

HIGH SCHOOL  
ALPACA UNIT

2013

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ANIMAL PRODUCTION SYSTEM

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Week	Content focus	Activities	Resources	Assessment
1	<p><b>Breeds and characteristics</b> Breeds and history of origins and development into current types.</p>	<p><b>Classroom</b></p> <ul style="list-style-type: none"> <li>▪ Introduction and expectations.</li> <li>▪ Types of camelids.</li> <li>▪ Types of alpacas.</li> <li>▪ History of alpacas in South America.</li> <li>▪ History of alpacas in Australia.</li> <li>▪ Breed standards/anatomy and conformation.</li> <li>▪ Behaviour and communication.</li> </ul> <p><b>Practical tasks</b></p> <ul style="list-style-type: none"> <li>▪ Evaluation of individual alpacas as per breed standards.</li> <li>▪ Interpretation of observed behaviours.</li> </ul>	<p>The Complete Alpaca Book [Hoffman]</p> <p>Introduction to Alpacas - AAA DVD</p> <p>Managing Alpacas in Australia handbook</p> <p>Alpaca AgSkills book</p> <p>AAA Breed Standard</p>	<p><b>Investigation</b> History of breed</p>

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2 - 4	<p><b>Select and produce for a purpose</b></p> <ul style="list-style-type: none"> <li>▪ Identify and implement calendar of operations for an enterprise production cycle.</li> <li>▪ Perform routine husbandry for care and welfare of animals.</li> <li>▪ Select and use equipment for given enterprise.</li> <li>▪ Monitor growth and development of animals.</li> <li>▪ Identify quality criteria for animal products.</li> </ul>	<p><b>Classroom</b></p> <ul style="list-style-type: none"> <li>▪ Calendar of operations for an alpaca enterprise.</li> <li>▪ Characteristics of both types of alpaca fleece.</li> <li>▪ Characteristics of quality, commercially viable alpaca fleeces.</li> <li>▪ Current end products.</li> <li>▪ Document the Key Breeding Objectives for an alpaca herd you might aim to produce</li> </ul> <p><b>Practical tasks</b></p> <ul style="list-style-type: none"> <li>▪ How to catch an alpaca /restraint techniques.</li> <li>▪ Inserting IAR ear tags.</li> <li>▪ ADE /selenium requirements.</li> <li>▪ Putting on a halter.</li> <li>▪ Shearing requirements / management / procedures.</li> <li>▪ Shearing shed requirements / OHS issues.</li> <li>▪ Body scoring.</li> <li>▪ Injections – subcutaneous and intramuscular.</li> <li>▪ Clipping toenails / trimming teeth.</li> <li>▪ Correct procedure for loading /unloading alpacas.</li> <li>▪ Fleece skirting.</li> <li>▪ Fleece quality control / judging.</li> <li>▪ Interpretation of fleece histograms.</li> </ul>	<p>Alpacas Australia magazine Vol: Summer 2009 AAA web site</p> <p>Managing Alpacas in Australia</p> <p>AAA Shearing Shed &amp; Pre-Classing Code of Practice</p> <p>Alpaca Fact Sheet No. 12 Alpaca Fact Sheet No. 9 Alpaca Fact Sheet No.10</p> <p>Alpaca Fact Sheet No. 4 Alpaca Fact Sheet No. 7</p> <p>Alpaca Fact Sheet No.10</p> <p>Animal Health Australia web site - Transport Standards</p> <p>Alpacas Australia magazine Vol: Winter 2010</p> <p>Google... Histograms</p>	<p>Production and practice check list</p> <p>Breeding plan to achieve key objectives</p>

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5 - 6	<p><b>Animal anatomy and physiology</b></p> <ul style="list-style-type: none"> <li>▪ Anatomy of digestive, reproductive, respiratory and circulatory systems.</li> <li>▪ Comparisons between ruminants, monogastrics and poultry.</li> <li>▪ Life cycles and growth curves.</li> </ul>	<p><b>Classroom</b></p> <ul style="list-style-type: none"> <li>▪ Respiratory and circulatory systems.</li> <li>▪ Female and male reproductive systems.</li> <li>▪ ET program/advantages and disadvantages.</li> <li>▪ Birth stages/signs/symptoms.</li> </ul> <p><b>Practical Tasks</b></p> <ul style="list-style-type: none"> <li>▪ Mating.</li> <li>▪ Monitor growth of pregnant female/cria.</li> </ul>	<p>The Complete Alpaca Book [Hoffman] Alpaca Breeders Reproduction Handbook [Jinks and McMillan]</p> <p>Alpaca Fact Sheet No. 3</p> <p>Managing Alpacas in Australia</p> <p>Alpaca AgSkills book AgGuide – Farming Alpacas</p> <p>Alpaca Fact Sheet No. 2</p> <p>Alpaca Fact Sheet No. 3</p>	

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7	<p><b>Animal nutrition</b></p> <ul style="list-style-type: none"> <li>▪ Feed types that supply nutritional requirements.</li> </ul> <p><b>Animal nutrition and management</b></p> <ul style="list-style-type: none"> <li>▪ Provide correct feed requirements to stages of growth.</li> </ul>	<p><b>Classroom</b></p> <ul style="list-style-type: none"> <li>▪ Examine digestive system of alpacas.</li> <li>▪ Examine nutritional requirements of alpacas.</li> <li>▪ Effect of nutrition on fleece quality.</li> <li>▪ Supplementary feeding / deficiencies / treatments.</li> <li>▪ Feed levels of animals at different stages of lifecycle: e.g. cria, pregnant females, lactating females, stud males, wethers.</li> </ul> <p><b>Practical Tasks</b></p> <ul style="list-style-type: none"> <li>▪ Fleece classing – micron/crimp/lustre/length/density/colour.</li> <li>▪ Pasture types throughout Australia.</li> </ul>	<p>Managing Alpacas in Australia RIRDC publication - <b>Improving Production Efficiency, Quality and Value-adding of Rare Natural Animal Fibres</b></p> <p>Alpacas Australia magazine Vol: Spring 2010</p> <p>AgGuide – Farming Alpacas</p>	<p>Identification of various feed supplements</p> <p>Feed plan for a group of alpacas with varying lifecycle requirements (eg weanlings, pregnant females)</p> <p>Assessment of local pasture grasses</p>

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8	<p><b>Animal health</b></p> <ul style="list-style-type: none"> <li>▪ Pests and diseases e.g. viruses, bacteria algae, protozoan, fungi, zoonotic diseases.</li> </ul> <p><b>Animal health , management pests and diseases</b></p> <ul style="list-style-type: none"> <li>▪ Monitor levels of pests and diseases through growing seasons.</li> <li>▪ Follow chemical or veterinary labels.</li> </ul> <p><b>Requirements for sustainable production</b></p> <ul style="list-style-type: none"> <li>▪ Prevention of spread of pests and diseases to natural ecosystems.</li> </ul>	<p><b>Classroom</b></p> <ul style="list-style-type: none"> <li>▪ Symptoms of common diseases/worms.</li> <li>▪ Heat stress and hypothermia.</li> <li>▪ Johnes Disease.</li> <li>▪ Biosecurity measures /prevention of disease.</li> <li>▪ Transport standards.</li> <li>▪ Q-Alpaca and MAP program.</li> <li>▪ NLIS program.</li> </ul> <p><b>Practical Tasks</b></p> <ul style="list-style-type: none"> <li>▪ Faecal testing.</li> <li>▪ Worm counts.</li> <li>▪ Drenching.</li> <li>▪ Response to critical situations (i.e. heat stress).</li> <li>▪ Completing a way bill /paperwork for the movement of alpacas across all Australian states.</li> </ul>	<p>Alpaca Fact Sheet No. 11</p> <p>Animal Health Australia web site</p> <p>Animal Health Australia Website - Biosecurity , Transport Standards</p> <p>Department of Agriculture</p> <p>Alpacas Australia article on Heat Stress</p>	

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9	<p><b>Economics and markets</b></p> <ul style="list-style-type: none"> <li>▪ Farming systems and enterprises.</li> <li>▪ Available markets.</li> <li>▪ Collection and presentation of data for a purpose.</li> <li>▪ Calculate costs - returns and profits.</li> </ul> <p><b>Requirements for sustainable production</b></p> <ul style="list-style-type: none"> <li>▪ Meet market requirements for quality food.</li> </ul>	<p><b>Classroom</b></p> <p>Research and identify current markets for:</p> <ul style="list-style-type: none"> <li>▪ Fleece - Buyers of different types of fleece (e.g. clothing, carpets, doonas, blankets, crafts).</li> <li>▪ Stud animals.</li> <li>▪ Breeding animals.</li> <li>▪ Pets.</li> <li>▪ Wethers.</li> <li>▪ Potential markets – meat/hide; luxury clothing/textiles.</li> </ul> <p><b>Practical tasks</b></p> <ul style="list-style-type: none"> <li>▪ Fleece classing – micron/crimp/lustre/length/density/colour for sales to buyer requirements.</li> <li>▪ Cost vs. return of different qualities of fleece.</li> </ul>	<p>AAA web site for listing of current buyers</p> <p>Alpacas Australia magazine Vol: Summer 2009 Vol: Spring 2010</p> <p>AAA web site - buyer lists and criteria</p>	<p><u>Cost/profit table</u></p>

Week	Content focus	Activities	Resources	Assessment
10	<p><b>Systems Ecology</b></p> <ul style="list-style-type: none"> <li>▪ Natural resources in agriculture i.e. soils, water, air, biodiversity.</li> <li>▪ Water and nutrient cycles.</li> <li>▪ Atmospheric circulation and weather e.g. synoptic charts and forecasts.</li> </ul>	<p><b>Classroom</b></p> <ul style="list-style-type: none"> <li>▪ Natural resources in agriculture.</li> <li>▪ Water and nutrient cycles landscapes.</li> </ul> <p><b>Practical tasks</b></p> <ul style="list-style-type: none"> <li>▪ Reading weather charts.</li> <li>▪ Weather forecasting from synoptic charts.</li> </ul>	<p>Department of Primary Industries</p> <p>Bureau of Meteorology</p>	

### Assessment

1. Investigation – breed history
2. Production and practice check list; includes keeping a journal on the progress of a pregnant female or cria
3. Cost and profit table
4. Breeding plan – to meet Key Breeding Objectives by use of selected sires with specified dams (see resource list for details)
5. Create a Marketing plan to promote sales of end product created from fibre produced by school herd
6. Nutrition - Identification of various feed supplements / Feed plan for a group of alpacas with varying lifecycle requirements (eg weanlings, pregnant females)/ Assessment of local pasture grasses



## AAA Resources

**Alpaca Fact Sheets** s available to download from the AAA web site:

- No. 1 Reproduction
- No. 2 Mating
- No. 3 Birthing
- No. 4 Body Condition
- No. 5 Nutrition
- No. 6 Herd Protectors
- No. 7 Injections
- No. 8 Ticks
- No. 9 Vitamins
- No.10 Toenails
- No.11 Worms
- No. 12 Ear Tags

**Managing Alpacas in Australia** – handbook available for purchase from the AAA national office

**Alpacas Australia magazines** – back issues available for purchase from AAA national office

AAA Shearing Shed and Pre-Classing Code of Practice – available to download from the AAA website

Cards with sire and dam information for Breeding Selection/Plan activity and assessment – available to download from the AAA website (\* to be created)

### Additional recommended resources

Alpaca AgSkills book – available from NSW DPI. <http://www.dpi.nsw.gov.au/aboutus/resources/bookshop/alpaca-agskills>

AgGuide – Farming Alpacas book – available from NSW DPI. <http://www.dpi.nsw.gov.au/aboutus/resources/bookshop>

The Complete Alpaca Book second revised edition, Eric Hoffman ISBN: 978-0-9721242-1-8

Alpaca Breeders Birthing Handbook, Dr Ewen McMillan and Carolyn Jinks, Alpaca Publications Australia

Alpaca Breeders Reproduction Handbook, Dr Ewen McMillan and Carolyn Jinks, Alpaca Publications Australia

ABC for Alpaca Owners, Dr Ewen McMillan and Carolyn Jinks, Alpaca Publications Australia

**Web site addresses**

Australian Alpaca Association Ltd.

[www.alpaca.asn.au](http://www.alpaca.asn.au)

Animal Health Australia

[www.animalhealthaustralia.com.au](http://www.animalhealthaustralia.com.au)

Animal Health Australia Biosecurity

[www.animalhealthaustralia.com.au/farm-biosecurity](http://www.animalhealthaustralia.com.au/farm-biosecurity)

Department of Agriculture Fisheries and Forestry (DAFF):

[www.daff.gov.au](http://www.daff.gov.au)

NSW DPI.

<http://www.dpi.nsw.gov.au/aboutus/resources/bookshop/alpaca-agskills>