

Sheep Drenching – Science and Technology Fair Investigation

Alex lived on a mixed farm just out of Winton and she was keen to work with the sheep on the farm in some way for her investigation for the Southland Science and Technology Fair. Having entered the Fair in past years when she was in Years 8 and 9she knew she had to get organized ahead of time for the next years fair. She discussed her ideas with her father and made the decision to work with the lambs on the farm.

Earlier in the year she had read an article in Dad's magazine, *Farm Update*, about a farmer who had grown a green crop high in tannins for his sheep to graze on and it said that it meant that the sheep did not need to be drenched in the usual way to reduce worms in their guts. Alex decided she would like to use tea to drench the sheep instead of the usual commercially bought drench which they used at home and would check the lambs to see if they still had gut worms and how using this drench affected their growth. She would gather up their droppings and send them off to the lab for counts to be done just like her father did. Dad said she should talk with their vet Penny Sampson and make sure she had thought of everything in her planning.

She talked with Penny who said she needed to keep a check on the group being drenched with tea and make sure that they did not get too many worms compared to the drenched group (her control group) and that if they were losing too much weight she ought to stop the investigation. If she was unsure she should give Penny a phone call and go over her results with her and she would be happy to give her advice.

Alex planned to keep 40 of the new lambs in spring and to divide the north facing paddock in to two and to have 20 in her group to be drenched the usual way and to have 20 drenched with tea. She initially planned to keep the investigation going for 14 weeks and take faecal samples every week. She was going to make tea of the strength that Mum and Dad liked to drink.

Because the lambs are young sheep they are mammals. Alex knew she needed to get animal ethics approval before starting her investigation so she asked Ms McGregor her biology teacher for help to fill in the form. She then e-mailed it to the Animal Ethics Committee at the Royal Society of New Zealand for their approval of her proposal.

New Zealand Association of Science Educators Student Form – One Year Approval

Application for Ethical Review of Investigation/Project Involving Live Animals

Student Name: *Alex Jones*

School: *Waikareka College*

Year Level: *12*

Home	School
Name of Parent/Caregiver Supervisor <i>Dan Jones</i>	Name of Teacher Supervisor: <i>Ms M McGregor</i>
Signature: _____	Signature: _____
Address: <i>'Homeleigh' Rapid 42 Winton</i>	Address: <i>Waikareka College PO Box 21 Winton</i>
Phone: <i>03 345 4861</i>	Phone: <i>03 366 9080</i>
Email: <i>ajonesclan@atra.co.nz</i>	Email: <i>mmg@waikarekacoll.acjool.nz</i>

Date of Application: *5/8/2003*

Intended start date of investigation: *2/1/2004*

Intended finish date of investigation *1/3/2004*

Purpose for doing this Investigation: *eg Science Fair, Achievement Standard, CREST Award, Bright Sparks etc
Southland Science and Technology Fair*

1 Investigation's Title: *Tea Flush (Speech bubble - Title needs to explain very briefly what the investigation is about)*

2 Investigation's Aims: *What do I expect to find out from doing it?
I expect to find out if drenching the lambs with tea is as effective or more effective than the drench which we buy for the farm. I want to do this for my Science and Technology Fair investigation.*

Signature of Student(s)

Date

If emailing this form to NZASE you still required to send a signed copy by post to the Animal Ethics Committee Secretary, P O Box 598 Wellington.

Statistics Return: You will need to download the Animal Use Statistics form to report to the NZASE Animal Ethics Committee on the condition of your animals at the end of your investigation.

- If your investigation does not go as you planned, then what will you do?

-

I will check with the vet and take her advice – probably I will have to stop the investigation if the lambs are losing weight

9 Risks: I have identified the following risks to the health or well-being of the animal(s) as a result of the procedures:

- the lambs may lose a lot of weight if the worms are too high and become unwell
- the tea drench may not be effective at either of the concentration

I have discussed these risks and how to minimise them with a qualified person

(e.g your teacher, farmer, animal breeder, a vet)

YES

Name of this person: Penny Sampson

Reason this person was chosen: She is our vet

What advice / answers were you given?

She said that I should begin using the bought drench if the droppings count reached too high a level, because the lambs would be suffering at that point from too many worms in their guts

Should any of these risks occur and cause irritation or harm to the animal(s), then what will you do?

Stop the investigation

11 Day-to-day care: Briefly describe the arrangements you have made to

A. house the animals: They will be in their regular paddock on the farm

B. provide adequate food and water: they will eat the grass in the paddock and there are water troughs there too

C. cleaning:

D. weekend care:

E. take care of any animals that become ill

They will be separated from the trial and cared for the same as any sick sheep. If a lamb becomes very unwell and has to be killed Dad will do it – he does it on the farm when it is needed.

12 At the end of the investigation the animals will be:

- **returned to their original environment** ○ *They will become a part of the regular farm flock and they will be fenced into the paddock*
- **returned to a similar environment** ○ **where?**
- **kept in captivity** ○ **where?**

With certain species it may be inappropriate to release them from captivity, in this case the animals will be :

- **humanely killed** ○ *this is necessary because* *This will not be necessary*
- **method of killing these animals**
- **who will kill these animals?**

13 I will keep a diary of daily care YES

I will record each day how the lambs aretheir

- *level of activity*
- *eating habits*
- *coat conditions - record any cuts into the surface*
- *faeces - especially if they are runny*