EMERALD CROWNVETCH (Coronilla varia)
For Erosion Control Plantings
In Indiana, Michigan, Wisconsin

Description: Crownvetch is an introduced rhizomatous, long-lived legume, native to middle and southern Europe. It is not a true vetch (Vicia). Emerald is the variety named and released by the Soil Conservation Service and the Iowa Agricultural Experiment Station. It has gained acceptance for highway bank stabilization and beautification from the East Coast to as far west as eastern Nebraska and Kansas. It has been widely tested in many Midwest states and has been approved for planting on critical areas in Indiana, Michigan, Wisconsin, and other states. Crownvetch has coarse, strongly branched stems that reach 2 to 4 feet in length under favorable conditions. Stems vary from decumbent to ascending. Its vertical height is usually about 2 feet. It is tolerant of drought and partial shade.

Purpose: To evaluate Emerald crownvetch for critical area and minespoil stabilization on a number of soils and subsoils. Of special importance, we want to know its ability to become established when seeded with a grass on critical areas.

Standard for Comparison: Alfalfa, birdsfoot trefoil, perennial pea or flat pea will normally be considered the standard. Volunteer legumes such as sweet clover may also be used.

Site: Crownvetch grows best on permeable, fertile, well-limed and well-drained soils, but once established will tolerate neutral to slightly acid soils. It is not suited to wet soils with poor internal drainage and is difficult to establish on sands. It will grow on subsoil better than any of our commonly cultivated crops.

Planting Method: If one is to consider use of plants dug from an established stand, then we have always had better results from seed. If seeds are planted thickly in a garden spot, grown for one year, and transplanted next spring to critical areas where there is no grass competition, chances for success are good. When used with fertilizer and water, if needed, this method is usually successful. For most critical areas, use of seed is preferred. As with any small seeded

legume, the best stand is obtained by seeding 1/4 to 1/2 inch deep on a firm, fertile, and weed-free soil. Critical areas are usually lacking in fertility and seedbed preparation is either difficult or impossible, If possible, shape bank to proper slope and harrow or drag to provide some loose soil. If slope is too steep to get on with equipment, broadcasting fertilizer and seed, either by hand or with a hydroseeder, appears to be the surest method. On critical areas where a grass is needed to stop erosion quickly, tall fescue or other grasses can be seeded with crownvetch. Mulch with 1-1/2 to 2 tons of clean straw or hay per acre or 80 pounds (2-3 bales) per 1000 square feet. Other organic materials of equal effectiveness may also be used. Mulch should be held in place by straight disking, asphalt or netting. Mulching should be omitted only where seeding can be made in a well. prepared seedbed in moisture retentive topsoil, on non-erosive sites.

Lime and Fertilizer: If pH is below 6.0 use lime. Apply the amount of phosphate and potash recommended for alfalfa based upon soil test. On subsoils and in absence of a soil test use at least 80 pounds of P_2O_5 and 120 pounds of K_2O per acre. Include 60 to 80 pounds of nitrogen per acre when establishing with a grass and where using a mulch. Work the fertilizer into the soil as much as possible.

Inoculation: Inoculate seed with fresh crownvetch inoculant just before seeding. Use a sticking agent such as milk, sugar and water, or syrup to be sure the inoculant sticks to the seed.

Rate of Seeding: Crownvetch has approximately 110,000 seeds per pound with approximately half of these being hard seed. Seed at a rate of 5 to 10 pounds per acre. A rate of 10 pounds per acre, 1/4 pound per 1000 square feet, will provide 24 seeds per square foot. The higher rate is recommended for erosion control plantings with 10 to 15 pounds of tall fescue or 2 to 4 pounds of timothy per acre.

Date of Seeding: Seed as early in the spring as possible.

Management: Crownvetch is slow to become established when compared with common legumes on agricultural land. While it often will grow on low fertility or acid sites, its rate of establishment is slow and erosion control value is low. Considering all costs, providing ample nutrients appears to be the easiest way to insure a vigorous stand when planted on critical areas, Do not spray with 2,4-D or similar sprays. Mow only as necessary to control weeds which are large enough to shade plants. Frequent mowing will favor the grass when crownvetch is grown in mixture with it.

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