Product: Firewood Banksia, Menzies’ Banksia
Botanical name: Banksia menziesii
**Banksia menziesii** has large upright, terminal, domed flower heads, 10–12 cm long.

Each brush-like head is composed of hundreds of tiny individual flowers or florets arranged in neat vertical segments ascending up to the tip, giving it a striped appearance. The unopened florets are creamy white at the tips, becoming yellow when they are fully open, with the wiry styles sticking out. This Banksia has more colour variants than other species: colour varies from deep burgundy red through to chocolate brown, orange, shades of pink, apricot, bronze and yellow, depending on the selection. Colour intensity also varies with seasonal conditions.

As with other banksias, the number of open florets determines the correct picking stage for maximum vase life. The first florets to open are those at the base of the flower head. Unopened flower heads — the optimum stage for the export market — should be fully formed, firm and wiry to the touch, and not soft. Flower heads with up to 20% of the lower florets open are suitable for domestic markets. Handle and pack the flower heads carefully.

* BANKSIA MENZIESII is endemic to the coastal ranges north of Perth, WA. In cultivation, plants need very well drained, sandy soils. For flower production, grow only those selections with attractively coloured flower heads and a shrub-like habit. It is also grown overseas.

Mature bushes produce an average of about 25 blooms.

Prune at or immediately after harvest. Research has shown that most flowers are produced on shoots that are 2 years old and of a minimum diameter. So, in pruning, keep shoots with a stem diameter of 6 mm or more, and leave 4–5 healthy leaves below the cut, from which new shoots can grow to produce future flowers. Remove any thin and weak stems, which are less likely to flower.

Like other WA banksias, this species is susceptible to *Phytophthora* root rot. Developing flower heads are susceptible to attack by the Banksia boring moth; growers need to control this pest to minimise the risk of unmarketable flowers. Feeding by larvae of the Banksia gall midge produces disfiguring galls on the leaves.

Open flowers attract insects and birds, which may damage flowers (especially birds). Insects and predators such as spiders also create quarantine problems. Disinfestation before marketing is important.

**Banksias for the fresh market must be placed in water quickly after harvest and cooled, as they dry out quickly and lose freshness and quality. Leaves dry out quickly and can’t easily be rehydrated.**

**Flowering season:**
February to September. Cones or nuts are sold all year round.

**Typical vase life:**
10 days

**Other products to which this specification can be generally applied:**
*Banksia menziesii* selections and cultivars.
**Product:** Firewood Banksia, Menzies’ Banksia

**STAGES OF OPENING**

The stages shown apply to the product at market entry.
Pay attention to the weather, time of year, and mode and duration of transport, because the flowers will continue to open during transport. You must consult with your target market to ensure that the flowers arrive at the desired stage.

**Stage 1**
- Immature stage – flower head soft; has not reached full size, shape and colour: unacceptable to markets

**Stage 2**
- Early harvest stage – tip of bloom is still pointed and no florets are open: suitable for export and some domestic markets

**COMMON DEFECTS**

Common defects to be avoided at market entry:
- Deformed or asymmetrical flower heads
- Damaged flower heads
- Distorted, dried or physically damaged leaves
- Poorly coloured foliage due to nutritional deficiency
- Insect borers
- Overmature or dried-out flower heads
- Small flower heads
- Bypass shoots or secondary flower heads
- Bent stem, or flower head offset at an angle

- Bloom damaged by careless handling – do not market
- Damaged flower head – do not market
- Foliage damaged by insects – discard
Stage 3
Prime stage to market
– <20% of florets open

Stage 4
Late stage – 50% of florets open:
acceptable to only some markets

Stage 5
Overmature stage – >75% of florets open;
flower head a less attractive straw colour:
unacceptable to many markets

Curved stem
– discard

Dried-out flower head
– do not market

Uneven flower opening
– do not market

Damaged stem
– cut with greater care when harvesting

Leaf galls
– discard

Foliage damaged by insect feeding
– do not market
### FLOWERS

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Flower head uniformly coloured (the tone clear and typical for the selection). Unopened florets creamy white at the tips and arranged in neat ‘stripes’. Not dull or greyish. Size (diameter) and length must be proportional to stem length. Flower head follows in a straight line from the stem (and is not offset from the stem at more than 30°).</td>
</tr>
<tr>
<td>When to harvest</td>
<td>Flower head fully formed, fully swollen and rounded at the tip, firm and wiry to touch; and, at final size, symmetrical. No individual florets open (export), or &lt;20% of individual florets at the base of the bloom open and yellow (domestic markets). Avoid harvesting when flower is wet.</td>
</tr>
<tr>
<td>Damage</td>
<td>No asymmetrical, deformed or damaged blooms. Ensure columns of florets form straight lines or stripes up the flower head. No bypass shoots at the base of the flower head.</td>
</tr>
<tr>
<td>Contamination</td>
<td>Product free of grit and soil, weeds or weed seeds, living or dead insects, and signs of insects or spiders, such as webbing.</td>
</tr>
<tr>
<td>Pests and diseases</td>
<td>No apparent pest or disease damage. Discard any poor-quality product or stems with insects or fungal infections.</td>
</tr>
</tbody>
</table>

### STEMS

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Rigid and strong enough to support blooms, without being too heavy and bulky. Bend &lt;30°. Free of disfiguring trim marks or other blemishes. Neatly cut end.</td>
</tr>
<tr>
<td>Length</td>
<td>According to market demand.</td>
</tr>
<tr>
<td>RECOMMENDED HANDLING AT HARVEST</td>
<td>Minimise drying out and exposure to heat – pick when it is cool, preferably straight into buckets of clean potable water, and hold in the shade. Move cut stems promptly to a cool, shaded packing area.</td>
</tr>
</tbody>
</table>

### LEAVES

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Mid green and crisp. Not dull or wilted. Minimum discolouration (&lt;2% by area and affecting &lt;10% of leaves); no yellowing</td>
</tr>
<tr>
<td>At harvest</td>
<td>Remove leaves from the lower 15–20 cm of the stem, or as buyer requests.</td>
</tr>
<tr>
<td>Damage</td>
<td>Minimum evidence of pests, disease or other blemishes, such as mechanical damage. Leaves entire (no insect feeding damage). No spiders or spider webs. Free of visible chemical residues.</td>
</tr>
</tbody>
</table>

### GRADING AND BUNCHING

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grading</td>
<td>Reject any contaminated stems. Sort stems according to maturity, length and thickness: flower head proportional to stem length. Market smaller heads on shorter stems.</td>
</tr>
<tr>
<td>Bunching</td>
<td>Flowers are generally marketed as single stems.</td>
</tr>
<tr>
<td>Stem length</td>
<td>Stem length (cm)</td>
</tr>
<tr>
<td></td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>90</td>
</tr>
<tr>
<td></td>
<td>80</td>
</tr>
<tr>
<td></td>
<td>70</td>
</tr>
<tr>
<td></td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>40</td>
</tr>
</tbody>
</table>
## HOLDING AND STORAGE

### Cooling
Effective cooling soon after harvest is important to retaining quality and maximising vase life. There are two options:
- Cool, process, cool – for example, remove field heat by cooling flowers immediately on entry into shed to 10 °C in buckets of solution, process flowers (bunch, grade), and then cool to 2–4 °C by either forced-air cooling (if boxed) or holding overnight in a cool room in postharvest solution.
- Process within 1 hour of cutting, and then cool to 2–4 °C by either forced-air cooling for 20–30 minutes (if boxed) or holding overnight in a cool room in postharvest solution (if in buckets).

Forced-air cooling of packed flowers is ideal for large volumes of product.

### Temperature and humidity
Hold in a high-humidity cool room (95%) at 2–4 °C for up to 4 days. Another way of achieving high humidity is to cover the flowers with plastic sleeves or plastic sheeting.

### Postharvest solutions
Postharvest solution: Hold in clean potable water with an added registered biocide. To date, banksias have not responded to floral preservatives. Sucrose pulsing does not improve quality or vase life (sucrose concentrations above 2% are detrimental).

To increase water uptake and improve hydration it may be worth holding the stems in deep water (e.g. 20 cm) or in special hydrating solutions (see Postharvest Manual for details).

Holding solution: Same as postharvest solution.

### Longer-term storage
For longer storage seek professional advice and test in the market before committing product.

---

## LABELLING AND DOCUMENTATION

Label boxes and buckets as recommended in Postharvest Manual* or as required by customer. Ensure box contents are exactly the same as specified in the documentation and on the end of the box.

---

## TRANSPORT

Refrigerated vehicle at 2–4 °C.

### COMMON POSTHARVEST PROBLEMS
Refer to Postharvest Manual* for general advice.

### Fungal decay in storage due to botrytis (grey mould)
Use preharvest fungicide sprays during wet weather to reduce the risk of botrytis developing on the flower head.

### Insects (for export)
Use preharvest insecticide sprays to reduce the pest population at harvest.

Fumigate flowers with a registered product before dispatch to kill insects. Check flower heads for insects before packing (insects such as bees may be trapped in the flower head).

Avoid postharvest dips if any florets are open.

### Ethylene sensitivity
Banksia menziesii does not appear to be susceptible to ethylene.

---

## Messages for importers and wholesalers
- Recut stems and place into fresh water containing a registered biocide.
- To increase water uptake and improve hydration it may be worth holding the stems in deep water (e.g. 20 cm) or in special hydrating solutions (see Postharvest Manual* for details).
- Cool product before marketing or sending on and keep it cool (2–4 °C).
- Maintain good hygiene and keep containers clean.

---

## Messages for retailers
- Recut stems and place into fresh water containing a registered biocide. Do not mist the flowers.
- Use clean buckets and containers for displays.
- Do not display flowers in areas that are exposed to full sun, draughts, high temperatures or vehicle exhausts, and preferably do not display near fruit and vegetables. Use refrigerated displays if possible.
- Tell the customer how to care for the flowers and emphasise the need for fresh clean water and clean vases.

---

## Messages for consumers
- Keep vase filled with fresh clean water. Check daily, as flowers can use a lot of water. Change the water at least every second day. Always use clean vases and clean water.
- Do not display in areas that are exposed to full sun, draughts or high temperatures. Keep as cool as possible without freezing.
- Discard other flower types in the same vase when they reach the end of their vase life.

---

## PACKAGING

Pack only dry, cold flowers. Banksias are heavy, so ensure the box used is strong enough.

Handle carefully to avoid damage, particularly if florets are open.

Pack with flower heads at each end of the box and stems in the middle to avoid damaging blooms.

Avoid packing too many stems per box. Especially for export, stems in each box should be approximately the same diameter and length, and flower head size should be consistent.

Use boxes with holes to allow forced-air cooling and to facilitate fumigation.

Minimise water loss, especially for long-distance shipping, by lining boxes with plastic. If the flowers will need forced-air cooling or fumigation, line only the long sides, tops and bases of the boxes, not the ends.

Cool flowers to 2–4 °C before transport.