

DO NOT MISS THE OPTIMAL TIME GROWING COVER CROPS IN SOUTH FLORIDA

Qingren Wang, UF/IFAS Miami-Dade County Extension

Christian F. Miller, UF/IFAS Palm Beach County Extension

The growing season for most winter commercial vegetables concludes by the end of April or May in South Florida, just ahead of the hot and rainy summer months. Wisely managing the land after spring crop residues cleaned up or cultivated into the soil has become a serious consideration for vegetable growers. Having fallow land during the summer wet season, when as much as 40-50 inches of rain can fall, results in substantial losses of water and nutrients. Leaching of these vital resources is especially troublesome in sandy and gravelly soils such as those farmed in parts of Palm Beach and Miami-Dade Counties, respectively. Further complicating matters on bare land are the weeds that grow wildly if left unmanaged and form viable seed perpetuating the problem. Consequently, growers typically disk the land at least 2-3 times through the long summer to kill weeds at a cost of nearly \$100 per acre for labor and fuel.

An alternative approach to better conserve soil and water, and suppress field weeds is to grow summer cover crops. Such cover crops as sunn hemp, sorghum sudangrass, and pearl millet grow quickly and densely cover the land before most weed species can get established. These cover crops possess the added benefit of scavenging leftover of soil nutrients applied to crops in previous seasons. By doing so, they accumulate the residual soil nutrients in their plant tissues along with large amounts of biomass. Consequently, cover crops not only deter leaching but also improve soil fertility when used as a green manure and suppress weeds through shading effects. Another added benefit of using cover crops is that some, such as sunn hemp, can suppress soil pests like root-knot nematodes.

Currently, cover crop seed costs are reasonably affordable. For instance, sunn hemp seed can be found for \$1.54 per pound, sorghum sudangrass costs \$0.69 per pound, and Japanese millet is about \$0.75 per pound. With seeding rates at 25-30 lb per acre for sunn hemp and sorghum sudangrass, it costs \$40 - \$45 per acre of sunn hemp and \$17-\$20 per acre of sorghum sudangrass. Japanese millet on the other hand is less expensive to plant at \$11 per acre because of the lower seeding rate at 15 lb per acre. The seed cost is obviously much lower than that of the labor and fuel required to repeatedly disk a weedy fallow field.

A tye-drill planter with adjustable seeding rates is typically utilized to sow the cover crop seed (Figure 1) to a depth of 1/4 -1/2 inch. The seed can germinate in 3-5 days (Figure 2) under adequate soil moisture. Typically, these cover crops are seeded from the middle of May to mid-June and within a month, the previously bare land can be covered completely. After 2 months, sunn hemp and sorghum sudangrass plants (Figure 3) can reach a height of 5-6 ft. Each may be ratooned and allowed to regrow or flail-mowed and incorporated into the soil.

Sunn hemp can grow year round in south Florida but seeding too early (e.g., March or April) or too late (August or September) limits biomass production due to the short-day length nature of the crop (Figure 4). Pearl millet cannot be ratooned (Figure 5), and must be mowed and

incorporated into the soil prior to setting seed, otherwise volunteers will be seen during the vegetable growing season.



Fig. 1. A tie-drill planter is using for cover crop planting. Credit: Qingren Wang



Fig. 2. Sunn hemp in the first week after seeding. Credit: Qingren Wang



Fig. 3. Field view of sorghum sudangrass. Credit: Qingren Wang



Fig. 4. Sunn hemp blooming through the winter. Credit: Qingren Wang



Fig. 5. Field view of pearl millet. Credit: Qingren Wang