owned by the Yates Family. Genetic Technologies Ltd has the licence to produce and distribute maize seed for Pioneer Hi-Bred International, a subsidiary of DuPont. Genetic Technologies Ltd supplies maize seed through its merchant partners to over 1300 farmers throughout the wider Waikato Region

2. Submission summary

Genetic Technologies Ltd in general is in support of the intent of Waikato Regional Plan Change 1. There are however, several areas which need either amending or removing until a more workable solution can be found. The areas of concern are:

- 1. Capability (both in number and skill set) of rural professionals to complete Farm Environment Plans (FEP) for the affected farmers in the time frame outlined under the plan**
- 2. Whether the tools needed to measure Nitrogen and Phosphate loss are accurate enough to meet the regulatory requirements of the Plan Change**
- 3. Cost of on farm mitigation strategies may be difficult for farmers to bear if it was expected that this would all fall in one financial year**
- 4. Cost of on farm mitigation could have a huge impact of the economy of the Waikato region as a whole**
- 5. Setback and slope parameters outlined in the plan are too blunt an instrument to manage contaminant loss into water ways**
- 6. The Plan doesn't take into account the practicality of trying to incorporate lease land into the farming business**
- 7. The Plan doesn't clearly incentivise or reward farmers who have developed their farming system to the point where they are using best practice and achieving established and agreed upon contaminant loss levels**
- 8. The Plan doesn't appear to give guidance/priority to the key issues facing each of the rivers and their subcatchments as they have different priorities (Waikato- N and E.coli, Waipa – soil and P loss)**
- 9. The Plan seems to be confusing around fencing requirements and setbacks from water ways**

3. Decision sought

- 3.1** Genetic Technologies Ltd seeks the following decision on its submission on the Plan Change:

- **That the Waikato Regional Council retain the Plan Change subject to the decisions sought that are referred to in Attachment 1 of this submission.**
- **Any consequential amendments that may be necessary to give effect to the decision sought in this submission, and/or**
- **Any alternative relief that will give effect to this submission**

Attachment 1: Plan Change provisions supported or opposed, reasons and decision sought

Point	Section of Plan Change	Provision and page number	Support Or Oppose	Decision Sought	Reason for submission
1	Objective 2	p. 27 Objective 2: Social, economic and cultural wellbeing is maintained in the long term	Support in part	To address the conflict between this objective and the cost of mitigation for both individual farmers and rural communities we consider that mechanisms such as a rates relief package for the farmers most adversely affected by the plan change affected would facilitate this	The cost of having a FEP completed and then carrying out the required mitigations to fulfil the FEP may prove onerous. In a report commissioned by WRC regarding the impact of the plan on maize cropping farmers meant that the average cost per hectare was between \$60-\$100. With around 14,000ha grown in the greater Waikato, the cost will be between \$700,000 and \$1,400,000 per year.
2	Part A	P. 15 Currently....a property scale nitrogen reference point to be established by modelling current nutrient losses from each property, with no property being allowed to exceed its reference point in the future and higher dischargers being required to reduce their nutrient losses	Support in part	Proposed..... a property scale nitrogen reference point to be established by modelling current nutrient losses from each property, with no property being allowed to exceed either it's NRP for either the 14/15 or 15/16 season OR, where the information exists and is complete, its 5 year rolling average reference point in the future and higher dischargers being required to reduce their nutrient losses	A single reference point based a single year's data is too inaccurate and subject to error or unique climatic events. A 5-year rolling average is far more accurate but farmers may not have enough information to produce this figure. A farmer should have the choice as to what number they use but once the NRP for their property is established, the farmer would be required to keep under that NRP figure

3		P 15 an accreditation system to be set up for people who will assist farmers to prepare their Farm Environment Plan, and to certify agricultural industry schemes	Support in part	There needs to be a realistic time frame for this to happen and the accreditation system must be realistic. There are simply not enough trained rural professionals within the region to have this completed in the time frames suggested. Raising the competency required for accreditation will further reduce of the pool of people capable and available to do the job.	Support that accreditation for those assisting farmers in developing FEP's, but consideration needs to be given in regards to timeframes for rural professionals to get the necessary qualifications.
	Section of Plan Change	Provision and page number	Support Or Oppose	Decision Sought	Reason for submission
4	Section 3.11.3	Policy 1 Page 29	Support	Retain provision	
5		Policy 2a,b and c	Support	Retain provision	
6		Policy 2d Page 30	Support in part	We support that the level of reduction needs to be commensurate with the level of discharge. However the policy needs to state that once best practice is achieved and contaminant loss targets have been reached NO FURTHER ON FARM CHANGE IS REQUIRED for this Plan Change	The plan needs to incentivise best practice so that once a farmer has achieved accepted contaminant loss figures, this is acknowledged and there is no need for further change so long as the current system is being operated on that farm . This gives farmers a clear target to work towards.
7		Policy 4: Enabling activities with lower discharges to continue or to be established while signalling further change may be required in future (p 30)	Support in part	Remove the statement "further change may be required in the future". If further change is needed, then future Plan changes can be introduced when and if they are needed	We agree that activities with lower discharges should be allowed to be continued but "signalling further change may be required in the future" is ambiguous. Clarity is gained through Policy 7 on page 32 but not clearly linked to Policy 4.

	Section of Plan Change	Provision and page number	Support Or Oppose	Decision Sought	Reason for submission
8	3.11.3	Policy 5 (p 31)	Support	The 80 year time frame is retained	The time frame for change needs to be realistic and manageable. Consider that 80 years will allow new technology to be developed that will help achieve the targets set out in the Plan.
9		Policy 6 (p 32)	Support in part	Amend to "Land use change consent applications that demonstrate clear and enduring decreases in existing diffuse discharges of nitrogen, phosphorus, sediment or microbial pathogens <u>or no increase above an accepted best practice level</u> will generally be granted.	Land use change should be a permitted activity if the farming practice has already reached an acceptable level of contamination. This "accepted level of contamination" should be determined by the needs of the sub catchment, not by the land use type.
10		Policy 7 (p 32)	Support	Retain provision	The policy acknowledges that more science is needed to ensure that; <ul style="list-style-type: none"> 1. The targets set out in the Plan are achievable and are set at the right levels and 2. Acknowledges that new research will enable the land owner to implement mitigations in order to achieve contaminant loss targets

11		Policy 10 (p. 10)	Support in part	Add: c. <u>While acknowledging that point source discharges need to see proportional reduction in discharges similar to what is being required from diffuse discharge sources (e.g. arable farming)</u>	The need to reduce contaminants needs to be shouldered by the whole community not just the farming community.
	Section of Plan Change	Provision and page number	Support Or Oppose	Decision Sought	Reason for submission
12	3.11.4	3.11.4.3 (p 36)	Support	Retain provision	FEPs are probably the best means of getting farmers to think about the impact of their activities on the rivers, highlighting on farm risks that may result in contamination and then develop strategies to reduce these risks. The likelihood of adoption increases with farmer buy in.
13	3.11.5	3.11.5.2 Sub points 1-3 (p40)	Support in part	Retain provision	For properties under 20ha this is more than reasonable as if the farm is a low emitter, the property owner won't be encumbered with the cost of having an FEP or NRP done. However, there needs to be a choice for smaller properties (e.g. lifestyle blocks/runoffs) to either having a FEP done for their block OR choosing to go through the consent process outlined in Rule 3.11.5.6
14		3.11.5.2.4 a,b	Support in part	The NRP number needs to be stated for us to either support or oppose	It makes good sense for low contaminating businesses not to have a FEP produced. However, as the actual NRP is yet to be established, we cannot fully support

					the rule as it is difficult to assess the on farm implications
15		3.11.5.2.4 c	Oppose	This needs to be replaced with something like "Contamination of streams caused by the runoff of soil contaminants needs to be minimised. Permission to cultivate slope will be based on risk assessment using the Revised Universal Soil Loss Equation and contained within the FEP"	The chance of contaminants entering a water is determined by a number of factors of which slope is only one. Other key factors include the soil type, the current water holding status of the soil, the length of slope, the intensity of rainfall, the distance from the water way and the type of cover on the paddock
	Section of Plan Change	Provision and page number	Support Or Oppose	Decision Sought	Reason for submission
16		3.11.5.2.4.d (p. 40)	Support in part	Needs clearer definition of a winter grazed forages. A better explanation might be..."The grazing of single grazed forages (e.g. winter brassicas or beet) from April 1 to August 31 is prohibited" Ryegrass, either annual or perennial, is NOT considered as a "winter grazed crop"	<ol style="list-style-type: none"> 1. There are a number of scientific papers which show that winter crops grazed in-situ tend to be very "leaky" from a N loss perspective. They also pose a high risk of P, soil and pathogens entering water ways. 2. However, there needs to be a clearer definition of what a winter forage crop is and what grazing period is prohibited. Research shows that 1. single grazed crops (where the ground is left bare after grazing) are very leaky and that 2. the danger period is from April 1 to August 30 as this is a period of low or nil growth and high rainfall.

17		3.11.5.2.4 (e) i	Oppose	<p>Cultivation setback distances should be based on cultivation type, crop type, soil type and paddock slope. Mitigation strategies need to include a minimum setback of 1m and up to 5m of either grass or riparian planting depending on outcome of the Revised Universal Soil Loss Equation calculation and should be written in to the FEP for that property</p>	<p>A defined width for the setback of a minimum 5m is too prescriptive and will lead to a direct cost to the farm from the lost opportunity of land taken out of production and the ongoing maintenance of managing the vegetation in the set-back.</p> <p>Setbacks are important to reduce the risk of contaminants entering waterways but width should not be prescribed in the rules. The design of setbacks to filter contaminants depends on a number of physical characteristics such as slope, soil type, overland flow paths and cultivation frequency and intensity.</p> <p>Effective setback design draws on proven scientific and engineering information, not regional rules.</p> <p>Environmental consultants developing mitigations in the farm plan process must design setbacks that are acceptable to the farmer. Setback width must be based on proven scientific evidence and must be the minimum width to effectively filter contaminants. Setbacks that are too wide have an ongoing economic loss for the farm relating to the area of land removed from production and costs associated with weed and riparian plant control.</p> <p>In the report to Waikato Federated Farmers Farm Environment plan project, with reference to farm 5, the opportunity cost from lost production from the development and maintenance of 5-metre buffer zones separating the drains from the crops was estimated to be \$100,000.</p>
----	--	------------------	--------	--	--

					<p>Research shows that 91% of incoming sediment through a grass filter strip was deposited in the first 0.6m. (Parklyn, S. (2004, September). Review of Riparian Buffer Zone (MAF). A 0.6m grass strip at a slope of 10% will reduce soil loss between 63-85% depending on the cultivation programme of the land (Yuan, Bingner, & Locke, 2009). Compared to other vegetation, grasses were found to be the option for trapping sediments.</p> <p>A more effective prevention system would be to use the FEP as the means of 1. Assessing the risk and 2. Developing mitigation strategies to prevent contaminants entering water ways</p>
	Section of Plan Change	Provision and page number	Support Or Oppose	Decision Sought	Reason for submission
18	3.11.5.4	P. 42	Oppose and support	<p>Clarify whether the plan implementation needs to be at an enterprise or property level.</p> <p>Further clarify how FEP's will be managed for enterprises that have multiple lease blocks</p>	<p>This is really confusing and will be difficult to implement, especially where lease land is concerned. Lease land is usually leased from anywhere between 6 months (in the case of growing a maize crop) to 30 plus years. If the lease changes hands from one business to another within the period of the consent, then it will be difficult and expensive for the next enterprise to incorporate the new property into its existing farm environment plan. The FEP needs to be owned by the lessor of the property and reside with the property not with the lessee. If a new lessee takes</p>

					over the lease then they can either run with the current FEP OR submit a new one.
19	3.11.5.4	P. 42	Support in part	<p>The time frame for all properties greater than 20 ha (excluding vegetable growers greater than 4ha) should be as follows:</p> <p>Priority 1 Catchments and those properties above the 75th percentile: 31 December 2020</p> <p>Priority 2 Catchments: 31 December 2023</p> <p>Priority 3 catchments and all those properties between 4ha and 20ha that sit outside Rule 3.11.5.2 : 1 January 2026</p>	<p>The timeframe reflects the sub catchment priorities. The bringing in to line all properties with an NRP above the 75th percentile by 2020 makes sense as these are the biggest polluters in regards to nitrogen loss</p> <p>However, human nature being what it is, consider that Farm Environment planners are most likely to focus on the low hanging fruit (i.e. smaller properties or properties with low levels of contaminants) first as this is where they are likely to make the most money. The priority needs to be getting FEPs for the biggest farmers and the enterprises with the highest contaminant losses in first and then worry about the smaller/lifestyle properties later.</p>
20	3.11.5.7	p. 45	Support in part	<p>Land use change will be permitted IF the proposed change in land use results in:</p> <ol style="list-style-type: none"> 1. N loss being below the 75th percentile NRP and lower than the NRP for the previous use 2. P and other soil contaminant (E. coli and other pathogens) losses are all 	<p>The intent of the Plan change is to reduce contaminants entering water ways. While it is accepted that in general dairy for example may be leakier than cropping, this may not always be the case. If the dairy business was shown to be less leaky than the cropping farm, then the property should be able to be converted to dairy. These decisions can be easily</p>

				<p>lower than the previous land use figures</p> <p>3. All water ways are fenced more than 3m from the water way margin</p> <p>4. All stock and excluded immediately</p>	<p>made on a property by property, sub catchment by sub catchment basis.</p> <p>A resource consent would still be needed</p>
21	Schedule A	P. 46	Support in part	<p>Registration time frame should be as follows:</p> <p>Properties above 20ha 1 September 2018- 31 August 2019</p> <p>Properties between 2-20ha (excluding vegetable growers) 1 September 2019 – 31 August 2020</p>	<p>The plan cannot be implemented unless the properties are registered and a baseline of activity is established. It is unlikely that there will be enough Farm Environment Planners to do the job required. Larger farms need to be prioritised so therefore the timing needs to reflect this</p>
	Section of Plan Change	Provision and page number	Support Or Oppose	Decision Sought	Reason for submission
22	Schedule B p. 47	Clause a.	Support in part	<p>The definition of a Certified Farm Nutrient Advisor on page 80 is too lax/broad. A CNMA needs to include:</p> <p>Has completed the advanced level of nutrient management training AND has had at least 2 years' experience in nutrient management/farm systems advice</p>	<p>Nutrient management is quite complex. The intermediate level of Overseer is not in depth enough and does not teach enough about the operation and limitations of the model. There is also a real need for advisors to have real life experience so that any FEP that it completed is practical, implementable and sustainable.</p>

23	Schedule B	b.	Support in part	Proposed..... a property scale nitrogen reference point to be established by modelling current nutrient losses from each property, with no property being allowed to exceed either it's NRP for either the 14/15 or 15/16 season OR, where the information exists and is complete, its 5 year rolling average reference point in the future and higher dischargers being required to reduce their nutrient losses	As per point 1 at the start of this document
24	Schedule B	c.	Support in part	The NRP must be calculated using Overseer ??? (the model once the changes for cropping have been completed and there is agreement by FAR that this model should be used) OR some other model approved by the Chief Executive of the Waikato Regional Council.	<p>We are concerned about the level of accuracy in the calculation of NRP because:</p> <ol style="list-style-type: none"> 1. OVERSEER is not routinely used by the cropping sector. Most arable farmers have had no prior experience with OVERSEER budgets and many certified nutrient managers have had limited experience with modelling arable systems with both crops and stock. 2. The Foundation for Arable Research, completed an independent review of OVERSEER in 2013. (https://www.far.org.nz/research/environment/overseer_review). The panel of experts found that OVERSEER® is currently the best tool available for estimating long term, average nitrate leaching losses from the root zone across the diversity and complexity of farming systems in New Zealand, but that further work on the cropping model is needed to enhance confidence in the OVERSEER® estimates of nitrate leaching from arable farms. A subsequent work programme validating the nutrient loss numbers from OVERSEER with APSIM has been completed.

					<p>Recommendations from these pieces of work have not yet been implemented into the OVERSEER crop module</p> <p>3. Attempts to model cropping systems in OVERSEER often deliver error messages preventing the nutrient reports from running. A number of “work-arounds” have been recommended by OVERSEER Ltd to manage these error messages. This moves the modelled data away from the actual farm data, increases the time and cost to prepare an OVERSEER budget and reduces the level of confidence that the farmer has in the nutrient budget.</p> <p>4. Nitrogen loss numbers from OVERSEER with a low level of confidence are good to provide a rough estimation of the farm nitrogen loss but they should not be used to develop NRPs for compliance.</p> <p>If the Waikato Regional Council develops sub-catchment limits based on the scientific measurement and monitoring of contaminant levels within the sub-catchment waterways, farmers and communities can develop targeted approaches to reducing contaminant levels. The focus is then on those catchments with bigger contaminant loads, with less attention on catchments where the loads are below a level of concern.</p> <p>This is a more equitable approach. It will not impose unnecessary constraints and costs on farmers and is likely to be viewed with greater respect than a blanket approach.</p>
--	--	--	--	--	---

	Section of Plan Change	Provision and page number	Support Or Oppose	Decision Sought	Reason for submission
25	Schedule B p. 47	Clause f.	Support		This 2 year period covered a season with low to medium yields and a season with high yields. This then allows the cropping farmer to choose which ever number is more appropriate for their business but a farmer should also be able to use the NRP from a rolling average of the previous 5 seasons if they have complete and accurate data.
26	Schedule C p. 50	Clause 5	Support in part	Need to clearly define where the river bed stops and starts. Is it the edge of the water or is it the edge of the current drain bank?	Drain bank shape varies hugely. In the case of peat drains, these are usually sloped away from the water's edge with the top of the bank being up to 1 m away horizontally from the stream edge. If the farmer was required to fence another 1m away from the top of the bank this would be excessive. In the case of a drain in a silty soil type, the drain banks are often vertical and 1m is more than reasonable
27	Schedule 1 p. 51	Point1	Support	Retain provision	

	Section of Plan Change	Provision and page number	Support Or Oppose	Decision Sought	Reason for submission
28	Schedule 1 p. 51	Point 2 An assessment of the risk of diffuse discharge of sediment, nitrogen, phosphorus and microbial pathogens associated with the farming activities on the property, and the priority of those identified risks, having regard to sub-catchment targets in Table 3.11-1 and the priority of lakes within the sub-catchment.	Support in part	The table 3.11.1 is unclear as to what the key priority for that particular sub-catchment is. It simply lists figures without saying that one attribute is more important than another. Someone needs to go through sub-catchment by sub-catchment and clearly outline what the key priority for that particular sub-catchment is	Consider that there needs to be a better linkage between Schedule 1 and 3.11.1
29	B ii	The provision of minimum grazing setbacks depending on slope	Support in part	Agree with the intent however, once again, using a distance is too blunt an instrument... maybe it should read....provision of 1m or greater grazing setback depending on level of risk of contaminants entering water bodies	There are cases on a heavy soil, where even on flat ground a 1m setback would not be enough whereas on other soils, 1m is more than adequate (as per our comments in Point
30	B iii.	The provision of minimum cultivation setbacks of 5 metres.	Oppose	It should read: The provision of a minimum of 1m cultivation setback with actual distance based upon the assessed risk of contaminants entering the water body.	The size of the setback needs to be commensurate with the risk of contaminants entering the water body. 5m may be excessive in some cases but may be inadequate in others depending on a number of factors outlined in point 16

	Section of Plan Change	Provision and page number	Support Or Oppose	Decision Sought	Reason for submission
31	Schedule 1 p.52	f. (i) The identification of slopes over 15 degrees and how cultivation on them will be avoided; unless contaminant discharge to water bodies from that cultivation can be avoided	Support in part	Define avoided... does this mean prohibited? If it does then this is excessive. It should read The identification of slopes over 15 degrees and how cultivation of them will be managed to minimise contaminant discharges to water bodies from that cultivation.	The word avoided in a planning context now has a defined meaning. If the intent is prohibited then this should be clearly stated, and if not be amended.
32		Point 5 a Page 53	Support	Retain provision	A 5 year rolling average makes sense given the vagaries of the climate and also potential changes in the model used to measure the NRP
33	Table 3.11.1	P 57	Support in part	The table needs to state which are the priority attributes that need addressing by sub-catchment	
34		Definition Cultivation p.80	Support in part	Needs to include: also excluding minimum tillage and strip tillage	Very little soil loss from minimum or strip tillage. Both maintain soil structure therefore preventing erosion
35		Definition of Enterprise p. 81	Support in part	Change to: One or more parcels of land within the same sub catchment	It makes sense that an enterprise may have one or more parcels of land. However, for the process of effectively managing contaminants, these need to be all in same sub catchment

36		Definition Forage crop. p.82	Support in part	Add: Excluding annual and/or permanent ryegrass	Multi grazed crops have very low losses due to the fact that they regrow. Ryegrass is one of the best soil restorers and contaminant loss preventers
----	--	---------------------------------	-----------------	---	--