Raising bromeliads (broms.,) from seed;

In particular, epiphytes and terrestrial bromeliads from temperate to tropical climates, where rainfall is similar to most of coastal N.S.W. Australia.
Bromeliad genera like; Aechmea, Billbergia, Guzmania, Neoregelia, Viresea & Tillandsias.
The ideal micro climate, that I try to reproduce when growing brom., seed is similar to: The surface of a piece of rotting wood, found low near to the forest floor or on lower trunks of tree in a wet rain forest. That has sufficient light to grow the young bromeliad seedlings. yet not too much light, such that moss & algae would grow and compete with the young broms.
Very humid environment, like near to the floor of the wet forest. While still having sufficient ventilation (air flow), which stops many of the fungi responsible for rot and damp off, killing young seedlings.
This environment can be reproduced in a clear plastic sealed container, such as a disposable takeaway food container (the larger the better). As the group of bromeliads that I find interesting to grow, are predominantly from tropical or warm temperate climates, the use of a tropical fish tank in winter, to keep the micro climate sufficiently warm is important. i.e. sit the container of seedlings on the lid of a heated fish tank in winter. Or as the image below shows make a mini heated glass house out of a fish tank.

Heated Fish tank showing exterior & interior views

1. Water level is approx., 5inch (125mm) deep, while 1/2 inch (12mm) below wire platform.
2. Set the fish tank heater to a higher temperature than needed, to compensate for heat loss through; gaps in tank lid & heat conduction through glass.
3. Bubble wrap plastic on outside of tank, insulates lower part of tank to reduce heat loss.

Growing medium; course open mix of pours materials preferably with a slightly acid ph = 5.5 - 6.5 such as; Quality commercial **seed raising mix** usually works well, given appropriate lighting & moisture.
If you choose to make your own seed raising mix? Here are some examples of components you may wish to try;

- ✓ _ Course sharp sand (river sand).
- ✓ _ Pine bark fines (Composted preferred or aged pine bark, fine grade).
- ✓ _ Course sphagnum Peat moss. (Sieve out fine dust components, as waste).
- ✓ _ Some commercial orchid potting mixes will do for this purpose.
- ✓ _ Kitty litter, have heard to be ok?

Equipment for growing seed;

1. _ Disposable food container (clear plastic)
2. _ Marker pen to put details on container
3. _ Spray bottle to spray water &/or dilute liquid fertilizer, on mix and seed
4. _ Bromeliad seed
5. _ Potting mix (Growing medium)
6. _Heated fish tank if in cold climate.

As shown in this image;

Growing environment;
Lighting; very important to use low lighting to start with (e.g. shaded patio or indoor position where indoor plants grow well etc.,), as high light (direct sun) encourages algae to grow & compete with young seedlings.
Trial and error process where seed container can be placed to get sufficient light (not direct sun) to produce healthy growth of bromeliads seedlings, yet not high enough to get excess algae growth in the container.
If container is covered with the plastic lid & left in the sun? The resulting heat in the closed container, will kill the young seedlings.

Orientation of the container is important? Mark the container with a mark, indicating the orientation to the morning sun, this enables the container to be moved and not disturb or stress the seedlings (I use an arrow to indicate EAST).

Pasteurizing growing medium;
Many mixes and components will contain eggs & lava of parasites, so to be safe? Either poor boiling water over mix or microwave for several minutes & allow to cool.

Sowing seed
Sprinkle seed over the top of the medium in the prepared container.
Once the seed is spread over the mix in the growing container, then use spray bottle

with water in it, to damp down and spread seed evenly over the mix surface (do not cover seed with extra mix). Then close the container.
Place the container of mix and seed in the chosen growing position, noting its' orientation.

Germination; will usually take about 2 – 3 weeks depending on variety (this will vary with temperature).
Germinating seed will appear as small green shoots on the surface of mix several weeks after planting. Opening the container to examine seed is ok, though do not allow mix to dry out in the container by leaving it in the open for too long.
While in the containers, the seed may suffer form fungi if conditions are too hot or too much sun etc., if this occurs then take lid off container and place in direct sun (not mid day sun) for approx ½ to 1hour, this will kill much of the fungus and seedlings will survive this treatment ok usually.

Diagram showing fungi attack;
Seedlings with algae & damp off mould in bottom of container.
Placing container (with lid off) in full sun, will often kill off the fungi allowing the seedlings to continue growing.

Placing the container in a position with less bright light, will usually result in the algae dieing off with time.

Once the seed has developed to the stage of showing 2 small leaves, they can be fed with dilute fertilizer like Aquasol, thrive, or other popular commercial liquid fertilizers etc. (Indoor plant fertilizers, are usually diluted sufficiently to use as directed).
Approx ½ strength applied in the spray bottle repeat this step approx., once every 2 weeks to a month (depending on variety and growing conditions), till seedlings are up to 1.5cm in height.
After this stage, seedling can be transferred to container (plant pot containing mix), then placed in a shade house or protected patio etc., for growing on.
Seedlings initially, may need a cover, to reduce dehydration in the first week of planting out.
Slugs and snails and other insects will attack young seedlings at this stage.

Some examples of **seedling bromeliads** (image above)**;**

Image **1. Billbergia** seedlings, fast growing relative to other bromeliads.
mage **2. Guzmania** seedlings, relatively slow growing
mage **3. Viresia** seedlings, slow growing
mage **4. Neoregelia** seedlings, slower than Billbergia seedlings, though still fast growing relative to other bromeliads.

Seed taken from variegated foliage bromeliads, often produces albino seedlings, which appear white. These seedlings will die once seed nutrient is used up.

There are some variegated neoregelia which will produce variegated seedlings from seed & these seedlings will grow just like the green seedlings though usually slower.

All the images and text are only to act as a guide, experimentation will determine the best method for your conditions.

Happy growing Allan Ladd