After being disillusioned by popular feedstock choices including jatropha, palm oil and castor oil the company Africa Biofuel and Emission Reduction Company, Tanzania, (ABF) has placed its bets on croton

Move over jatropha

Croton megalocarpus grows well in semi-arid climates on marginal lands, producing 25-50 kg seeds annually with 32% oil content and reaches full maturity 11 years after planting. It is also inedible, does not require fertiliser and drops its seed pods when they become ripe, making them very easy to collect.

ABF is working to be the first to develop pure plant oil (PPO) croton biofuel in east Africa and has invested $1.4 million (€1 million) in the feedstock.

The company is looking at refinery sites in Kenya and Tanzania and commercial production is planned for 2012.

For the time being ABF is working with two major oilseed manufacturers to design and build a crushing facility specific to the feedstock.

To date the seeds have been crushed with equipment designed to crush other types of seeds for testing purposes, but the technology is not designed to maximise the percentage of oil and the meal the seed is capable of producing.

The need for space

ABF requires a minimum land usage permit of 20,000 hectares per project. The business model also relies on the strong probability that this core plantation will be supplemented by small farmer co-ops (20,000 – 40,000 hectares of additional surrounding lands depending on the region) that will also participate in the growth and expansion of the tree crop.

The plantation trees will start producing significant PPO seeds in three years and maturation will occur in 5-7 years depending on climate conditions.

The company estimates that production capabilities for both the Kenya and Tanzania projects are around 30,000 barrels by the fifth year, based only on the 20,000 hectare core production.

Production levels rise dramatically after that as the trees have reached mature growth levels and are producing more nuts. The sixth year projected production is almost three times that of year five levels.

All the PPO produced will be for the local market, and then the company will consider exporting to east Africa.

ABF calculates it can produce 103 million litres a year of biodiesel from the oil of the croton nut, and is confident in its aim to become the first largescale PPO-producer in east Africa using a non-food product. ●

Government support

In the past the biggest challenge the company faced was not having the necessary support from government policies.

This has changed in the last few months in both Kenya and Tanzania and both countries are striving for initial realistic blend levels.

Kenya is going into the third edit for its Biofuel policy for biodiesel and the recommended blend targeted for 2012 is 1%. Tanzania has recently finalised its Biofuel policy and although its projected start date is not clear, ABF expects that a blend level of B5 will be initiated.