

Corn Intercropping for Silage Production

Why Intercrop Corn?

Intercropping corn with other species offers several benefits for silage production:

Nitrogen Benefits: Legume intercrops can fix nitrogen in the soil, potentially reducing fertilizer needs

Extended Feeding Options: Regrowth after silage harvest may provide fall grazing opportunities



Corn Ground for Silage

Corn stalk is ground before being fermented.

Soil Health Improvement: When incorporated, residues add organic matter and nutrients to your soil

Soil Protection: Intercrop residues protect soil from erosion after harvest



Harvesting Intercropped Corn

Corn is harvested leaving legume crops to grow

Improved Forage Quality: Adding other crops, especially legumes, can increase protein content in your silage

Better Weed Management: Companion crops help suppress weeds between corn rows



Corn Residue after Harvest

Corn residue provides organic matter and nutrients to soil

Corn Intercropping Agronomics

Corn Seeding Guidelines

Parameter	Recommendation	Notes
Seeding Rate	32,000 plants/acre	Standard silage corn rate
Row Spacing	30 inches	Industry standard spacing
Planting Time	When soil temperature and weather are suitable	Typically when soil reaches 10°C at planting depth
Weed Management	Pre-plant/emerge (PRE) followed by post-emergence (POST) herbicides	Critical from emergence (VE) through V6 (6-leaf) stage
Variety Selection	Based on regional suitability	Consider growing season length and local pest pressures

Intercrop Seeding Guidelines: Legume Intercrops

Crop	Plants/Acre	Seeding Rate (lbs/acre)	Target Population	When to Plant
Soybeans	200,000	70-140	4-5 plants/sq ft	Same time as corn (if glyphosate-resistant)
Faba Beans	160,000	Varies	4 plants/sq ft	Corn V4-V6 stage

Notes for Legumes:

- Soybean seed survival rate is approximately 75% when using a seed drill
- Conduct a 1,000 seed weight test for faba beans as weights vary
- Legumes provide nitrogen-fixing benefits; consider adjusting nitrogen application timing

Corn Intercropping Agronomics

Intercrop Seeding Guidelines: Cover Crop Mixes

Crop Type	Drilled Seeding Rate (lbs/acre)	Broadcast Seeding Rate (lbs/acre)	When to Plant
Small Seeds (clover, phacelia)	4-7	6-10	Corn V4-V6 stage
Larger Seeds (vetch, peas)	8-10+	12-15+	Corn V4-V6 stage
Italian Ryegrass	30+	40-45	Corn V4-V6 stage

Notes for Cover Crops:

- Broadcast seeding rates should be 25-50% higher than drilled rates
- Broadcasting may result in seed being caught in corn leaves
- Expect lower establishment rates with broadcasting vs. drilling
- V4-V6 corn stage typically occurs in late June or early July (region dependent)

Finding the Right Balance:

Consider reducing corn seeding rates if you want higher production from intercrops like soybeans or faba beans. More sunlight reaching between corn rows will increase intercrop growth.

Intercropping with Corn

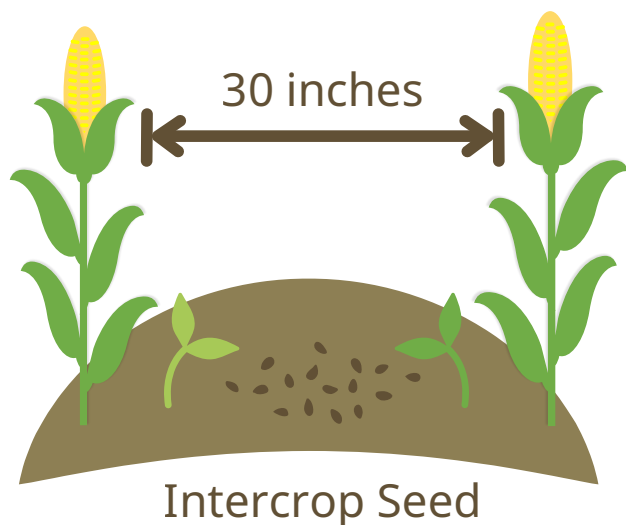
Distance between crops has been increased to improve the growth of intercropped species such as ryegrass, and brassica mustard greens.



Corn Intercropping Agronomics

Plant Configuration

Standard corn row spacing is 30 inches
Intercrops can be drilled or broadcast between rows



Weed Management

Corn is not highly competitive with weeds, so early weed control is essential:

- Use a sequential weed control program with pre-plant/emerge (PRE) followed by post-emergence (POST) herbicides
- Focus weed control from corn emergence (VE) through V6 (6-leaf stage)
- Complete weed management before seeding non-glyphosate-resistant intercrops

Variety Selection

Corn: Choose varieties suitable for your region's growing season and pest pressures

Soybeans: Some varieties are bred to stay vegetative longer (100+ days before reproduction)

- These varieties may offer better forage quality and nitrogen fixation benefits for intercropping



Soybean Plant

Soybeans offer many benefits when incorporated into a corn silage intercropping system

Corn Intercropping Agronomics

Fertility Management for Intercropping

- Base nutrient applications on recent soil tests (within the past 3 years)
- Ensure corn receives adequate nutrients during establishment
- Consider modifying nitrogen application timing when using legume intercrops:
 - High nitrogen availability may reduce nodulation and nitrogen fixation in legumes

Resource: [MAF Nutrient Management Calculator](#)

Tips for Getting Started with Corn Intercropping



Start with a Comparison: Plant half of a field with straight corn and half intercropped for a side-by-side trial

Measure What Matters: Compare both yield AND quality to assess benefits for your operation

Look Beyond Harvest: Consider tracking:

- Regrowth potential for fall grazing
- Soil health indicators over time



Refine Your Approach: Adjust seeding rates, nutrient management, and crop combinations over several years to optimize benefits for your specific conditions