### Spiny Amaranthus in upland crops

*Amaranthus spinosus* Hin-nu-nwe-su-bauk

#### Prevention
- Deep and thorough ploughing to the depth of 15 cm before planting to bury weed seeds and weeds
- Seed are the main means of spread. Use good or certified seed sources to get weed free seed, especially important if you do not yet have the weed in your area
- Control established populations near waterways by pulling or hoeing to prevent spread during flooding and storm events

#### Monitoring
- Additional relevant crops: groundnut, maize, legume
- Annual erect herb, 100-150 cm tall, hairless or slightly hairy, green, brown or reddish fleshy stems, angled or with longitudinal ridge and slender sharp-pointed spines (2 cm long) at base of leaf stalks; strong taproot; leaves green, hairless, egg- to diamond-shaped, 3.5-11 cm long, 1-4.5 cm wide, held alternately on stem; flowers green or greenish-white, 1 mm long, held in long terminal spikes and globular clusters; fruits are oblong capsules with one seed; seeds round, shiny and dark reddish (0.8 mm long).
- Check the fields once per week for the levels of infestation and consider direct control when found.

#### Direct Control
- Manual weeding by hand or simple hand tools such as hoeing is the most common method. Remove larger weed plants from the field to prevent re-establishment
- Bullock pulled hoeing can be very effective, especially during dry weather
- When spraying herbicide, take care to cover the field thoroughly with the right rate of herbicide, wear protective clothing
- Weed control can be achieved by spraying Oxadiazon 25 % EC (Formostar 25 EC) at 0-5 days after sowing onto the soil at the rate of 1-2 litres/ac.

#### Restrictions
- Oxadiazon: WHO Class U (unlikely to present acute hazard). WSSA resistance group 14. Spray in the morning when it is cool.
- 2,4-D Amine: WHO Class II (moderately hazardous). WSSA resistance group 4.

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**Myanmar**  
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