**Family:** Poaceae  
**Taxon:** Digitaria abyssinica  
**Synonym:** Digitaria scalarum (Schweinf.) Chiov.  
Digitaria vestita Fig. & De Not.  
Panicum scalarum Schweinf.  
Syntherisma abyssinicum (Hochst. ex A. Rich.)  
**Common Name:** Abyssinian finger grass  
African couch grass  

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Print Date: 2/2/2012  
Digitaria abyssinica (Poaceae)  
Page 1 of 9
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<tr>
<th>Number</th>
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<th>n=1</th>
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<td>Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)</td>
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<tr>
<td>411</td>
<td>Climbing or smothering growth habit</td>
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<td>412</td>
<td>Forms dense thickets</td>
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<td>501</td>
<td>Aquatic</td>
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<td>502</td>
<td>Grass</td>
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<td>503</td>
<td>Nitrogen fixing woody plant</td>
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<td>504</td>
<td>Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)</td>
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<td>601</td>
<td>Evidence of substantial reproductive failure in native habitat</td>
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<tr>
<td>602</td>
<td>Produces viable seed</td>
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<td>603</td>
<td>Hybridizes naturally</td>
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<td>604</td>
<td>Self-compatible or apomictic</td>
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<td>605</td>
<td>Requires specialist pollinators</td>
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<td>606</td>
<td>Reproduction by vegetative fragmentation</td>
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<td>607</td>
<td>Minimum generative time (years)</td>
<td>1 year = 1, 2 or 3 years = 0, 4+ years = -1</td>
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<td>Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)</td>
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<td>702</td>
<td>Propagules dispersed intentionally by people</td>
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<tr>
<td>703</td>
<td>Propagules likely to disperse as a produce contaminant</td>
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<tr>
<td>704</td>
<td>Propagules adapted to wind dispersal</td>
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<tr>
<td>705</td>
<td>Propagules water dispersed</td>
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<td>706</td>
<td>Propagules bird dispersed</td>
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<td>707</td>
<td>Propagules dispersed by other animals (externally)</td>
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<tr>
<td>708</td>
<td>Propagules survive passage through the gut</td>
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<tr>
<td>801</td>
<td>Prolific seed production (&gt;1000/m2)</td>
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<tr>
<td>802</td>
<td>Evidence that a persistent propagule bank is formed (&gt;1 yr)</td>
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<tr>
<td>803</td>
<td>Well controlled by herbicides</td>
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<tr>
<td>804</td>
<td>Tolerates, or benefits from, mutilation, cultivation, or fire</td>
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<tr>
<td>805</td>
<td>Effective natural enemies present locally (e.g. introduced biocontrol agents)</td>
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**Designation:** H(HPWRA)  **WRA Score:** 16
**Digitaria abyssinica (Poaceae)**

  - [Is the species highly domesticated?? No] No evidence

  - [Is the species highly domesticated?? No] "Until a revision of the genus in East Africa by Clayton and Renvoize (1982). D. abyssinica was known as D. scalarum. Digitaria is derived from the Latin digitus, finger, a reference to the racemes in the inflorescence; abyssinicus means ‘of Africa’.”

- **102.** 2012. WRA Specialist. Personal Communication.
  - NA

- **103.** 2012. WRA Specialist. Personal Communication.
  - NA

  - [Species suited to tropical or subtropical climate(s) 2-High] "African Couchgrass may be found from sea level up to 3000 m and is known in Uganda as "Lumbugu" and in Kenya as "Thangari"...It is most common in both Zone II and III, as a constituent of natural grassland at the higher altitudes (> 1500 m) but especially as a weed in arable and plantation agriculture or even as a ruderal plant (Clayton & Renvoize, 1982)."

  - [Species suited to tropical or subtropical climate(s) 2-High] "Tropical Africa, Ethiopia, Gabon, Tanzania, Nigeria, South Africa, Uganda, Zimbabwe, Kenya, Sri Lanka, Arabia."

  - [Quality of climate match data 2-High] "African Couchgrass may be found from sea level up to 3000 m and is known in Uganda as "Lumbugu" and in Kenya as "Thangari"...It is most common in both Zone II and III, as a constituent of natural grassland at the higher altitudes (> 1500 m) but especially as a weed in arable and plantation agriculture or even as a ruderal plant (Clayton & Renvoize, 1982)."

  - [Broad climate suitability (environmental versatility)? Yes] "This grass is widely distributed in the moister regions of East Africa from sea-level to 3500 m, and is the most important of the rhizomatous grass weeds." [Broad elevation range]

  - [Broad climate suitability (environmental versatility)? Yes] "African Couchgrass may be found from sea level up to 3000 m..." [Elevation range exceeds 1000 m, demonstrating environmental versatility]

  - [Native or naturalized in regions with tropical or subtropical climates? Yes] "African Couchgrass may be found from sea level up to 3000 m and is known in Uganda as "Lumbugu" and in Kenya as "Thangari"...It is most common in both Zone II and III, as a constituent of natural grassland at the higher altitudes (> 1500 m) but especially as a weed in arable and plantation agriculture or even as a ruderal plant (Clayton & Renvoize, 1982)."

  - [Native or naturalized in regions with tropical or subtropical climates? Yes] "Tropical Africa, Ethiopia, Gabon, Tanzania, Nigeria, South Africa, Uganda, Zimbabwe, Kenya, Sri Lanka, Arabia."

  - [Does the species have a history of repeated introductions outside its natural range? No] No evidence

  - [Naturalized beyond native range? Yes] "Digitaria abyssinica (A. Rich.) Stapf New state record. The collections of Digitaria abyssinica listed below document a new state record. Collections of the plant were made from experimental grass plots on O‘ahu and Maui in 1940 and 1943, respectively, but at that time it was not known to be naturalized in Hawai‘i. It is an African species. Material examined. KAUA‘I: Kalaheo, 29 Aug 1946, Au, s.n. (BISH 448776); MAUI: Olinda, Forestry House, 3850 ft, Mar 1979, Hobdy 434 (BISH)."

  - [Garden/amenity/disturbance weed? A disturbance weed impacting agriculture. See 3.03] "It appears wherever soil is disturbed or where vegetation is burnt. The more the soil is disturbed, short of eliminating the grass itself, the more vigorous it grows."
Digitaria abyssinica (Poaceae)


[Agricultural/forestry/horticultural weed? Yes] "The blue couch grass, Digitaria abyssinica (A. Rich.) Stapf., is the most troublesome of all East African weeds (Ivens, 1971). It is the most important weed in Ethiopia (Stroud and Parker, 1989) and Kenya (Michieka, 1991) occurring in a wide range of crops. In Ethiopia, it has been the major weed antagonist of coffee (Paulos, 1985), maize and sorghum (Rezene, 1985a), root and tuber crops (Etagegnehu and Ahmed, 1985) and tef (Eragrostis tef Zucc.) (Birhanu, 1985). Growth and yield of crop plants are greatly reduced where the weed occurs and coffee bushes can be killed by a severe infestation (Ivens, 1971). The problem in tef and coffee is more serious because the weed is hard to remove by the usual methods of hand-weeding and slashing. In coffee, slashing did not give complete control since it encouraged both development of swards of grass (Acland, 1971) and spread of the pathogenic fungus Gibberella xyloripides (Booth and Waterston, 1964). Most herbicides did not give satisfactory control (Birhanu, 1985), some showed phytotoxicity (Rezene, 1985b) and some were harmful to beneficial insects (Messer smith and Adkins, 1995)."


[Agricultural/forestry/horticultural weed? Yes] "When asked to list important weed species in their area, farmers in our survey mentioned only 15 species in total. Ninety per cent of the interviewed farmers in the lowlands ranked P. hysterophorus as the most important weed while 86% of the farmers in the highlands ranked Digitaria abyssinica highest"


[Agricultural/forestry/horticultural weed? Yes] "D. abyssinica is widely distributed in the moisture regions of East Africa from sea level to 3000 m. It is a common component of the natural grasslands at higher altitudes. D. abyssinica. It is the most troublesome weed which occurs in a range of crops such as coffee, tea, sisal, pyrethrum, cotton and many other annual and perennial crops in Kenya, Tanzania and Uganda and it is also present in Ethiopia, Malawi, Somalia, Sudan and Zambia (Terry and Michieka, 1987). "... "With a heavy infestation of D. abyssinica, both growth and yield of crop plants are tremendously reduced (Ivens, 1967 and Mbevi, 1997). It is regarded as the most troublesome weed of arable land in some parts of East Africa (Otieno, 1967)."


[Agricultural/forestry/horticultural weed? Yes] "a troublesome weed of many crops..."


[Environmental weed? Primarily an agricultural weed] "A1 Weeds: Federal noxious weeds, not in US" [Includes Digitaria abyssinica. Considered a weed of agriculture] "No person may move a Federal noxious weed into or through the United States, or interstate, unless: (a) He or she applies for a permit to move a noxious weed in accordance with §360.301; (b) The permit application is approved; and (c) The movement is consistent with the specific conditions contained in the permit. (Approved by the Office of Management and Budget under control number 0579–0054) [75 FR 68954, Nov. 10, 2010]"


[Congeneric weed? Yes] "In East Africa, where D. abyssinica is most important as a weed, 50 species of Digitaria are recognized (Clayton and Renvoize, 1982). The perennial habit of D. abyssinica distinguishes it from annual weeds such as D. cliffordii, D. leporichas, D. nuda, D. sanguinialis and D. velutina. There are three perennial species of Digitaria in the East African region which have been described as weeds: D. gazines is tufted and has hairy spikelets; D. milanjiana has 2-18 digitate, or almost digitate, racemes; D. pearsonii, a straggling perennial with wiry rhizomes, is intermediate between D. velutina and D. abyssinica and is often confused with these two species. The spikelets of D. pearsonii are slightly pubescent and the fruits are characteristically golden or mahogany brown. In the vegetative stage, D. abyssinica might be confused with Cynodon dactylon, but in the latter the ligule is a fringe of hairs and the leaves are 2-3 per node instead of just one."

Digitaria abyssinica (Poaceae)

[Produces spines, thorns or burrs? No] "Perennial, erect and decumbent, weak, trailing, creeping at base, mat-forming, ruderal, rhizomatous with wiry slender long rhizomes, roots fibrous, culms branched, leaf blade flat and bluish green, basal sheaths glabrous, ligule membranous, leaves linear to lanceolate, solitary or whorled racemes on a short axis, spikelets glabrous and paired, upper glume and lower lemma glabrous, lower glume a membranous scale..."

[Allelopathic? Unknown] [No evidence of allelopathy reported]

[Parasitic? No] No evidence [Poaceae]

[Unpalatable to grazing animals? No] "Even though it is palatable for cattle when young, it is not a productive enough grass to use for grazing." [Syn: Digitaria scalarum]

[Unpalatable to grazing animals? No] "Unfortunately, African Couchgrass is nutritious (Dougall & Bogdan, 1960), well liked by livestock and loses vigour under grazing. It then remains close to the ground. Grazing can weaken it to a point that a timely and good ploughing in the dry season can finish it off."

[Unpalatable to grazing animals? No] "...fairly palatable when young, nutritious..."

[Toxic to animals? No] "...fairly palatable when young, nutritious..." [No evidence]

[Host for recognized pests and pathogens? Unknown] Not listed among the adverse impacts of this grass

[Host for recognized pests and pathogens? Unknown] Not listed among the adverse impacts of this grass

[Causes allergies or is otherwise toxic to humans? No] No evidence. Not listed among the adverse impacts of this grass

[Causes allergies or is otherwise toxic to humans? No] No evidence

[Creates a fire hazard in natural ecosystems? Probably Yes] "It is a grass which will be the first to emerge when litter or crop debris are burnt in the field. If left unchecked, the grass is hard to control by one simple mechanical operation."

[Creates a fire hazard in natural ecosystems? Probably yes] "There was no advantage of burning compared to slashing in terms of the degree of D. abyssinica control obtained. By increasing nutrient loss and by creating the risk of fire damage, burning is the least acceptable of the three options assessed, though in practice, it is often used by Ugandan farmers in vegetation management."

[Creates a fire hazard in natural ecosystems? Yes] "D. abyssinica produces long and slender rhizomes, forming a dense mat beneath the soil surface. Its rhizomes can penetrate to a depth greater than one metre." [Fire risk would increase if grass established in such high densities]

[Causes allergies or is otherwise toxic to humans? No] "Even though it is palatable for cattle when young, it is not a productive enough grass to use for grazing." [Syn: Digitaria scalarum]

[Unpalatable to grazing animals? No] "...fairly palatable when young, nutritious..."

[Parasitic? No] No evidence [Poaceae]

[Allelopathic? Unknown] [No evidence of allelopathy reported]

[Unpalatable to grazing animals? No] "Unfortunately, African Couchgrass is nutritious (Dougall & Bogdan, 1960), well liked by livestock and loses vigour under grazing. It then remains close to the ground. Grazing can weaken it to a point that a timely and good ploughing in the dry season can finish it off."

[Unpalatable to grazing animals? No] "...fairly palatable when young, nutritious..."

[Toxic to animals? No] "...fairly palatable when young, nutritious..." [No evidence]

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[Creates a fire hazard in natural ecosystems? Yes] "D. abyssinica produces long and slender rhizomes, forming a dense mat beneath the soil surface. Its rhizomes can penetrate to a depth greater than one metre." [Fire risk would increase if grass established in such high densities]

[Is a shade tolerant plant at some stage of its life cycle? Yes] "found in moist shady places and roadsides, mountains, along streams..."
Digitaria abyssinica (Poaceae)


[Is a shade tolerant plant at some stage of its life cycle? Yes. Tolerates shade but prefers full sun] "D. abyssinica grows best under high light intensity and is more troublesome in unshaded than shaded plantations (Popay and Ivens, 1982)."

[Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)? Yes] "found in moist shady places and roadsides, mountains, along streams, rich soils and cultivated land, sandy loam, slopes, dry soils and muddy soils, disturbed ground, riverbanks, in clumps on bare roadside bank, clearings, rocky roadside, grassland and wetland, forest edge, abandoned fields, gardens..."

[Climbing or smothering growth habit? No. Forms dense mats. See 4.12] "Mature stands of this weed can have a leaf area index of 3, approximately the same as a fully grown maize crop (Duthie, 1957, reporting paper by AN Prentice). D. abyssinica forms a dense mat of rhizomes penetrating the soil to considerable depths, reputedly 60 cm or more, with densities of 220 m of rhizome/m² (Duthie, 1957). It produces a whole plant fresh weight biomass of 36 44 tonnes/ha (Richardson, 1967). Lateral buds on the rhizome lose their dormancy when cultivation or natural processes break the rhizome, causing loss of apical dominance. Rhizome fragments have been reported not to emerge when buried to 16 cm (Mshiu, 1978). This may have some practical significance for control."

[Forms dense thickets? Yes] "It has been planted in the Cape of GoodHope Peninsula where it forms a thick turf on the mountain slopes (Huxley and Turk, 1966)." ..."D. abyssinica produces long and slender rhizomes, forming a dense mat beneath the soil surface. Its rhizomes can penetrate to a depth greater than one metre."

[Grass? Yes] "Perennial, erect and decumbent, weak, trailing, creeping at base, mat-forming, ruderal, rhizomatous with wiry slender long rhizomes, roots fibrous, culms branched, leaf blade flat and bluish green, basal sheaths glabrous, ligule membranous, leaves linear to lanceolate, solitary or whorled racemes on a short axis, spikelets glabrous and paired, upper glume and lower lemma glabrous, lower glume a membranous scale..."

[Nitrogen fixing woody plant? No] Poaceae

[Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)? No] "Perennial, erect and decumbent, weak, trailing, creeping at base, mat-forming, ruderal, rhizomatous with wiry slender long rhizomes, roots fibrous, culms branched..." [Not a geophyte, but can resprout from rhizomes]

[Evidence of substantial reproductive failure in native habitat? No] No evidence

[Produces viable seed? Yes] "D. abyssinica seeds profusely; Harker (1957) found seed production of 78 kg/ha in Uganda; equivalent to 26,000 seeds/m². Germination potential varies considerably; up to 7% germination has been found in seed samples 3 5 weeks old, but this increased to 78% in 18 month-old seed (Harker, 1957). Seeds are, therefore, presumed to be important in the propagation and spread of D. abyssinica, however, this is a poorly researched topic. Bogdan (1965) found that 6% of wheat samples in Kenya contained seeds of D. abyssinica."

[Hybridizes naturally? Unknown] No evidence

[Hybridizes naturally? Unknown] No evidence
**Digitaria abyssinica** (Poaceae)

1980. Lemen, C.. *Allocation of Reproductive Effort to the Male and Female Strategies in Wind-Pollinated Plants*. Oecologia. 45: 156–159. [Self-compatible or apomictic? Unknown] "Other species used here are Lolium perenne (L.), Digitaria sanguinalis (L.), Setaria geniculata (Lam.), Lepidium virginicum (L.). The first species, L. perenne, is wind pollinated and self-incompatible, the rest are wind-pollinated self-compatible." [Unknown for D. abyssinica, but other Digitaria species are self-compatible]


2001. Kabanyoro, R.. *Responses of the weed Digitaria abyssinica (A. Rich. ) Stapf to selective grass herbicides in Ugandan cotton*. PhD Dissertation. University of Newcastle, Newcastle, UK [Reproduction by vegetative fragmentation? Yes] "D. abyssinica produces long and slender rhizomes, forming a dense mat beneath the soil surface. Its rhizomes can penetrate to a depth greater than one metre. The rhizomes are made of short nodes and short internodes, with the roots rising from the nodes. Any small fragment of a rhizome with a node is capable of producing a new plant once left in the ground (Harker, 1957)."

2001. Kabanyoro, R.. *Responses of the weed Digitaria abyssinica (A. Rich. ) Stapf to selective grass herbicides in Ugandan cotton*. PhD Dissertation. University of Newcastle, Newcastle, UK [Minimum generative time (years)? Unknown] "D. abyssinica produces long and slender rhizomes, forming a dense mat beneath the soil surface. Its rhizomes can penetrate to a depth greater than one metre. The rhizomes are made of short nodes and short internodes, with the roots rising from the nodes. Any small fragment of a rhizome with a node is capable of producing a new plant once left in the ground (Harker, 1957)." [Time to first flowering unknown, but once established, this grass can reproduce without the need for flowering]

2006. Quattrocchi, U.. *CRC World Dictionary of Grasses: Common Names, Scientific Names, Eponyms, Synonyms, and Etymology*. Volume I. CRC Press, Boca Raton, FL [Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)? Yes] "found in moist shady places and roadsides, mountains, along streams, rich soils and cultivated land, sandy loam, slopes, dry soils and muddy soils, disturbed ground, riverbanks, in clumps on bare roadside bank, clearings, rocky roadside, grassland and wetland, forest edge, abandoned fields, gardens..." [Adaptation to disturbed habitats & frequent occurrence on roadsides suggests that this grass would be inadvertently dispersed along high traffic corridors]


2010. USDA-APHIS. *Federal Noxious Weed List*. [Propagules dispersed intentionally by people? No Evidence] "A1 Weeds: Federal noxious weeds, not in US" [Includes Digitaria abyssinica. No person may move a Federal noxious weed into or through the United States, or interstate, unless: (a) He or she applies for a permit to move a noxious weed in accordance with §360.301; (b) The permit application is approved; and (c) The movement is consistent with the specific conditions contained in the permit. (Approved by the Office of Management and Budget under control number 0579–0054) [75 FR 68954, Nov. 10, 2010]

2012. CAB International. *Invasive species compendium [online encyclopedia] - Digitaria abyssinica (East African couchgrass).* [Propagules likely to disperse as a produce contaminant? Yes] "Bogdan (1965) found that 6% of wheat samples in Kenya contained seeds of D. abyssinica."


2001. Kabanyoro, R.. *Responses of the weed Digitaria abyssinica (A. Rich. ) Stapf to selective grass herbicides in Ugandan cotton*. PhD Dissertation. University of Newcastle, Newcastle, UK [Reproduction by vegetative fragmentation? Yes] "D. abyssinica produces long and slender rhizomes, forming a dense mat beneath the soil surface. Its rhizomes can penetrate to a depth greater than one metre. The rhizomes are made of short nodes and short internodes, with the roots rising from the nodes. Any small fragment of a rhizome with a node is capable of producing a new plant once left in the ground (Harker, 1957)."

2001. Kabanyoro, R.. *Responses of the weed Digitaria abyssinica (A. Rich. ) Stapf to selective grass herbicides in Ugandan cotton*. PhD Dissertation. University of Newcastle, Newcastle, UK [Minimum generative time (years)? Unknown] "D. abyssinica produces long and slender rhizomes, forming a dense mat beneath the soil surface. Its rhizomes can penetrate to a depth greater than one metre. The rhizomes are made of short nodes and short internodes, with the roots rising from the nodes. Any small fragment of a rhizome with a node is capable of producing a new plant once left in the ground (Harker, 1957)." [Time to first flowering unknown, but once established, this grass can reproduce without the need for flowering]


2010. USDA-APHIS. *Federal Noxious Weed List*. [Propagules dispersed intentionally by people? Yes Evidence] "A1 Weeds: Federal noxious weeds, not in US" [Includes Digitaria abyssinica. No person may move a Federal noxious weed into or through the United States, or interstate, unless: (a) He or she applies for a permit to move a noxious weed in accordance with §360.301; (b) The permit application is approved; and (c) The movement is consistent with the specific conditions contained in the permit. (Approved by the Office of Management and Budget under control number 0579–0054) [75 FR 68954, Nov. 10, 2010]


2010. Scher, J.L./Walters, D.S.. Federal noxious weed disseminules of the U.S.. California Department of Food and Agriculture, and Center for Plant Health Science and Technology, USDA, APHIS, PPQ,

[Propagules dispersed by other animals (externally)? No] "Spikelets of 1 fertile floret and 1 basal sterile lemma. Spikelets ovate-elliptic, dorsally compressed, plano-convex, 1.5–2.5 mm long, 0.8–1 mm wide, completely glabrous. Pedicel segment often persistent. Glumes 2, dissimilar; lower glume absent or reduced, hyaline; upper glume membranous, slightly shorter than to as long as spikelet. Sterile lemma similar in appearance to upper glume, as long as spikelet. Fertile floret brown at maturity, fertile lemma cartilaginous, shorter than to as long as spikelet, with flat margins enclosing much of palea, faintly muricate" [No obvious means of external attachment]


[Propagules survive passage through the gut? Unknown] "Fortunately, African Couchgrass is nutritious (Dougall & Bogdan, 1960), well liked by livestock and loses vigour under grazing. It then remains close to the ground. Grazing can weaken it to a point that a timely and good ploughing in the dry season can finish it off." [Consumption by animals could potentially spread viable seeds or rhizome fragments]


[Prolific seed production (>1000/m2)? Yes] Seeding was so prolific that an average of 26,000 seeds per square m was produced.*


[Evidence that a persistent propagule bank is formed (>1 yr)? No] "C. rotandus was absent in the field but present in the soil seed bank, whereas Sorghum abyssinica and Digitaria abyssinica were common in the field but absent in the Asbuli grassland soil seed bank." … On the other hand, species such as D. abyssinica, D. eratha, S. abyssinica, C. albicaulus and O. basilicum, which were well represented aboveground, were absent in the seed bank. These results are consistent with other studies on rangeland seed banks (Major and Pyott, 1966; Thompson and Grime, 1979; Thompson, 1986; Thompson et al., 1997)."


[Well controlled by herbicides? Yes] "African Couchgrass is controlled effectively with Dalapon (Veenstra & Boonman, 1974) and now that prices of Glyphosate have come down, the latter herbicide should be equally effective, if not more, since it also copes with the many dicotyle weeds commonly found in Couchgrass communities. Dalapon should be applied when the grass is growing actively, not more than 5 kg/ha should be applied since higher rates "burn" the foliage before the herbicide is transported to the roots."


[Well controlled by herbicides? Yes] "Investigations were conducted in Uganda on the effect of glyphosate dose rate, timing of application, and the combination of glyphosate with cultural methods for the control of Digitaria abyssinica (A. Rich) Stapf. Results showed a dose rate of 1.5 kg a.e.ha·1 to be optimum. Application with pre plant tillage did not increase D. abyssinica control, but increased populations of other weeds and costs. Glyphosate efficacy was increased when preceded by slashing, burning or digging. At least one month was required between the cultural pre-treatments and spraying to allow new shoots to emerge. Glyphosate was most effective when applied to D. abyssinica shoots up to eight weeks after emergence. The optimum timing for spraying was between one and two months after cultural pre-treatment. Glyphosate applications considerably reduced labour requirement for preparation of D. abyssinica infested land."

Field trials were conducted on the sandy loam/loam soils at Namulonge Research Institute and Bukalasa Technology Verification Centre in Uganda during the 1995/96 and 1997/98 cotton seasons to investigate the control of the tropical couch grass (Digitaria abyssinica (A. Rich.) Stapf) using the post emergence herbicides. … “This weed is a rhizomatous grass and difficult to control. The efficacy of the reduced dose rates of the grass selective post emergence herbicides sethoxydim and fluazifop-butyl was investigated for the control of D. abyssinica and other grass weed species in cotton so as to determine the appropriate dose rate(s). The herbicides were supplemented with two hand weedings. Hand weeding (5 times) during the growing season was included in the treatments. The results obtained from the field trials showed the potential of reduced dose rates in the control of grasses. The application of fluazifop-butyl (138,162 and 188 g a. i. ha 1) and sethoxydim (405,502 and 579 g a. i. ha 1) gave a significant density reduction of D. abyssinica and other annual grasses at 35 days after herbicide application. No significant differences were observed amongst the dose rates of both herbicides in the percentage weed control of D. abyssinica and other grass weed species in the two seasons. The percentage weed control ranged between 79 96%. The assessment showed that fresh and dry weights of D. abyssinica shoots/foliage were reduced by 70-80% irrespective of the dose rates for both herbicides at the two sites during the two seasons. Reduced dose rates below half of the full dose rates were investigated in the greenhouse in UK. A markedly reduction of D. abyssinica shoots and rhizomes was noted following the application of fluazifop butyl (38,66,94,188 g a. i. ha 1) and sethoxydim (116,203, 290,579 g a. i. ha 1) compared to the control. An average percentage reduction of 43.2- 62% for fresh and dry shoots, and 65.9-78% for fresh and dry rhizomes was observed. Although analysis of variance indicated that there were no significant differences amongst dose rates, low percentage reduction was noted from the lowest dose rate of fluazifopbutyl (38 g a. i. ha 1).” … “Once established Digitaria rhizomes penetrate throughout the soil, including the middle of the root system of the crop plants. Hence it becomes difficult to remove them without the use of herbicides.”


Herbicides that have been tested and used against D. abyssinica include alloxydim, amitrole, asulam, butylate, dalapon, glufosinate-ammonium, glyphosate, haloxyfop, hexazinone, metribuzin, MSMA, sethoxydim, sulfosate (glyphosate-trimesium) and TCA - sodium. Dalapon was a standard treatment to young foliage (Ivens, 1989) but this has largely been superseded by glyphosate (Terry, 1974; Baguma et al., 1995).”


Although one of the most pernicious arable weeds, it is an effective soil protector due to its rhizomatous habits which make it also resistant to fire; it is a grass which will be the first to emerge when litter or crop debris are burnt in the field. If left unchecked, the grass is hard to control by one simple mechanical operation.”


Seven muscid shoot-flies (Atherigona spp.), four chloropid flies, two chrysomelid beetles, one pseudococcid bug and one rust fungus were found to be associated with the weed. Among these, Atherigona species were the most important control agents. Three of the Atherigona species attacked non-crop plants and caused up to 77% shoot damage to the weed. Atherigona were active throughout the year, but damage to the weed was more severe during the rainy season. Atherigona species were also strongly attracted to meat meal and when this material was applied, attack by the flies increased dramatically.”