

2021 Rule Change Proposal 14

Purpose of Proposal: To add *Cuscuta approximata*, *Cuscuta gronovii*, and *Cuscuta japonica* to Volume 3 and assign a more appropriate common name to *Cuscuta planiflora*.

Present Rule and Proposed Rule: (proposed changes indicated in red text)

Volume 3. Uniform Classification of Weed and Crop Seeds

Nomen #	Scientific name	Common name	Family	Spp class	CONTAMINATING CLASSIFICATION						
					A	F	H	R	S	T	V
311576	<i>Cuscuta approximata</i> Bab.	dodder, smooth-seed alfalfa	Convolvulaceae [Cuscutaceae]	W	W	W	W	W	W	W	W
311577	<i>Cuscuta campestris</i> Yunck.	dodder, field	Convolvulaceae [Cuscutaceae]	W	W	W	W	W	W	W	W
311578	<i>Cuscuta coryli</i> Engelm.	dodder, hazel	Convolvulaceae [Cuscutaceae]	W	W	W	W	W	W	W	W
12684	<i>Cuscuta epilinum</i> Weihe ex Boenn.	dodder, flax	Convolvulaceae [Cuscutaceae]	W	W	W	W	W	W	W	W
311579	<i>Cuscuta epithymum</i> (L.) L.	dodder, clover	Convolvulaceae [Cuscutaceae]	W	W	W	W	W	W	W	W
311581	<i>Cuscuta gronovii</i> Willd.	dodder, swamp; scaldweed	Convolvulaceae [Cuscutaceae]	W	W	W	W	W	W	W	W
12685	<i>Cuscuta indecora</i> Choisy	dodder, bigseed alfalfa	Convolvulaceae [Cuscutaceae]	W	W	W	W	W	W	W	W
402563	<i>Cuscuta japonica</i> Choisy	dodder, Japanese	Convolvulaceae [Cuscutaceae]	W	W	W	W	W	W	W	W
12687	<i>Cuscuta pentagona</i> Engelm.	dodder, field	Convolvulaceae [Cuscutaceae]	W	W	W	W	W	W	W	W
12688	<i>Cuscuta planiflora</i> Ten.	dodder, littleseed alfalfa dodder, small-seed alfalfa	Convolvulaceae [Cuscutaceae]	W	W	W	W	W	W	W	W
317199	<i>Cuscuta racemosa</i> Brand var. <i>chiliana</i> Engelm. = <i>Cuscuta suaveolens</i> Ser.										
318333	<i>Cuscuta reflexa</i> Roxb.	dodder, giant	Convolvulaceae [Cuscutaceae]	W	W	W	W	W	W	W	W
317044	<i>Cuscuta</i> spp.	dodder	Convolvulaceae [Cuscutaceae]	W	W	W	W	W	W	W	W
316642	<i>Cuscuta suaveolens</i> Ser.	dodder, Chilean	Convolvulaceae [Cuscutaceae]	W	W	W	W	W	W	W	W

Harmonization and Impact Statement:

This name correction would not substantively affect the All States Noxious Weed Seed List or the Canadian Weed Seeds Order 2016, since the listings as noxious weed seeds are applied to the entire genus *Cuscuta* rather than the individual species.

Supporting Evidence:

Cuscuta gronovii Willd. is considered to be the most common and widespread dodder species in North America (Costea, et al., 2006). This species is native to nine Canadian provinces, forty-four US states, and the Dominican Republic. Host species of this plant parasitic weed include hundreds of genera of herbaceous and woody plants in various families. The proposal is to add *Cuscuta gronovii* and assign the common names swamp dodder and scaldweed to harmonize with the USDA GRIN and USDA PLANTS databases.

Cuscuta japonica Choisy, Japanese dodder, is native to temperate and tropical Asia and has been introduced in California, Florida, Texas, and South Carolina (USDA GRIN, 2020). Japanese dodder parasitizes fruit trees, eggplant, kudzu, potato, pumpkin, purple osier, soybean, and tobacco (Miller, 2003). A survey along the coast of the island Hokkaido, Japan, revealed that *C. japonica* parasitized a total of 32 different species of wild plants belonging to 30 genera representing 16 families, as well as seven crop species (Miller, 2003). The thick vine-like leafless stems can easily overtake herbaceous and woody hosts. Severe infestations can kill host plants (IPA, 2020).

The name *C. planiflora* Ten. (small-seeded alfalfa dodder) in the broad sense was applied to North American material in the very early part of the last century by Dr. F. H. Hillman (1907) and continued to be used in seed identification publications by USDA (Musil, 1942; Musil, 1963; USDA, 1952), but all of the North American populations of what has been called *C. planiflora* in Volume 3 were referred to the species *C. approximata* in the monographic treatment of *Cuscuta* by Yuncker (1932). The treatment by Yuncker appears to be uniformly followed in all recent regional floras in the western United States. Recent molecular phylogenies of the genus indicate that the two Old World species (*C. approximata* and *C. planiflora*) are related but distinct. We have confirmed with the current world expert on the genus, Dr. Mihai Costea of Wilfrid Laurier University in Ontario, Canada [R. Price pers. comm., 8/7/2020], that only *C. approximata* is found in North America. This fact is reflected in the USDA PLANTS and USDA GRIN databases where only *C. approximata* is recorded for North America (i.e., *Cuscuta planiflora* is not present in North America). To address this issue, the proposal recommends adding *C. approximata* to Volume 3 and assigning the common name smooth-seed alfalfa dodder (common name assigned in USDA GRIN). We further recommend retaining the name *C. planiflora* in Volume 3 and changing the common name to small-seed alfalfa dodder to harmonize with USDA GRIN.

References

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