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Dogfennel Competition and Control

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Although it seems we spend a lot of time delivering information on control or biology of invasive weed species, native weeds tend to be problematic as well. Dogfennel is a native broadleaf weed species and it is one of the most common weeds in Florida pastures. Dogfennel rapidly infests pastures that have been overgrazed, under-fertilized, or otherwise receive low levels of management. Many ranchers rely solely on mowing for suppression of dogfennel, but these mowing operations typically occur during August. Although this practice can improve the amount of forage available in the winter, it is likely that dogfennel competition from March to August can greatly decrease bahiagrass productivity throughout the spring and summer months. Therefore, it is important to consider when dogfennel will negatively impact bahiagrass production; this will allow ranchers some basic information on when dogfennel should be removed to prevent forage loss.

Research conducted during 2007 at the Range Cattle Research and Education Center determined that low densities (less than 25% ground cover), did not result in reduced bahiagrass yield until July. When dogfennel groundcover was greater than 25%, bahiagrass yields were as much as 60% lower compared to plots without dogfennel in June. This indicates that dogfennel should be removed from pasture no later than May when dogfennel groundcover is greater than 25%. In contrast, under low dogfennel densities, pastures should be treated by June to prevent yield loss.

Fortunately, dogfennel is relatively easy to control, but plants should be treated at the appropriate growth stage for herbicides to be effective. Additionally, spraying at the optimum time will result in lower herbicide costs. In general, the smaller the plant, the easier it is to control. Our research over the past three years has shown that the most economical approach to dogfennel control is 2,4-D amine at 3 pt/acre or WeedMaster at 3

pt/acre if dogfennel plants are no larger than 12-16 inches (approximately knee high). When plants are approximately 30-36 inches (approximately waist high), the rates of 2,4-D amine and WeedMaster should be increased to 4 pt/acre. Pasturegard at 3 pt/acre is the most effective choice for large dogfennel (60 inches; approximately head high or taller). Although 2,4-D and WeedMaster will provide similar levels of initial control compared to Pasturegard, dogfennel control one year after treatment with Pasturegard was consistently better in our research than with 2,4-D or WeedMaster.

Often, dogfennel infested pastures are also infested with tropical soda apple (TSA). This is because herbicides that are most effective on TSA are not as effective on dogfennel, and vice versa. Our research has shown that if a pasture is infested with both species, Forefront at 2 pt/acre is an effective option for dogfennel and TSA when dogfennel are no taller than knee high. When dogfennel is taller than knee high, Forefront at 2 pt/acre plus either 3 pt/acre 2,4-D amine, 1 pt/acre Pasturegard, or 3 pt/acre WeedMaster is necessary to provide adequate control of both TSA and dogfennel.

Dogfennel can significantly reduce bahiagrass forage yield when not removed at the appropriate time. Therefore it is important to assess the level of dogfennel infestations in your pastures to determine when dogfennel should be removed from pastures. In general, medium (50% groundcover) and high (>75% groundcover) densities should be removed as early in the growing season as possible, while low densities of dogfennel should be removed no later than June. Although dogfennel should be removed as early as possible for medium and high dogfennel densities, remember that drought negatively affects weed control. Therefore, we recommend that herbicide applications be delayed until rapid growth resumes and moisture is sufficient.