Agricultural Celebrity Heads

Explaining Reasons for Plant and Animal Use in Agricultural Enterprises Considering Australian Markets and the Environment.

Student Workbook

YEAR 7-10

This resource has been developed by:

Primary Industries Education Foundation Australia

www.primezone.edu.au
primezone
The place for all your food and fibre resources

SFIRP

STORM & FLOOD INDUSTRY RECOVERY PROGRAM

CONTENTS

NB: Double click on underlined text throughout the document to go directly to the website link and/or worksheet page.

FEEDBACK SURVEYS
Students

We hope you find this resource valuable, relevant and enjoyable. We would be grateful for your feedback on things that you liked and worked well, and areas that you feel could be improved upon. We invite you to please complete the below survey/s after using the resource. Your responses will be used to continuously improve PIEFA's food and fibre education resources.

ACCESS THE **STUDENT** SURVEY HERE OR USE THIS QR CODE.

This resource has been developed by:

Worksheet 1:
Food and Fibre From Living Things

Instructions: Refer to the diagram below with your class discussion to identify a range of agricultural plants and animals. Explain why they have been used in agriculture.

Year 7+8 example: Beef cattle, steak and leather, good muscularity provides high beef yield and good eating quality for Australian consumer markets

Year 9 + 10 example: Bos indicus Brahman Beef Cattle - Eye fillet, Mince. Well suited to hot, dry conditions in northern tropical regions due to adaptation of saggy skin which increases skin surface area for cooling by evaporation.

PLANTS AND ANIMALS USED IN AGRICULTURE
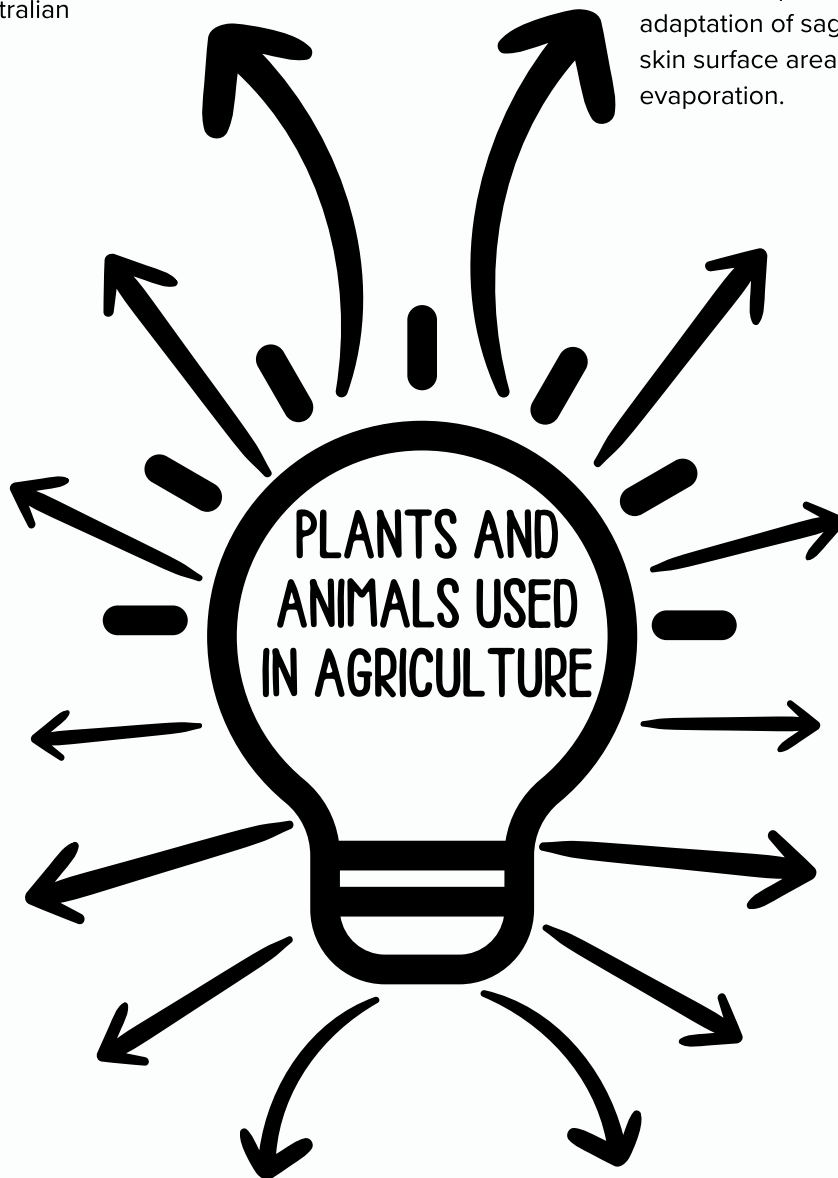
Worksheet 2: Plants and Animals Used in Agriculture

Team: Agronomist or Veterinarian (circle one).

- **Instructions:** Using the examples provided, **research the missing information** to identify characteristics and reasons why a range of plants and animals are commonly used in Australian agriculture.

Plant/ Animal	Features/ Structures	Example: Varieties/ Breeds	Products and Uses	Suitable Environment, Climate or Market Conditions
Animal: Bos indicus Cattle	Hump, droopy ears, light coat, short hair, loose skin, heat tolerant, resistant to parasites such as ticks and high fleshing ability in low quality pastures.	Brahman: Cross breeds include Droughtmaster, Braford, Brangus and Santa Gertrudis	Meat (lower eating quality to Bos Taurus cattle), leather, blood and bone fertiliser.	Adaptability to hot, humid, dry conditions and poor quality pastures. Good growth and reproduction in harsh conditions. Well suited to tropical, arid and semi arid northern Australian regions
Animal: Bos taurus Beef cattle			**Raw products:** **Processed products:**	Suited to cooler more temperate climates with higher rainfall and high quality pastures.
Animal: Bos taurus Dairy cattle		Guernsey, Ayrshire, Aussie Red, Illawarra. Jersey, Brown Swiss, Holstein.	**Raw products:** **Processed products:**	
Animal: Layer Chickens	Colour and size range e.g black/ brown, tolerate wide range of temperatures, gentle temperament, cope well with confinement, high egg laying ability	**Commercial breeds:** **Domestic breeds:**	Eggs, feathers, Some are dual purpose for meat, manure, pet food.	Chickens generally tolerate a wide range of temperatures, calm temperaments mean they can be produced in intensive and extensive egg production systems which provide a wide range of production regions in Australia to meet market demand.
Animal: Pigs	Range of colours and coats, monogastric, snout.	**3 main commercial breeds used in Australia =**	Raw product - Pork. Processed products - ham bacon, salami	Three types of pig production systems in Australia - Indoor housing, deep litter housing and free range systems across all states of Australia and usually close to grain growing regions.

Primary Industries Education Foundation Australia | www.primezone.edu.au primezone The place for all your food and fibre resources

SFIRP
STORM & FLOOD INDUSTRY
RECOVERY PROGRAM

Worksheet 2: Plants and Animals Used in Agriculture

- **Instructions:** Using the examples provided, **research the missing information** to identify characteristics and reasons why a range of plants and animals are commonly used in Australian agriculture.

Plant/ Animal	Features/ Structures	Example: Varieties/ Breeds	Products and Uses	Suitable Environment, Climate or Market Conditions
Animal: Poultry (meat)	High meat yield, rapid growth, calm temperament, good foraging capability, tolerate wide range of temperatures.	Cornish Cross, Australorp, Pekin Duck		Barn (climate controlled) or free range production systems = wide range of suitable climates. Highest protein consumption demand in Australia 50kg+/year/person.
Animal: Sheep (meat, dairy and wool)	Fast growth, good reproduction, early maturing, good meat and wool yield.	Meat: Poll Dorset, Suffolk, White Suffolk & Dorper. Dairy: East Friesland **Wool Breeds:**	Meat, wool, milk, blood and bone, pet food	
Animal: Fin fish	Fast growth, High food conversion rate, tolerate a range of temperatures, calm temperament.			Wide range of production regions in Australia depending upon the species e.g. Atlantic Salmon suited to Cooler Temperate regions in Tasmania and Mulloway suited to more sub tropical regions and Barramundi suited to more tropical regions.
Animal: Bees	Insects, colonial species, hive, queen, workers and drones.	**Introduced species:** **Native species:**	Honey, wax, propolis, pollination.	Wide range of regions across Australia. native species have specific temperature limits to distribution.
Plants: Cereals	Annual plants: Fast growing, seasonal growth cycle, high reproductive yield, good root structure.	**Cereal grains:** **Oil Seeds:** **Pulses and legumes:**	Diverse range of raw and processed products - flour, cereals and grains, oil, livestock feeds	3 main growing regions in Australia - North (higher soil fertility), South (temperate climate) and West (winter rainfall).

Primary Industries Education Foundation Australia

www.primezone.edu.au
primezone
The place for all your food and fibre resources

SFIRP
STORM & FLOOD INDUSTRY RECOVERY PROGRAM

Worksheet 2: Plants and Animals Used in Agriculture

- **Instructions:** Using the examples provided, **research the missing information** to identify characteristics and reasons why a range of plants and animals are commonly used in Australian agriculture.
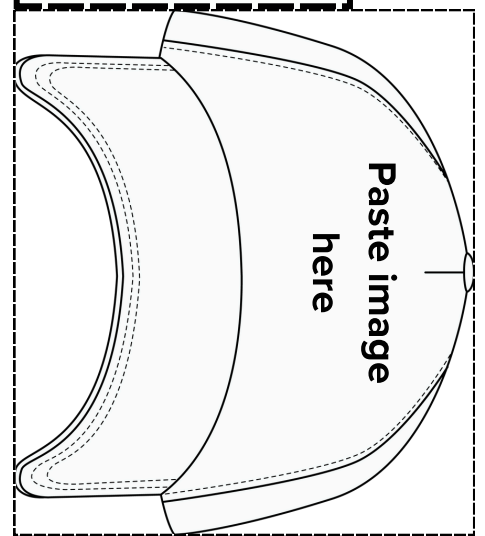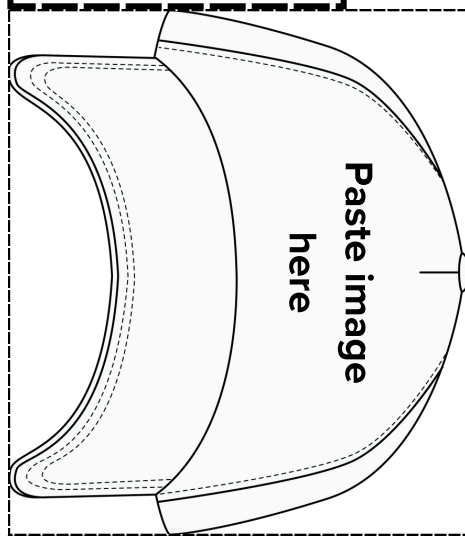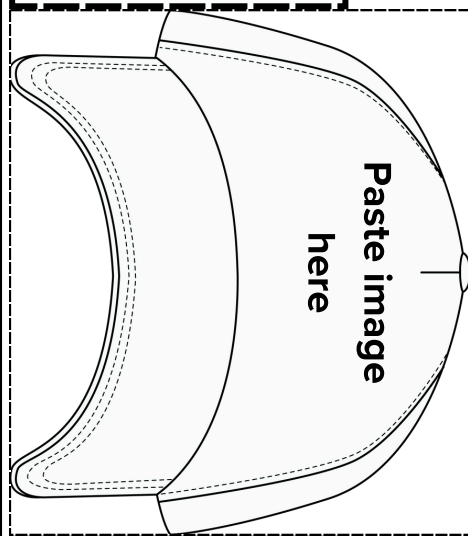
Plant/ Animal	Features/ Structures	Example: Varieties/ Breeds	Products and Uses	Suitable Environment, Climate or Market Conditions
Plants: Cotton	Hollow, soft, strong, absorbent lint fibres, temperature and abrasion resistant. Shrub 1.2m height, broad heart shaped, lobed leaves.	GM cotton varieties have been bred to achieve high yields and reduce pesticide use	Natural fibre textiles and clothing. Cotton seed used in livestock feeds and oil.	
Plants: Pastures/ forage crops	High vegetative composition, rapid germination, tolerate grazing pressure, rapid growth in seasonal conditions.	Winter: Summer:	Forage, hay, straw, silage, green manure.	Winter: cooler temperate conditions, high rainfall. Summer: warmer, humid subtropical, tropical and arid regions.
Plants: Vegetables /herbs	Annual plants: Edible plant parts with high nutrition e.g. roots- carrots, tubers - potatoes, leaves- lettuce, flowers - broccoli, fruits- tomatoes.	Lettuce: Brassica: Carrot: Asian greens: Solanaceae:	Fresh vegetables - salads, snacks, juices. Processed vegetables such as canned, frozen, dried or cooked products such as canned soup.	Suited to specific seasonal conditions and growing regions e.g. temperate vegetables include root crops, potatoes and carrots, tropical vegetables include cucumber, eggplant and sweet potato.
Plants: Forestry	Hardwood and softwood species	Hardwood: Softwood:	Wood chip for pulp and paper, timber and furniture	Rainfall regions of Eastern Queensland, NSW and Victoria, Northern region of Northern Territory, across Tasmania and in the south of Western Australia
Plants: Natives	Plants adapted to Australian climates and regions, usually suited to low fertility and pH soils.	Native Rosella, fingerlime, Pepperberry, Warrigal greens		Market suits consumer demand for sustainable products with ethical branding.

Primary Industries Education Foundation Australia

www.primezone.edu.au
primezone
The place for all your food and fibre resources

SFIRP
STORM & FLOOD INDUSTRY
RECOVERY PROGRAM

Worksheet 3: Characteristics of Plants and Animals Developed for Australian Agriculture

- Review the 2 examples provided then use the information gathered in your research for **Worksheet 2** and select 2 agricultural plants and 2 agricultural animals.
- Outline the important industry related **structures and functions** for each of your selections and **justify reasons for why they are suited** to Australian agricultural production systems.
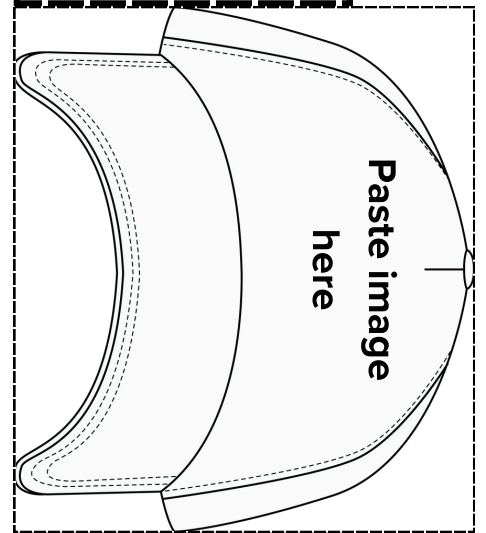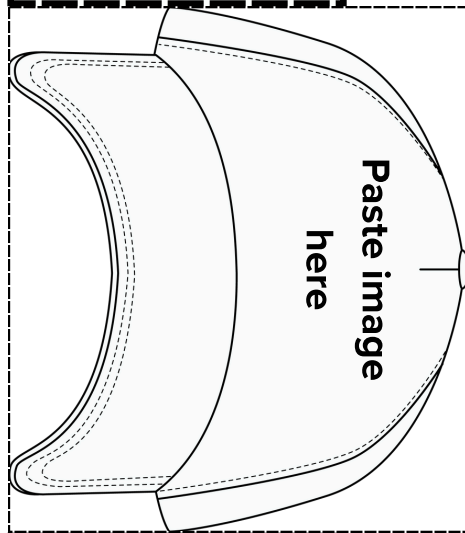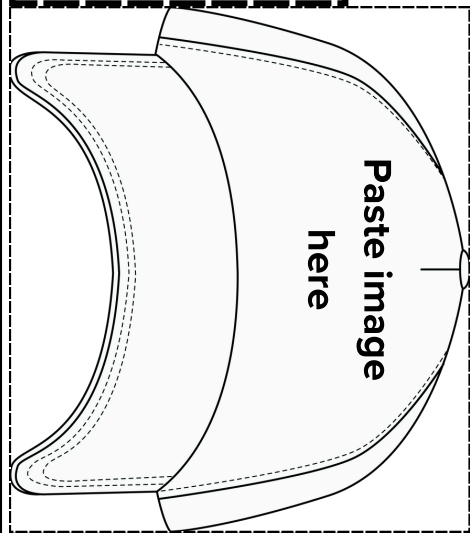
Plant/ Animal Variety or Breed	Structures	Functions	Justification for Use in Australian Conditions - Ethics, Sustainability, Food Security or Markets.
Angus Cattle	High muscularity and carcase quality	Supports strength and ability to forage for fodder, marbling increases palatability but supports energy storage for animal survival.	High muscularity increases beef yield and profitability, high marbling potential suits Australian domestic and international export markets and controlled by a quality assurance programs using the LPA standards, NLIS traceability and MSA eating quality standards.
Wheat	Hard grain, well filled, white colour	Low moisture content, easy milling for high flour yield	Suited to a wide range of wheat based products across domestic and international markets.

Primary Industries Education Foundation Australia | primezone www.primezone.edu.au The place for all your food and fibre resources

SFIRP
STORM & FLOOD INDUSTRY
RECOVERY PROGRAM

WORKSHEET 4: AGRICULTURE CELEBRITY HEADBANDS

Paste image here

Paste image here

Paste image here

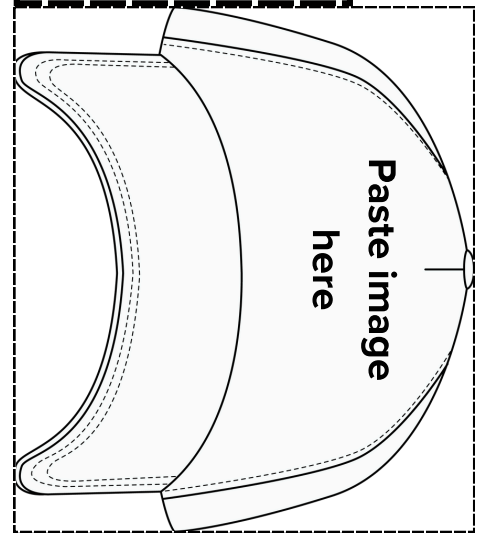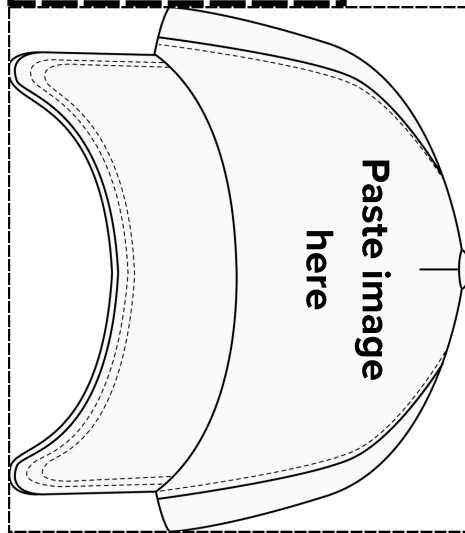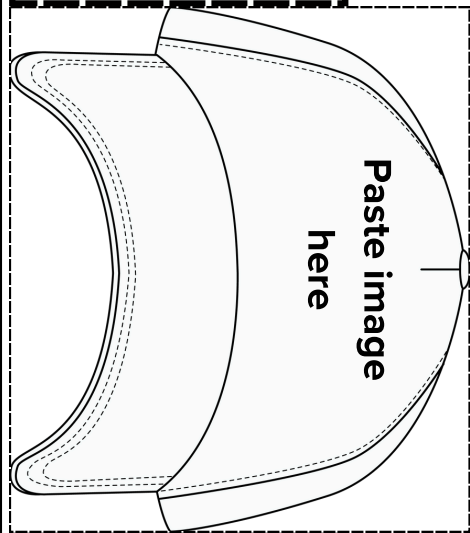# Blank page for Activity 5:
Worksheet 4 - Celebrity Headbands cut/paste
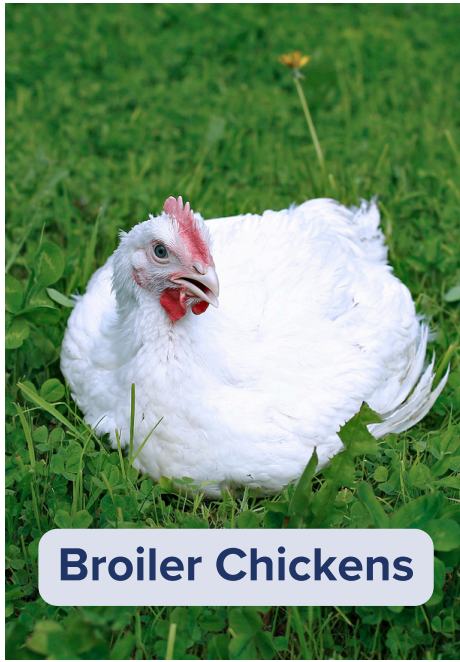
Worksheet 4: AGRICULTURE CELEBRITY HEADBANDS

Paste image here

Paste image here

Paste image here

Blank page for Activity 5:
Worksheet 4 - Celebrity
Headbands cut/paste

Worksheet 4: AGRICULTURE CELEBRITY HEADBANDS

Paste image here

Paste image here

Paste image here

Blank page for Activity 5:
Worksheet 4 - Celebrity
Headbands cut/paste

WORKSHEET 4 - AGRICULTURE CELEBRITY ANIMALS

Layer Chickens

Broiler Chickens

Bos taurus Angus Cattle

Dairy Cattle

Merino Sheep
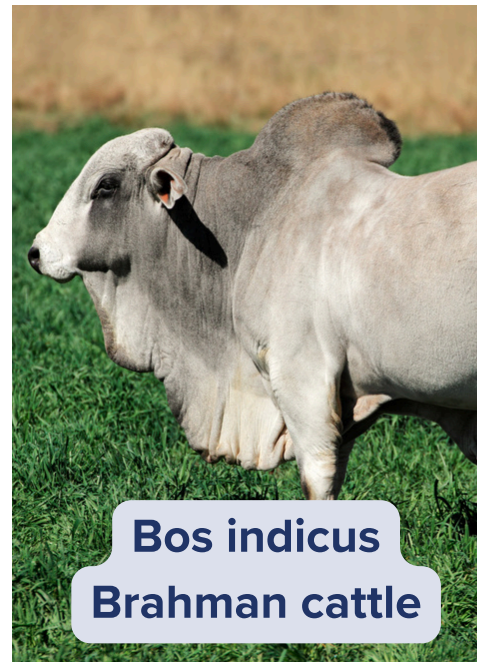
Bos indicus Brahman cattle

Barramundi

European Bees
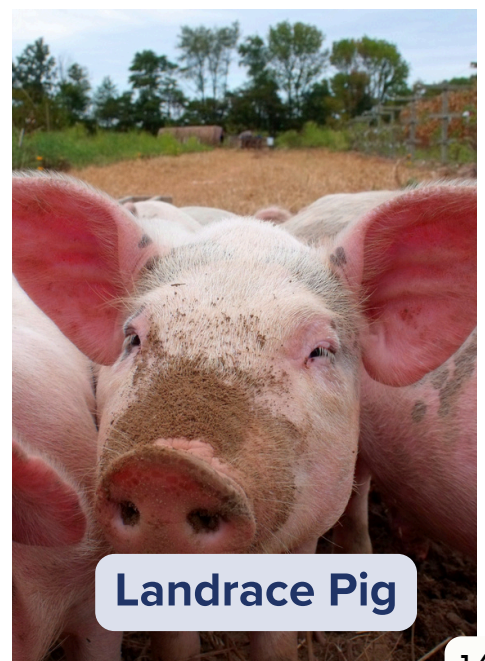
Landrace Pig

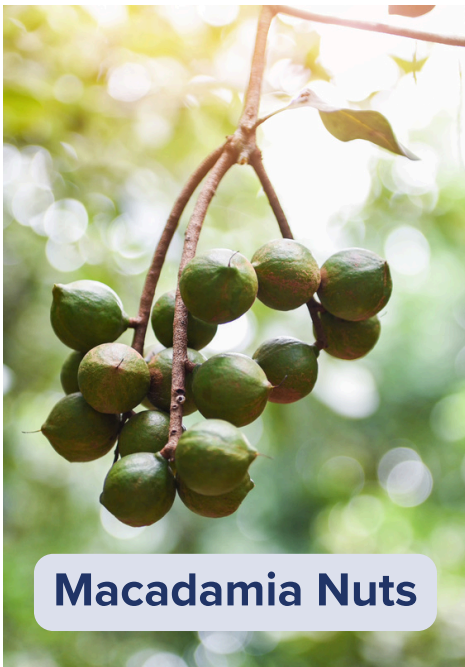# WORKSHEET 4 - AGRICULTURE CELEBRITY PLANTS

Wheat
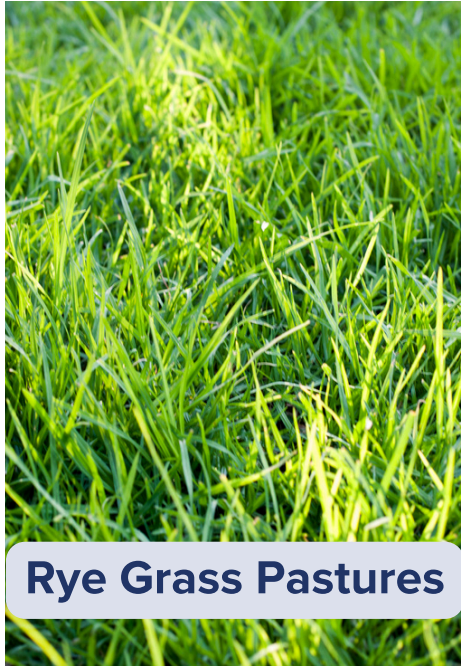
Rye Grass Pastures

Vegetables - Potato
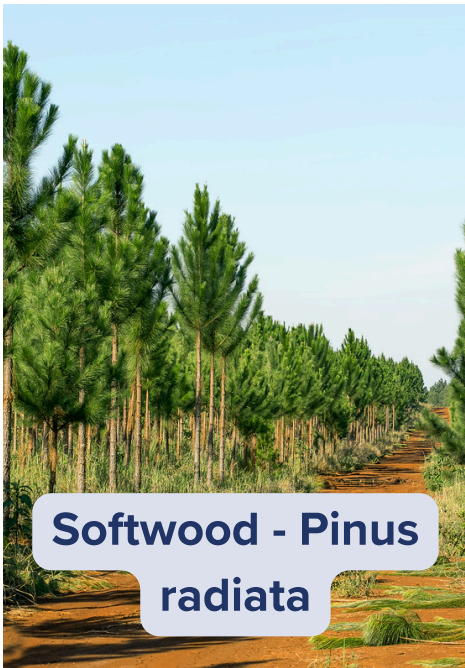
Softwood - Pinus radiata

Hardwood - Eucalyptus

GM Cotton

Macadamia Nuts

Canola

Vegetable - Broccoli

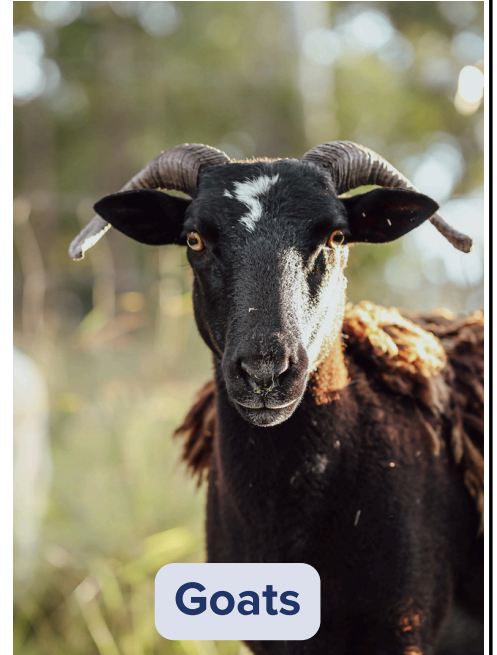## WORKSHEET 4 - EXTENSION: AGRICULTURE CELEBRITY ANIMALS

Buffalo

Deer

Oysters

Mulloway

Atlantic Salmon

Goats

Pekin Duck

Turkey

Alpaca

WORKSHEET 4 - EXTENSION: AGRICULTURE CELEBRITY PLANTS

Native Rosella

Canola

Corn

Rice

Sugar Cane
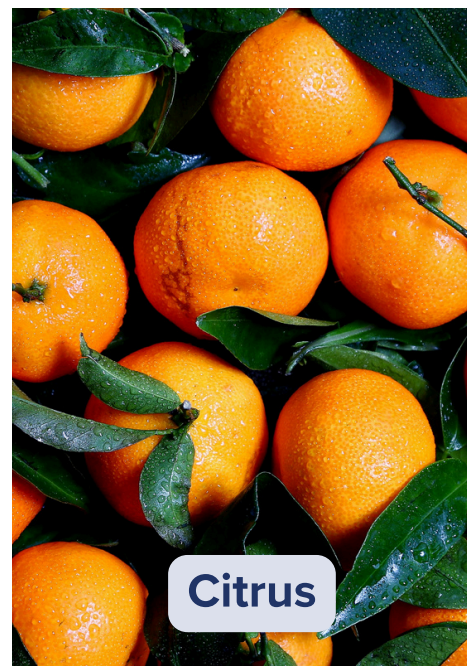
Citrus

Stonefruit

Wine/ Grapes

Almonds

WORKSHEET 4 - EXTENSION: AGRICULTURE CELEBRITY PLANTS/FUNGI

Oats

Chick Peas
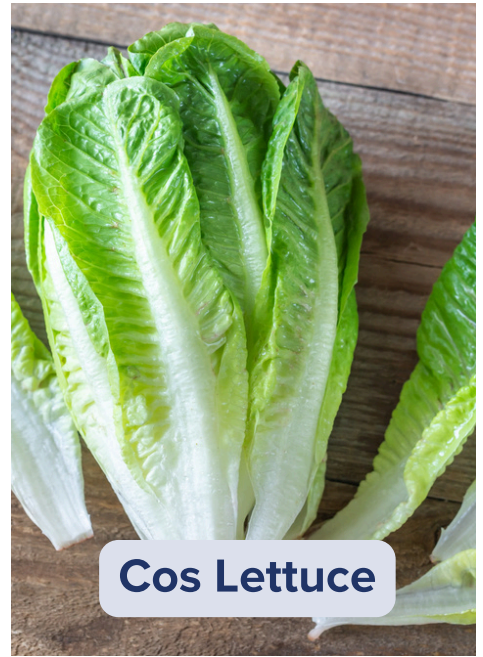
Lentils
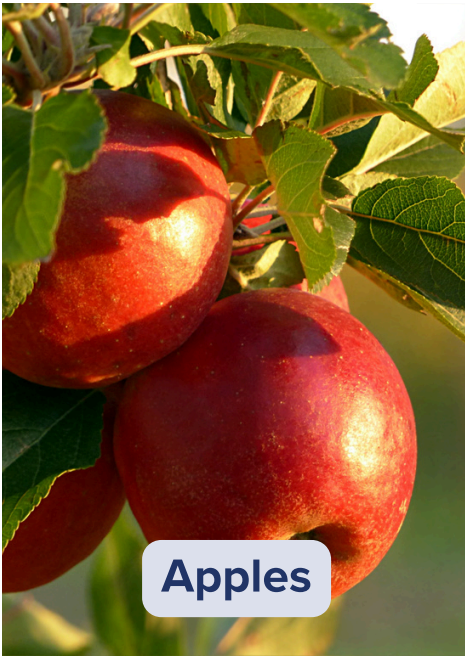
Apples

Mushrooms

Cos Lettuce

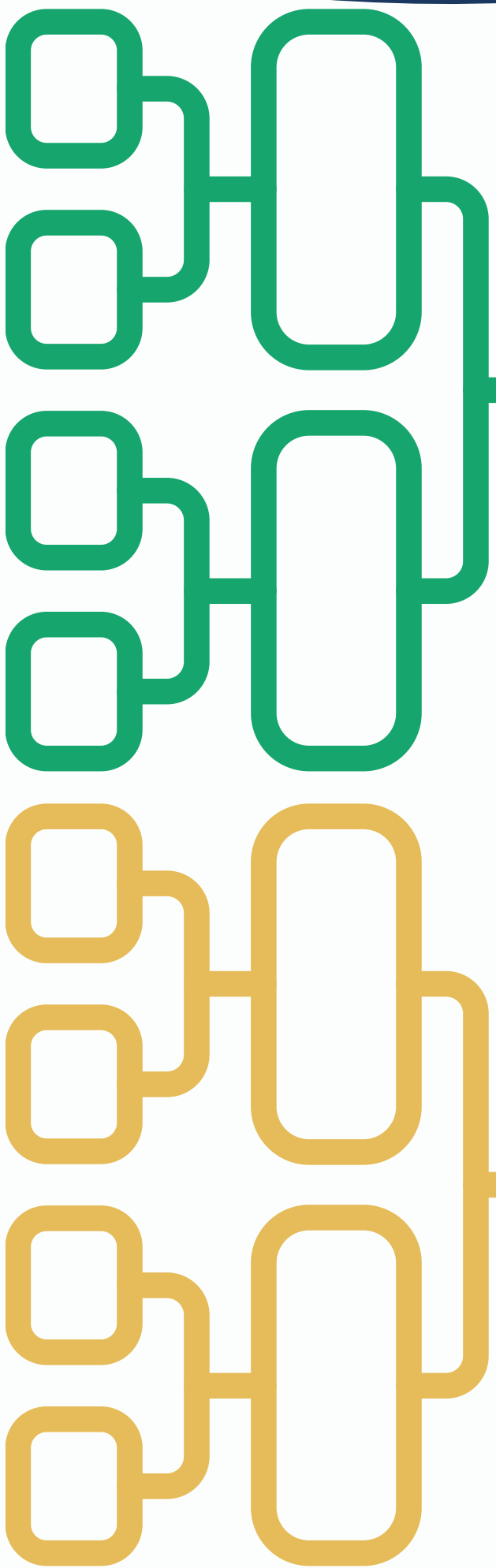**Tomato**

Blueberry

Banana

Worksheet 5: Dichotomous Key - Identifying Breeds and Plant Types Developed for Australian Climate or Markets.

Living Thing

Leaves
(Plant)

No Leaves
(Animal)

Primary Industries Education Foundation Australia

www.primezone.edu.au
primezone
The place for all your food and fibre resources

SFIRP
STORM & FLOOD INDUSTRY
RECOVERY PROGRAM

Worksheet 5: Make Your Own Dichotomous Key - Identifying Breeds and Plant Types Developed for Australian Climate or Markets.

Living Thing