

### Later Maturity

FIXatioN matures approximately 14 days later than Dixie Crimson Clover and up to 28 days later than other commercially available Balansa varieties -- while still producing greater overall growth throughout the growing cycle. This later maturity allows for multiple cuttings/grazing and reduces the likelihood of unwanted re-seeding. Fully developed plants exhibit excellent re-growth, and recover more rapidly than other clovers.

**GROWS UP TO 3FT HIGH WITH STEMS AS LONG AS 10FT**

### Versatility

Balansa clover can be used as a cover crop for nitrogen production and weed control or as a forage in mixtures with other legumes and grasses. It can also be used for hay; silage (by itself, with small grains, or in rotation with corn silage); or for over-seeding warm season grasses. Crops can utilize the nitrogen created by FIXatioN over the winter months, lowering future production costs.

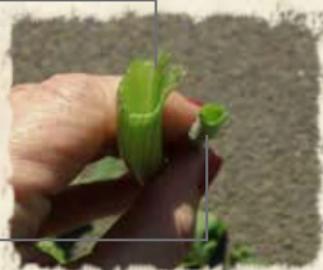


**FIXATION BALANSA CLOVER VS. CRIMSON CLOVER**

Broadcast seeding on unprepared seedbed 60 days after seeding (planted May 11, 2011).

#### STEM OF FIXATION BALANSA CLOVER

Stems of FIXatioN Balansa clover can reach up to 8 feet long with a forage yield of up to 5,250 lbs/acre.



#### STEM OF DIXIE CRIMSON CLOVER

### PLANTING INSTRUCTIONS

	Monoculture	In Mixes
Seeding Rate	5 lbs/acre drilled 8 lbs/acre broadcast	3 lbs/acre drilled 5 lbs/acre broadcast
Planting Depth	1/8 – 1/4 inch	
Ideal Soil	Soil pH of 4.5-8.0, tolerates poorly drained soils with moderate salinity.	

FIXatioN Balansa clover has proven again and again to truly be an innovative step in seed research and sustainable agriculture. Not only does it save us from the rising cost of commercial inputs, it saves our soil from the detrimental and erosive effects of those inputs. The results: higher yields, healthier soil, and a cleaner earth.

Novel solutions for growing concerns.



**IT'S BIOMASSIVE!**



We've combined the best in forage and cover crop research to find an effective new solution for your growing concerns.



### WHAT IS BALANSA CLOVER?

Balansa clover, *Trifolium michelianum*, is a cool-season annual legume that is native to the northeastern Mediterranean region. It is the most versatile of the annual clovers, capable of high performance on:

- Heavy clay soils to sandy soils
- Acidic soils with a pH of 4.5 to 8.5
- Waterlogged soils and short periods of flooding

It is also mildly tolerant to saline soils.

Balansa clover is quick to germinate, forming a multi-branched rosette in its first stage of growth that emerges from a single taproot. This allows it to persist under intensive grazing regimens.



As temperatures warm or grazing pressure is reduced, the stems turn upright, forming a multi-branched hollow stem and blossoms that are very attractive to pollinators. At maturity, Balansa clover is capable of producing large amounts of hard seed.

### WHAT MAKES FIXATION SPECIAL?

#### Cost-Efficiency

FIXatioN's tiny seed size means a little bit goes a long way. The bag-per-acre ratio is up to 30% less than that of other legumes making it an economical alternative for planting alone or as part of grass mixtures.

As a nitrogen-fixing cover crop, it reduces the need for expensive fertilizers. As a forage, under proper management, it can regenerate itself from seed for up to 3 years.

**CAPABLE OF SURVIVING WATER-LOGGED SOILS AND EVEN SHORT-TERM FLOODING.**

#### Cold Tolerance

While most Balansa clovers are not very cold tolerant, FIXatioN was bred to endure low temperatures and harsh conditions. With a rosette growth habit that hugs the ground for warmth, it survived three straight days of sub-zero temperatures under snow cover during one of the coldest winters on record in field trials in Kinderhook, NY (2013-14).

## A GROUND BREAKING COVER CROP

FIXatioN serves as a catalyst for soil regeneration and improved cash crop growth in a number of critical ways:

### It is capable of creating more than 100lbs of nitrogen per acre.

FIXatioN works with naturally occurring bacteria to create nitrogen which is released back into the soil.

### It's deep taproot breaks up soil compaction and leaves channels for water and cash crops to follow.

FIXatioN's small seed size enables it to establish in cracks and crevices in compacted soils, effectively breaking them up.

## NOT A HOST FOR SOYBEAN CYST NEMATODES.

### PROMOTES BEE HEALTH

Provides habitat and food source.

### PROVIDES ABUNDANT FORAGE

- Up to 5,250lbs of dry matter/acre in a single cutting
- Crude protein from 22% to 28%
- Relative feed values as high as 277 (See forage analysis)

### STAYING POWER

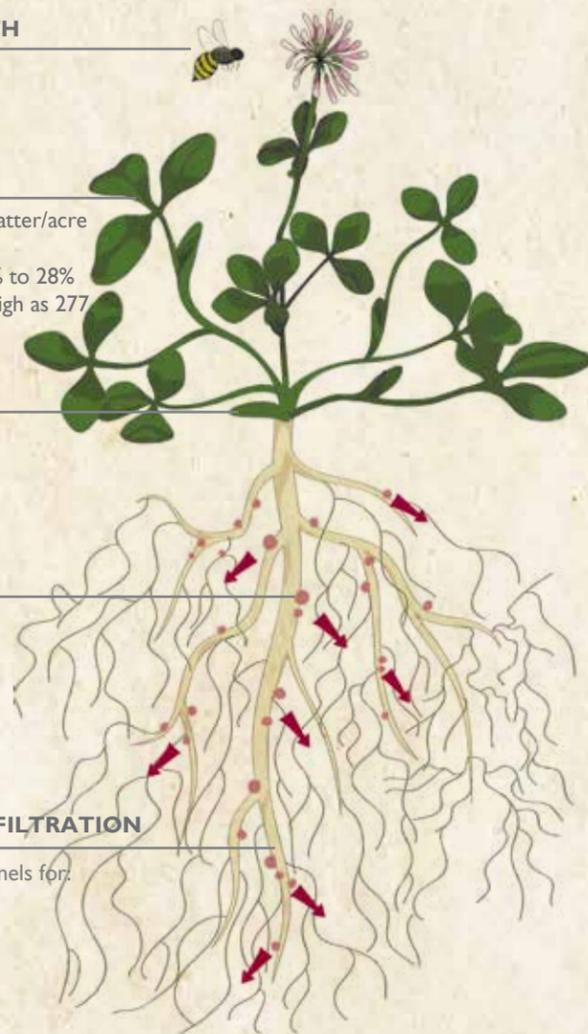
Survives short-term flooding and challenging soils. Persists under intensive grazing regimens.

### REVIVES SOIL

- Can create more than 100lbs N/acre
- Unlocks nutrients from deeper depths
- Improves subterranean ecosystem

### AERATION/ WATER INFILTRATION

- Deep Taproot creates channels for:
- Air
  - Water
  - Subsequent roots



### It outgrows and smothers weeds.

FIXatioN's huge amount of biomass aids in weed suppression and keeps the soil cool and moist. In Oregon field trials, FIXatioN outgrew and smothered rogue daikon radish plants that had not winter-killed.

### It is not a host for Soybean Cyst Nematodes.

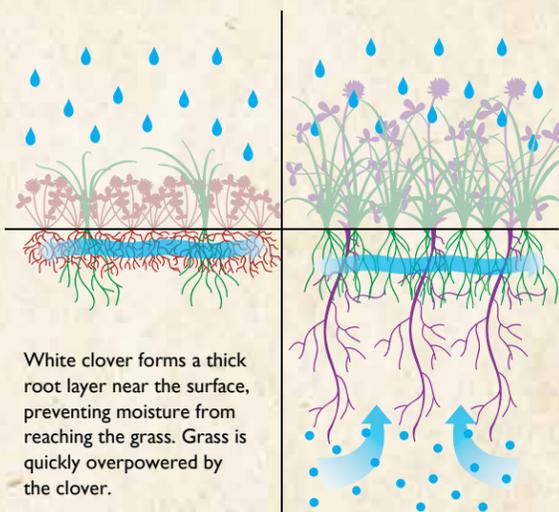
This makes FIXatioN perfect for corn and soybean crop rotations.

## A FABULOUS FORAGE

FIXatioN is an aggressive forage producer in the spring and early summer months. Well-established fields are capable of withstanding multiple cuttings/grazings. FIXatioN plants retain actively growing leaves along the entire stem. This growth habit allows for better recovery than seen in Crimson, Arrowleaf, and other annual clovers.



### DON'T LET CLOVER BEAT YOUR GRASS



White clover forms a thick root layer near the surface, preventing moisture from reaching the grass. Grass is quickly overpowered by the clover.

### TAP THE POTENTIAL>>

FIXatioN tap roots share limited resources while creating channels for water and subsequent crop roots.

## HIGHLY PALATABLE TO LIVESTOCK

The small seed size and hardness allow FIXatioN to be successfully broadcast on established pastures, although better results are obtained when drilled. Recent studies in New Zealand show that Balansa clover is a better component in pasture mixes



than white clover. This is because the life cycle of Balansa clover is ending when the grass component of the pasture is becoming stressed.

FIXatioN also excels in pastures because the

nitrogen collected in the plant material is released annually back into the soil for the use of the grasses. Perennial clovers, such as white clover, utilize the majority of the nitrogen that they create for their own preservation,

## CAPABLE OF PRODUCING AS MUCH AS 5,250LBS OF EXTREMELY DIGESTIBLE FORAGE IN A SINGLE CUTTING!

giving up little to the grasses. FIXatioN's deep taproot structure delves deep into the soil, drawing up moisture and nutrients from far below the root profile of grasses. Subsequent root systems of the grasses make use of the pathways created by FIXatioN and as a result, they can go deeper into the soil profile increasing their summer performance.

The high forage quality of Balansa clover also makes it an excellent choice for over-seeding into hay fields. The clover will thrive where other species are likely to die, filling in the wet areas and other bare spots and thereby improving yields and quality.

## A WILDLIFE WONDER

Balansa clover is a tasty and nutritious addition to wildlife mixes. It is high in crude protein and has been a favorite food source for deer and waterfowl in forage trials throughout the USA. As a highly digestible forage, FIXatioN can contribute to greater body mass and racks on deer.



### FORAGE TESTING LABORATORY

Actual sample taken May 2011 Salem, OR

730 Warren Road, Ithaca, NY 14850  
Ph: 800.496.3344 Fax: 607.257.1350  
www.dairyone.com

Lab received: 05/04/11  
Date printed: 05/05/11  
Lab use: .936

KIND DESCRIPTION	CODE	LAB SAMPLE
LEGUME PASTURE	010	16525310
DESCRIPTION I FIXATION BALANSA CLOVER		
<b>ANALYSIS RESULTS</b>		
COMPONENTS	AS SAMPLED BASIS	DRYMATTER BASIS
% Moisture	87.2	
% Dry Matter	12.8	
<b>% Crude Protein</b>	<b>3.6</b>	<b>28.4</b>
% Available Protein	3.5	27.3
% ADICP	.1	1.1
% Adjusted Crude Protein	3.6	28.4
Soluble Protein % CP		39
Degradable Protein % CP		72
% NDICP	.7	5.1
% Acid Detergent Fiber	2.2	17.1
% Neutral Detergent Fiber	3.3	25.4
% Lignin	.5	4.2
% NFC	4.8	37.5
% Starch	.4	2.9
% WSC (water Sol. Carbs.)	2.2	17.4
% ESC (Simple Sugars)	2.2	17.1
% Crude Fat	.5	4.0
% Ash	1.26	9.86
% TDN	9	71
NEL, Mcal/Lb	.10	.79
NEM, Mcal/Lb	.10	.77
NEG, Mcal/Lb	.06	.49
<b>Relative Feed Value</b>		<b>277</b>
% Calcium	.12	.96
% Phosphorus	.05	.39
% Magnesium	.03	.22
% Potassium	.38	2.95
% Sulfur	.04	.35
% Chloride Ion	.04	.35
% Lysine	.19	1.47
% Methionine	.06	.45
Horse DE, Mcal/Lb	.17	1.3

**FIXATION HAS SURVIVED WINTER TEMPERATURES OF -9°F IN KINDERHOOK, NY (2013-14)**

Patent Pending  
Unauthorized Propagation Prohibited

