

Planting the forests of tomorrow

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Plantma Forestry – a brief introduction!

- The companies and people involved in the development of the PlantMax have hundreds of years of experience combined in the development, manufacturing, sales and service of forestry machinery all over the world.

Plantma Forestry – a brief introduction!



- Founders Stig Linderholm and Hans Arvidsson have been working together developing forestry equipment since the 1980's.
- Throughout the years, their vision has always been to make heavy-duty, reliable and service friendly equipment for world-wide use by forestry professionals.
- The two gentlemen have been involved in numerous forestry projects including Log Max harvesting heads, Eco Log harvesters and forwarders, and the later versions of the Silva Nova planter in the late 1990's.



Plantma Forestry – a brief introduction!

- In 2018, after discussing the Silva Nova tree planter concept with Svenska Skogsplantor (a regeneration division of the state forest company Sveaskog) it was obvious to Stig and Hans that the need for an efficient planting machine was bigger than ever.
- Since the 90's, ideas about improvements have been growing in both Hans and Stig and now was the time to make them happen!



Storebro Silva Nova 1982-1992



Storebro Silva Nova 1993-1996



Planting methods



Ground preparation and planting in one go!



1. Two planting arms | 2. Seedling feeding operator | 3. Seedling storage | 4. Midiflex scarifier | 5. Base machine

PlantMax X2 uses the MidiFlex scarifier to achieve two continuous or intermittent mounds prepared for planting.

Due to the rear bogie compressing the mound after scarification, it is ready for immediate planting and thus the two operations are made simultaneously.

Flexibility is the key for a successful operation

- The key for planting seedlings in forest conditions is flexibility.
- In the development of PlantMax X2 our focus has been to make the machine versatile and adaptable.
- This allows us to handle different seedlings, ground conditions as well as preferences on plant spots and distance between the seedlings.



Flexibility is the key for a successful operation

- The PlantMax has a wide variety of settings however, we have grouped settings into categories to make it very simple for operators
- Selecting the most appropriate type of seedling and ground condition the PlantMax will relay the settings to the scarifier and planting arms which instantly gives you good planting results.

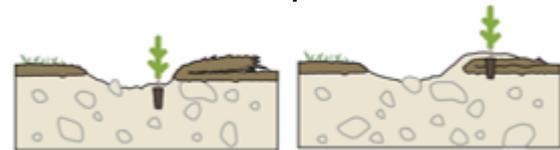
Seedlings



Ground conditions



Plant spot



Flexibility is the key for a successful operation

Ground conditions

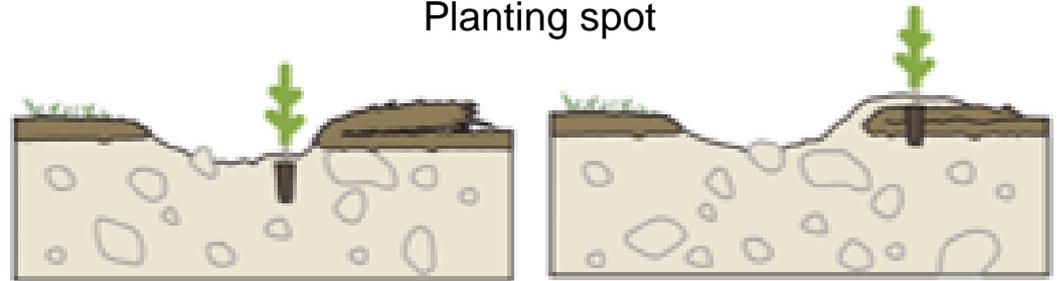


Seedlings



- “On The Fly”
- Ditch vs. Berm
- Can be switched during planting
- Intermittent or Continuous

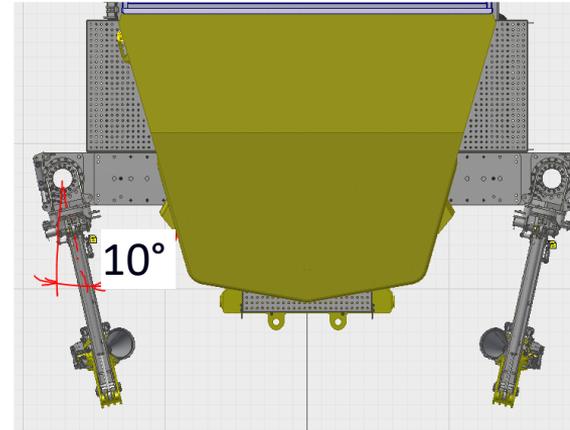
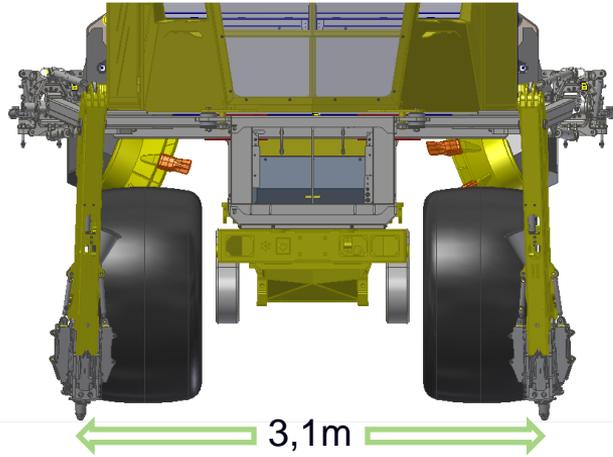
Planting spot



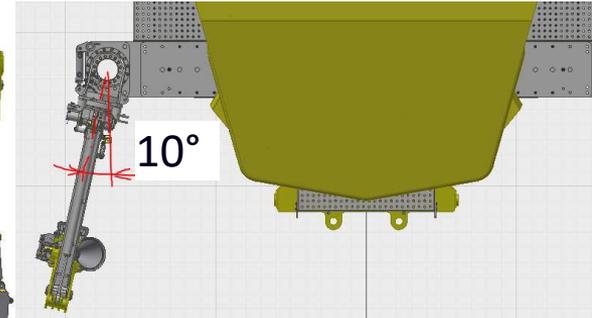
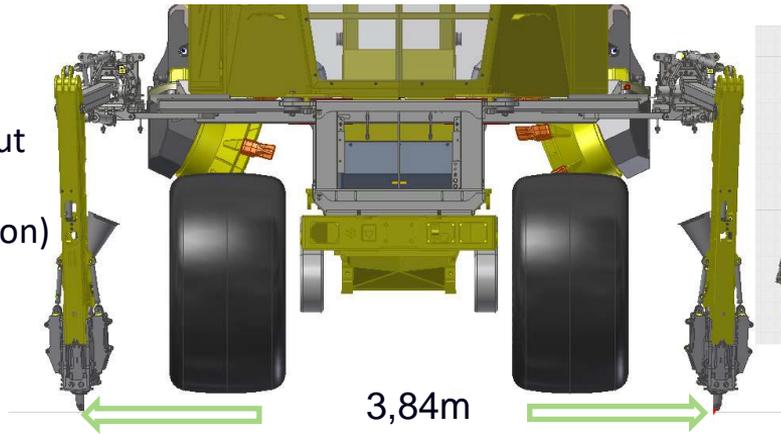
PlantMax "Wide"

*N.B. Planting wide, it won't be possible to plant in a compacted mound behind the rear bogie.

With the planting arms max swung in – 10 degree's one will get 3,1 m cc between the planting arms (-2 position)



With the planting arms max swung out +10 degree's one will get 3,84 m between the planting arms (+2-position)



High performance all through the day



- In perfect conditions the machine has the technical capacity to plant a maximum of 3,000 seedlings/hour in continuous planting. Distance between seedlings, how fast the machine can travel in the terrain while preparing the ground and the size and shape of the area will have an impact on productivity, along with seedling logistics around the machine etc
- Seedling storage capacity up to 30,000 depending on size of the seedlings.

High performance all through the day

- Fuel tank and seedling storage are sized to work non-stop for a full work shift
- Two operators run machine
- Refueling and changing seedling storage at shift change



Maximized advantages with PlantMax

Maximized advantages with PlantMax

- Compared to other methods of planting there are numerous advantages with the PlantMax concept.
- Our view is that as more features are added and incorporated into existing external systems and so on, the potential is limitless.



Maximized advantages with PlantMax

- **Simultaneous ground preparation and planting** Only one operation to coordinate and no need to wait for ground settling



Maximized advantages with PlantMax

- **Consistency and power**
Every planting is done the same way according to the settings, and there's no problem to get the seedling deep into the ground if this is desirable



- **Fertilizer/Water/Additives**
Possibilities to add almost anything you might need to add in your planting process



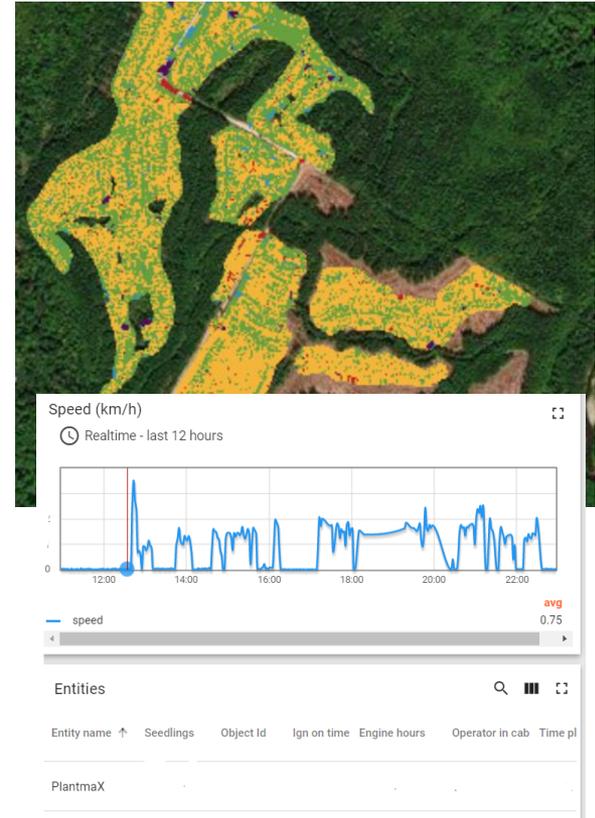
Maximized advantages with PlantMax

Data collection

Information on planting spots, date/time, operator, tree species/seedling batch, etc can be automatically registered and used for future analysis.

AI

As technology develops, more sophisticated methods of evaluating the ground can be used to control the choice of spots, evaluation of the result etc



Maximized advantages with PlantMax

Data collection

Each seedling is registered with GPS coordinates, time stamp, all settings used to plant the seedlings and also if it was a stone hit or too soft ground.



Planting unit on a forwarder



Converting to forwarder in 3-5 days, in right conditions.

If planting season is short, the scarifier and/or planting unit can easily be removed so that the machine can be used as a regular forwarder, or for fire fighting, spraying etc

MidiFlex scarifier

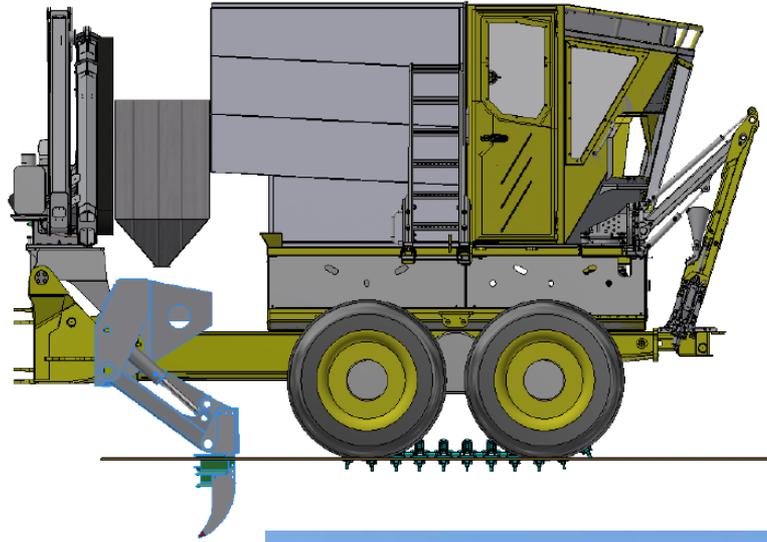
Versatile ground preparation

MidiFlex is a standalone midmounted scarifier that can be used on its own.

With the PlantMax, it is used in many different ways depending on conditions and requirements.



Ripper



Versatile ground preparation

Ripping, fertilizing and planting at the same time

Fertilizer can be either continuous or intermittent



Seedling conveyer



Flexible solution for all kinds of seedlings

The seedling conveyer has been designed to carry many kinds of different seedlings, a simple solution to ensure reliability in tough conditions.

Demo for Hancock, Ashland AL USA

“I’m impressed! The PlantMax machine handled 35% (20 degree) slopes with ease. The discs on the side intermittently scarify the ground and the planting arms then insert the seedling in that location.” **Robert Milstead, Hancock Forest**

24 **Management**



Delivery of a new machine to Holmen Skog (one of the major Swedish forest companies)

- “With PlantMax, we are gearing up the regrowth in the forest so that more new forest starts with growth and sequestration of carbon dioxide faster after harvest.” **Jan Åhlund, Holmen**



Demo in Deersdale NB Canada

“After 2+ years of discussions I couldn’t have asked for a better result- it was the first equipment demo I have participated in where the machine has done everything it said it could do(and then some more)!”

Josh Cornell, JD Irving



Brazil Roadshow

Berneck

APERAM

Suzano

Eldorado

Arauco

West Rock

Klabin

CMPS

DEXCO

Sylvamo





Thank you for listening!