



Arable Weeds of Kenya Guidebook



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Black Jack (*Bidens pilosa*)



Very common fast growing arable weed. Found in open ground and easy to control with herbicides, but often germinates late in the season in maize crops. Does not like crop competition and shade.

Competitiveness	Low
Number of seeds shed	Moderate
Speed of development	Fast

Bindweed (*Fallopia convolvulus*)



A creeping, prostrate plant, several species of which exist and reproduce through stem fragments from cultivations. Waxy, heart shaped leaves and thin but strong, wirey stems which can wrap around harvesting machinery.

Competitiveness	Moderate
Number of seeds shed	Moderate
Speed of development	Slow to moderate

Wild Radish (*Raphanus raphanistrum*)



Brassica weed related to Canola, Cabbage and Sukuma wiki with lobed, rough leaves that grow in a rosette close to the ground, then an upright stem with pale yellow or white flowers.

Competitiveness	Moderate to high
Number of seeds shed	Moderate
Speed of development	Fast

Gallant Soldier (*Galinsoga parviflora*)



An upright annual with light green coarse leaves, square stems and yellow flowers surrounded by white petals. Very fast growing and germinates all year around, often causing problems in maize crops at harvest. One of the most common weeds encountered across Kenya.

Competitiveness	Moderate to high
Number of seeds shed	Moderate to high
Speed of development	Fast

Mexican Marigold (*Tagetes minuta*)



Small yellow flowers on a tall stem, and strong smell that can contaminate the grain sample at harvest. Leaves vary from long oval to fern-like. One of the few weeds that is resistant to atrazine.

Competitiveness	Moderate
Number of seeds shed	Low – moderate
Speed of development	Moderate

Thorn Apple (*Datura stramonium*)



Large, upright plant that grows over a meter tall and produces poisonous seeds in a thorn-covered fruit at the centre of the main stem. Very common in most areas and soil types. Grows up to 1.5m high in fallows.

Competitiveness	Moderate
Number of seeds shed	Low – moderate
Speed of development	Low

Commelina (*Commelina benghalensis*)



Very common, prostrate creeping plant with thick, succulent stems. Can flower below ground which is one of the reasons for its successful spread and survival, making it hard to control with herbicides. More closely related to Monocotyledons (grasses) than broadleaved plants, and although can be found on heavy black cotton and light pumice soils, is very selective on soil types and appears not to grow in loams and coarse sands. Several slightly different species exist across the country.

Competitiveness	Moderate
Number of seeds shed	Moderate – spreads through undergrown stem fragments
Speed of development	Slow

Conyza (Erigeron canadensis)



Tall, hairy leaved plant that develops a strong, woody stem with white to yellow flowers.

Very resistant to all herbicides once more than 10cm across, and produces a high number of very small seeds. Best control is achieved by spraying soon after harvest to stop small plants developing under stubbles. Primarily a fallow weeds; crop canopy or cover crops also seem to suppress growth and germination. In dry conditions, mowing or a double knock herbicide can be very effective.

Competitiveness	Moderate
Number of seeds shed	Very high
Speed of development	Moderate

Chinese Lantern (*Physalis angulata*)



Tall plant with distinctive, lantern-like seed pods. Germinates late in maize crops and prefers, warmer, lighter soils below 2,000m. Often unaffected by 2,4-D sprays and a common fallow weed around Kitale and Endebess.

Competitiveness	Moderate
Number of seeds shed	Low - moderate
Speed of development	Moderate

Sow Thistle (Sonchus sp.)



Tall, succulent plant with soft stems and spiked, waxy leaves that often release milk when broken. Produces a large number of seeds and commonly encountered across soil types and farming systems.

Competitiveness	High
Number of seeds shed	High
Speed of development	Moderate to fast

Black Nightshade (*Solanum nigrum*)



Short, spreading broadleaf plant closely related to the potato. Produces seeds in toxic black or orange berries. Once established can be difficult to control with herbicides. Prefers cooler climates. Is a host of several potato diseases and pests so control is important in potato rotations.

Competitiveness	Moderate
Number of seeds shed	Moderate
Speed of development	Moderate

Sodom Apple (*Solanum incanum*)



A slow growing plant that produces a thick, woody stem. Typical of permanent pasture and grazing lands, with thick, waxy leaves are tough to control with herbicide once established.

Competitiveness	Low
Number of seeds shed	Low to moderate
Speed of development	Slow

Fat Hen / Lambs Quarter / various (*Chenopodium album*)



A fast growing, upright annual plant with soft, light green leaves and a stem with ribs running along the length. Densely packed seed head at the top of the plant. Underside of leaves has a silvery appearance that can be easily rubbed off.

Competitiveness	High
Number of seeds shed	High
Speed of development	Fast

Nettle-leaved Goosefoot (*Chenopodium murale*)



Annual weed that prefers a cool, wet environment and fertile soils. Similar to Fat Hen but distinguished by darker leaves and purple veins.

Competitiveness	Moderate
Number of seeds shed	Moderate
Speed of development	Moderate

Oxalis sp.



Heart-shaped, trifoliate leaf structure similar to clover but with triangular leaf base rather than rounded. Very short, prostrate growth. Two distinct species predominate in Kenya.

Competitiveness	Low to moderate
Number of seeds shed	Low
Speed of development	Moderate

Jersey Cudweed / Silverweed (*Helichrysum luteoalbum*)



Very hairy, upright stems that appear silver. Up to 30cm tall with densely packed yellow flowers and thin, hairy leaves. Gets harder to control once established but very uncompetitive.

Competitiveness	Low
Number of seeds shed	Moderate
Speed of development	Slow

Wild Cucumber (*Cucumis africanus*)



Prostrate, creeping weed with rough leaves and succulent cucumber like fruits as it spreads across the ground. Wiry stems wrap around cultivation machinery causing problems during land preparation.

Competitiveness	Moderate
Number of seeds shed	Moderate
Speed of development	Slow

Crotalaria incarna



Leguminous plant with thick wood stem, nodulates in most soils and has oval, hairy leaves with yellow flowers. Often encountered in pulse crops or Sunflower fields due to similarity of herbicide selectivity. Seeds borne in hairy soya bean like pods, can be collected as a cover crop which is resistant to Root Lesion Nematodes.

Competitiveness	Moderate
Number of seeds shed	Low to moderate.
Speed of development	Moderate

Gisekia sp.



Small Annual weed, very prostrate and relatively uncompetitive. Small white flowers and thin, waxy leaves. More commonly encountered around Nakuru and Narok.

Competitiveness	Low
Number of seeds shed	Low to moderate.
Speed of development	Moderate

Mallow (Malva parviflora)



Tough perennial plant with coarse, round to octagonal leaves that develops a strong tap root and within a matter of weeks, a tough woody stem that can grow up to 2m tall. Very hard to control with herbicides once established, but is not competitive hence this is more of a fallow weed. Cover crops have a role in managing bad populations, where they would otherwise remove significant amounts of moisture from the soil.

Competitiveness	Low – most damage from moisture loss and allelopathic effects
Number of seeds shed	Moderate
Speed of development	Slow initially

Cleavers (Galium aparine)



A climbing weed with whorls of sticky oval leaves born on a square stem. Very competitive even when small, especially on cooler but more fertile soils such as Mau Narok, Molo and Timau. Hard, round seed often contaminates grain samples at harvest.

Competitiveness	Very high
Number of seeds shed	Moderate
Speed of development	Fast

Adamsonia



A Small, waxy creeping weed with reddish stems and seeds contained in small, pineapple-like structures. Reproduces very fast but rarely visible below the crop canopy. Tends to be found in very specific locations around Mt Kenya and Meru.

Competitiveness	Low
Number of seeds shed	Moderate to high
Speed of development	Moderate

Pigweed (Amaranthus sp.)



Highly aggressive, fast growing annual with a red upright stem and soft green triangular leaves. Germinates all year-round and produces very high numbers small black seeds very quickly. Very quick to develop resistance to several common herbicides which makes it often very difficult to control.

Competitiveness	High
Number of seeds shed	High
Speed of development	Very fast

Shepherd's Purse (*Capsella bursa-pastoris*)



Small plant with a rosette of lobed leaves close to the ground, and a single upright wirey stem with white flowers and heart shaped seed pods held off the stem at right angles. Not very competitive and easy controlled by most herbicides, but can be a problem in newly established pasture fields.

Competitiveness	Low
Number of seeds shed	Moderate
Speed of development	Slow to moderate

Scented Goosefoot (*Dysphania schraderiana*)



Upright plant with lobed, light green leaves and upper main stem covered in small, round clusters of seeds. Relatively uncompetitive and more commonly encountered in wasteland or fallow.

Competitiveness	Moderate
Number of seeds shed	Moderate to high
Speed of development	Moderate

Purslane (*Portulaca oleracea*)



Fast growing, prostrate annual weed with reddish stems and very succulent leaves. Prefers warmed climates and lower altitudes. Most likely to be found around Naivasha and surrounding areas.

Competitiveness	Moderate
Number of seeds shed	High
Speed of development	Very fast

Lion's Ear (*Leonotis nepetifolia*)



Very upright, tall annual with orange flowers clustered around round structures up them stem. Usually found on roadsides and wasteland rather than cultivated fields.

Competitiveness	Moderate
Number of seeds shed	Moderate
Speed of development	Slow

Mayweed (*Matricaria discoidia* and *Anthemis cotula*)



Two species of short, fast growing annuals with thin, fern-like leaves that smell of Pineapple or camomile when crushed. Tends to prefer drier, acid soils. Often found in compacted field entrances or where livestock congregate. Relatively easy to control with herbicides.

Competitiveness	Low to moderate
Number of seeds shed	Moderate
Speed of development	Fast

Cleome gynandra



A tall, hairy annual plant with white flowers and very hairy, flat, palmate leaves and long, narrow seed pods. Most common around Naivasha in horticultural crops.

Competitiveness	Moderate
Number of seeds shed	Moderate
Speed of development	Very fast

Grass weeds

Love Grass / Foxtail (*Setaria pumila*)



Common grass in arable fields. Seed heads stick to clothing different species exist; *S. verticillata* sticks to clothing and has appointed seed head. *S. pumila* above tends not to stick to clothing and has an orange colour around the seed head which is much more cylindrical.

Short 6-8 week lifecycle

Long seed dormancy

C4 metabolism

Pre-emergence herbicides work far better than Group A's of which resistance is now very widespread.

Watergrass (Cyperus sp.)



Not a true grass, but a member of the sedge family. Purple Nutsedge can be distinguished by the presence of chains of Rhizomes below ground. Spreads profusely on many soil types but can be controlled by various herbicides.

African Couch Grass (Digitaria africana / abyssinica)



A rhizome spreading grass that can be hard to control without repeated applications of glyphosate. Cultivations often make the problem worse by cutting and spreading the rhizomes (underground stems).

Brome Grass (*Bromus pectinatus*)



Fast growing annual grass that competes aggressively with cereals. Short dormancy, but tends to change its favoured period of germination quickly to survive stale seedbed techniques. Can produce several thousand seeds per plant.

Rhodes Grass (*Chloris gayana*)



Multiple spreading inflorescence along tall, compact spikelets from one/two nodes. Not a weed grass as such, but regrowth from old pasture fields can occasionally be problematic.

False Star Grass (*Eleusine indica*)



Hard to control with Group A herbicides post emergence in cereals. C4 plant, normally annual but in absence of frost survives two years. Seeds borne on short stalks arranged in a star, but seeds are much smaller and hairier than Rhodes grass.

Signal Grass (*Urochloa decumbens*)



Tolerant of dry, acid soils and high aluminium levels. C4 plant, so poor growth in cool conditions. Contains high levels of steroidal saponins which can cause photosensitisation in livestock). Seeds are borne on short stalks attached individually along the stem.

Ryegrass (*Lolium* sp.)



Important grazing grass, prefers cooler and wet conditions hence tends to be found at altitude notably Mau Narok. Highly resistant to many herbicides around the world. The stem base is distinctively red, but it can be distinguished from *Setaria* Grasses by the lack of hairs on the leaf, and the shiny back of the leaf.

Eragrostis



Thin stem and wide, hairy leaf blade. Very flat growth initially but then grows above the crop canopy. Very resistant to most post emergence herbicides, but susceptible to pre emergence products such as pendimethalin and flufenacet.

Eleusine Indica



A very important grass in many areas of Kenya. Flat, folded leaf blade and sheath. All seeds on one side of inflorescence and no hairs (as is the case with Rhodes Grass). Very widespread resistance to most post emergence grass weed herbicides.

Cynodon dactylon



A rhizomatous spreading grass that can cover large patches. Highly allelopathic, emitting chemicals from the roots which prevent other plants from growing or germinating. Often referred to as Couch Grass, but has much shorter, wider leaves than true African Couchgrass.

Eleusine multiflora



Probably the most common and widespread grass in arable fields across Kenya. Very short, prostrate growth habit means that it often grows 'out of sight' below the crop. Fast growing but very susceptible to pre emergence herbicides. Seeds are held in tight clusters with short stems, and the leaf blade is distinctly flat and folded.



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