LNC93-058

Annual Medics

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Annual medics (*Medicago spp.*) are legumes closely related to alfalfa. They are true annuals flowering, setting seed and dying within one growing season (60 to 100 days). There are more than 35 known species of annual medics, all of which have their origins in the Mediterranean region. They are generally adapted to dry conditions, prefer soil pH above six and lack the ability to over winter in the northern region. Although annual medics are relatively new in North America, they are an essential component of Australian sheep pastures and small grain cropping systems.

Annual medics have been tried in Michigan as a hay and forage crop, as a cover crop or green manure and as an interseeded crop. The following table shows the growth characteristics, use and seeding rates of some annual medics currently being tested:

Medic Variety	Growth Characteristics	Uses	Seed rate (lb/ac)
'Mogul' barrel	semi-erect, late maturing, good cold tolerance	hay, forage, cover crop, interseed	10-14
'Santiago' burr	prostrate, mid-maturing, some cold tolerance	forage, cover crop, interseed	10-14
'Sava' snail	erect, early maturing, some cold tolerance	hay, forage, cover crop, interseed	16-28
'Caliph' barrel	semi-prostrate, early maturing, unknown cold tolerance	forage, cover crop, interseed	10-12

Uses:

1. ***Nitrogen management***: Medics will fix atmospheric N when inoculated with *Rhizobium*. Under favorable conditions, they can produce more than 100 pounds of N per acre.

2. ***Erosion control***: Medics germinate and grow quickly, forming a thick ground cover which helps hold soil in place. Annual medic species vary in their growth habits, from erect to prostrate, with the more prostrate species providing better ground cover.

3. *Soil improvement*: Medics can be used as green manure, either following small grain harvest or in summer before fall small grain seeding.

4. *Weed suppression*: Preliminary observations from on-farm and experiment station research found no weed suppression by annual medics intercropped with corn, although this is claimed as one benefit of growing annual medics.

5. *Feed source*: Medics can be used as a pasture or forage crop. They can be as high in forage quality as alfalfa, and like alfalfa, can cause bloat. In a 1994 test in Kalamazoo and Ingham counties, three annual medic species were seeded as an "emergency feed source" in early May and harvested mid-July. They produced dry matter yields similar to or greater than alfalfa.

Species	Dry matter yield (tons/acre)	
	Counties	
	Ingham	Kalamazoo
Alfalfa	0.9	0.8
'Santiago' burr medic	1.4	0.4
'Sava' snail medic	1.4	0.6
'Mogul' barrel medic	1.6	1.3

Management

Establishment: Most medics are very small-seeded and require shallow planting (about one-quarter inch deep). They can be broadcast followed by light soil coverage or drilled into tilled or untilled soil. Soil should be well-drained, as medics are susceptible to diseases like rhizoctonia, phytophthora and fusarium under water-logged conditions.

Seeding as hay or forage crop: Annual medics can be 'clear-seeded' in early spring as a hay or forage crop with a small-grain drill.

As an interseeded crop: Medics can be grown as companion crops or interseeded with corn, sugar beet and wheat. Interseeded medics may compete with both weeds and crop plants for moisture and nutrients and may reduce yields, which is why it is best to seed them three to four weeks after planting the primary crop. Medics may persist after harvest, presenting an option for grazing. The following table shows the effects of planting date of interseeded medic on corn yield and amount of N produced from the medics during a 1993 Ingham County trial.