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Session : Uses of botanicals in improving seed quality



Introduction

Good quality seed acts as a catalyst for realizing the potential of all other inputs in agriculture.

Without good seed, the investment on fertilizers, water, pesticides and other inputs will not pay the desired dividends

Therefore production of quality seed and maintenance of high germination is of utmost importance in a seed programme, where seed quality is a multiple concept comprising several physical, chemical and biological components (Kavitha 2007)

Why botanicals for seed quality improvement

Uses of different chemicals are costly and may cause natural hazard

Botanicals are easily available to the farmers, safe to handle and they can prepare easily.

Botanical extracts are cheaper and eco-friendly practice for the control of seed-borne pathogens of maize **(Sinha and Kumar, 2019)**

Pelleting seed with botanical (leaf powders of arappu, *Albizia amara*) facilitated uniform seedlings, increased chance of survival and resulted in the highest percentage of germination (73%) **(Renugadevi, 2008)**

Name of botanicals used in different crops

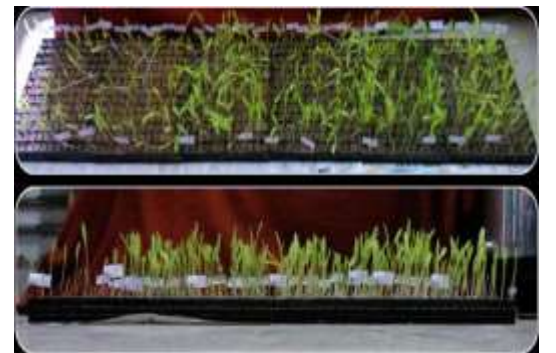
Name of crops	Botanicals
Blackgram	Fenugreek seed, custard apple and moringa leaves
Maize	Neem+ Tulsi, Neem+ Onion, Neem+ Garlic, Neem + Ginger
Chickpea	Smear seeds (1 kg) with a mixture of turmeric and sweet flag powder (50g turmeric powder and 15g sweet flag powder with 10 ml of water) and sow after 10 minutes. This will enhance the disease resistance of the crop.
Rice	Mix the seeds with the extract of Ashwagandha and Datura (for 1 kg seeds, pound 250g of Ashwagandha (<i>Withania somnifera</i>) roots and 50g of Datura / Oomathai (<i>Datura metel</i>) leaves by adding water and shade dry before sowing. This will help in the production of healthy and disease free seedlings
Cumin	Smear the seeds with castor oil @ 2 litres / 25 kg of seeds before sowing for the prevention of wilt disease
Balsam	Soak the seeds in a mixture of wheat flour, rice flour, black gram flour, turmeric and milk (50g of each diluted in 1 litre of fresh buffalo milk) overnight and shade dry before sowing. This will enhance the germination percentage and growth rate

Conclusion

Seed dry dressing with Fenugreek seed powder (FSP) at 3 g/kg of seeds and custard apple leaf powder (CALP) at 4 g/kg of seeds with 1 h shaking can be recommended to improve the physiological performance of blackgram seeds (**Sathish and Bhaskaran,2013**)

Neem leaves are used in storage of seed for improving quality by minimizing disease or pests incidence

Sinha and Kumar, 2019 studied the effect of five botanicals on Vivek-27 variety seed quality parameter and found that Neem+ Tulsi seed treatment (1:1) was achieved highest values of per cent germination(97.00 ± 3.83), fresh weight ($13.06 \pm 0.59\text{g}$), dry weight ($3.70 \pm 0.15\text{ g}$) and seedling vigour index (dry weight 358.95 ± 15.45). Therefore, botanical extracts are cheaper and eco-friendly practice for the seed-borne diseases of maize.





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*Thank
you*

