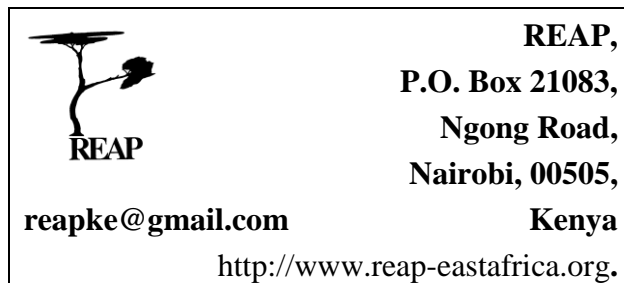


## USING THE MANURE TEA

1. Dilute the manure tea with two parts of water to every one part of tea. If the mixture is very dark use three parts of water to one of the tea.
2. Water vegetables or any crop needing nutrients with the mixture using about half a kg tin of the mixture for each plant.
3. Apply the liquid around the stem and not on the leaves, two or three times a week for three or four weeks.



Tithonia is an attractive plant, so can be planted as an ornamental hedge. When it is cut regularly it makes a good looking hedge, and the material cut back from the hedge can be applied straight to the garden or used for manure tea.



## USING TITHONIA AS A FERTILISER

Tithonia was initially introduced from Central America as an ornamental. It is now a common flowering weed that grows along roads and on waste ground in eastern and southern Africa. It is a tall, bushy herb with several stems from the base to the crown, and can grow up to 4 metres tall in fertile soil. It has yellow flowers and looks like a daisy. It is generally considered as a weed, but in recent years it has attained a new significance and is valued by many who know its properties as a fertiliser.



Tithonia accumulates a large amount of nitrogen and phosphorous from the soil and therefore makes a very good organic fertiliser. The stems and leaves are soft and rot easily. When Tithonia is cut and dug into the soil it rots quickly and releases nearly all the nitrogen into the soil in about two weeks, making it available for crops.

## PLANTING TITHONIA

Although Tithonia grows wild in hedges and on wasteland, it is not always available where a farmer lives and it may take a lot of labour to collect it from more distant places. To reduce labour demand it can be planted in hedges, in otherwise unusable pieces of land and along contour lines. It can either be planted from seeds, or from cuttings. Wildlings can also be transplanted from where they have germinated naturally.

To make cuttings, cut mature wood into pieces about 20-30 cm long. Make sure they are cut cleanly as split pieces do not root. Put the cuttings in the ground at an angle, with about two nodes above the ground and about two below the soil. The cuttings root from the nodes below ground and establish as strong plants.

## USING TITHONIA AS GREEN MANURE

Tithonia is a good plant for using as green manure. Cut the leaves and soft twigs before they flower. Chop these into small pieces, and either place them in each planting hole or spread them over the soil and dig them in. Use Tithonia as mulch and it quickly rots and the nutrients enter the soil.

## MAKING MANURE TEA

A liquid fertiliser called manure tea can be made from Tithonia.

The whole Tithonia plant is used. The best fertiliser is made when the plant is dark green and about one metre tall. Once the plant has flowered it is no longer high in nitrogen as most of it has been used in producing the flowers and seed.

1. Cut the Tithonia into pieces.
2. Put the pieces into a bag or sack of a size that will fit into the container you will use. Tie the neck of the bag with rope.
3. Fill an oil drum or large pot three-quarters full with water.
4. Hang the bag in the water, attaching it to a pole placed across the top of the container.
5. Cover the container.
6. Stir the mixture every 3-5 days by partially lifting the bag in and out of the water several times.
7. After 2-3 weeks the liquid will have turned dark and most of the nutrients will be dissolved in it. It is then ready to use.
8. Remove the bag.

