

Miedema introduces “HMI GPS Planting Comfort” at the Agritechnika 2011:

What is “HMI GPS Planting Comfort”:

“HMI GPS Planting Comfort” is an extension on planting machines from Miedema which are executed with an HMI control panel.

All Miedema planters executed with an HMI are suitable for using the “HMI GPS Planting Comfort”. The “HMI GPS Planting Comfort” module for the HMI control panel is a software extension which can automate some of the handling from the driver.

What can “HMI GPS Planting Comfort” do for you:

- Make surface calculations from a parcel by simply driving 1 complete round around it.
- Automatic row-start and row-stop for the planter (and if mounted for the Miedema Ferti-Flow fertilizer applicator) at the head of the field. All rows at the same time, or even per row on angled parcels.
- Automatic creation of spray tracks, including switching off the drive for the spray track rows and, if mounted, activating the spray track markers.
- Each parcel can be named and the net planting time, average tuber amount and number of tubers for each of the parcels are saved per row. This data can be read out from the HMI with a USB stick and imported into an “Excel” file.
- Use the measured GPS speed for the drive of the planting elements (originally the speed is determined by a land drive wheel)

What are the requirements to use “HMI GPS Planting Comfort”:

- The planter must be equipped with an HMI control panel.
- The tractor must be equipped with a GPS system which generates an NMEA signal and must be connected to the HMI control panel.

How does “HMI GPS Planting Comfort” work:

Preparation:

- The HMI control panel needs a software update, uploading the GPS Planting Comfort module.
- A RS232 cable needs to be mounted between the GPS system of the tractor and the HMI control panel for necessary communication.
- The “HMI GPS Planting Comfort” module must be switched on.

In the field preparation and first passages:

- Drive the tractor to a certain point in the field.
- Activate the “record” function of the GPS Planting Comfort module.
- Drive (possibly already planting) around the whole parcel from and to the starting point. The coordinates of the polygon are recorded.
- Indicate the number of headland passages in the HMI control panel.
- Indicate the spray boom width of your sprayer (desired for creating spray tracks) in the HMI control panel.
- Place the tractor on a certain spot in the parcel to start planting the inner part, confirm this point as “A” of the A – B line.
- Drive, (possibly already planting) to the other side of the parcel, confirm at the end of the passage point “B” of the A – B line.

In the field, planting of the inner part and headland:

- the "HMI GPS Planting Comfort" module calculates where the spray track passages are located, and creates the spray track passage automatically when a passage is entered parallel to the A – B line. All required actions to generate a spray passage are executed automatically.
- The "HMI GPS Planting Comfort" module switches on or off the whole drive of the planting machines, or per planting element (and if present, the Ferti-Flow fertilizer applicator) when crossing the headland line.

What can't be done with "HMI GPS Planting Comfort" module:

- It is not an auto-guidance module to operate a swivelling drawbar, steered wheels or side-shift cylinder.
- It is not a stand-alone module, a GPS system at the tractor which generates NMEA data communication to the HMI is always necessary.
- It is not a variable dosage computer for fertilizer, nematicides, liquids or potatoes.
- It is not a replacement for the speed capturing via a land wheel of the planter, keep in mind that GPS signal coverage can be weak or reception can be influenced by trees.

What are the advantages of "HMI GPS Planting Comfort":

- Automatic and precise surface calculation of a parcel.
- Automatic switching on and off of the whole drive or per element of the planting machine and/or Miedema Ferti-Flow fertilizer unit.
- Automatic generation of spray tracks when a passage where a spray track should come is entered.
- Perfect placement of spray tracks, therefore better efficiency of spray fluids and no open spots in the crops when spraying.
- Every passage can be started randomly.
- Optimal and efficient usage of seed potatoes and fertilizer, no double planted parts of the parcel.
- No spillage of seed potatoes and fertilizer, saves costs and the environment.
- The more bends and corners a parcel has, the more efficient the usage of the "HMI GPS Planting Comfort" module is.
- More user friendly to work with: the machine starts/stops automatically, no calculations needed anymore, no more putting sticks in the field anymore to create a start/stop line.

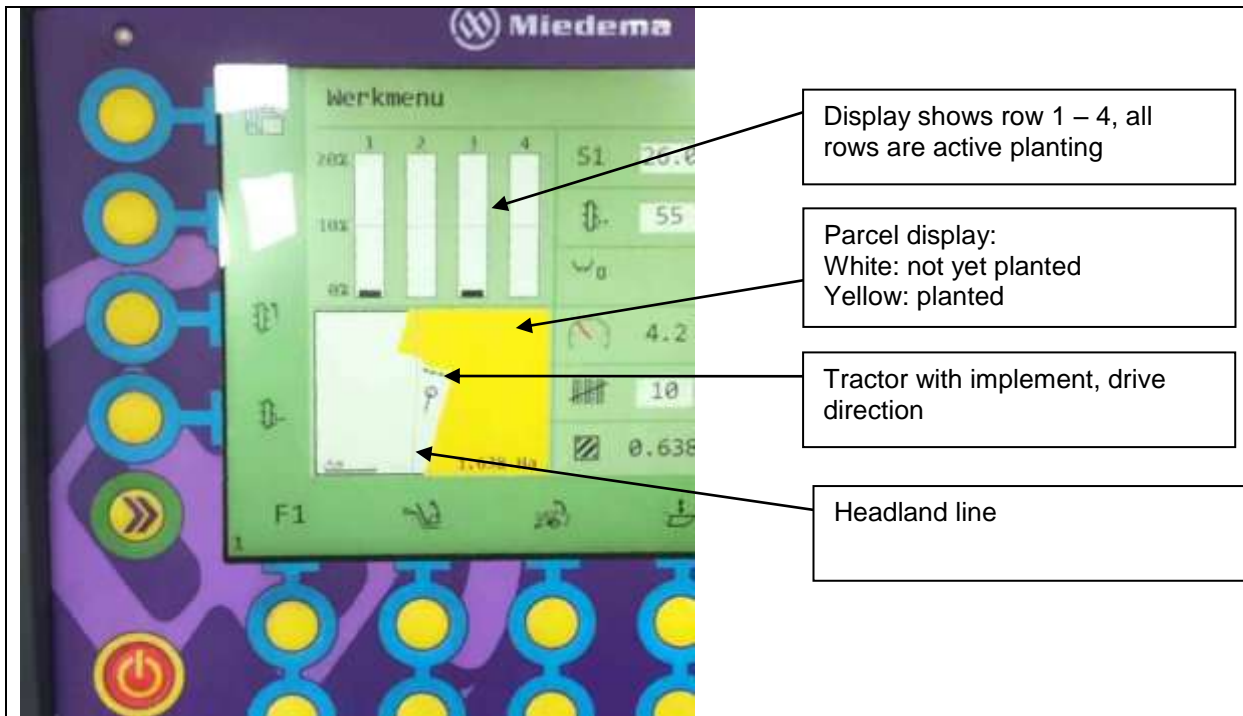
Picture gallery of “HMI GPS Planting Comfort”:



Picture 1: planting machine



Picture 2: HMI control display to operate the planter



Display shows row 1 – 4, all rows are active planting

Parcel display:
White: not yet planted
Yellow: planted

Tractor with implement, drive direction

Headland line

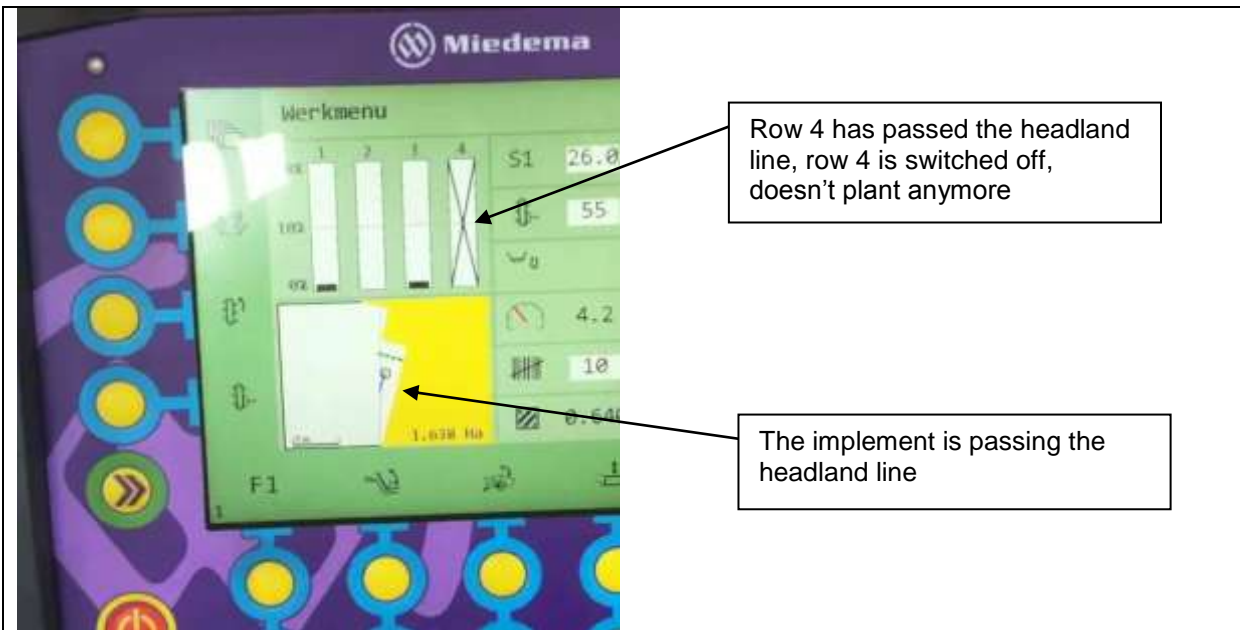
Picture 3: HMI with “HMI GPS Planting Comfort” module. Machine is active planting, the headland line is approached



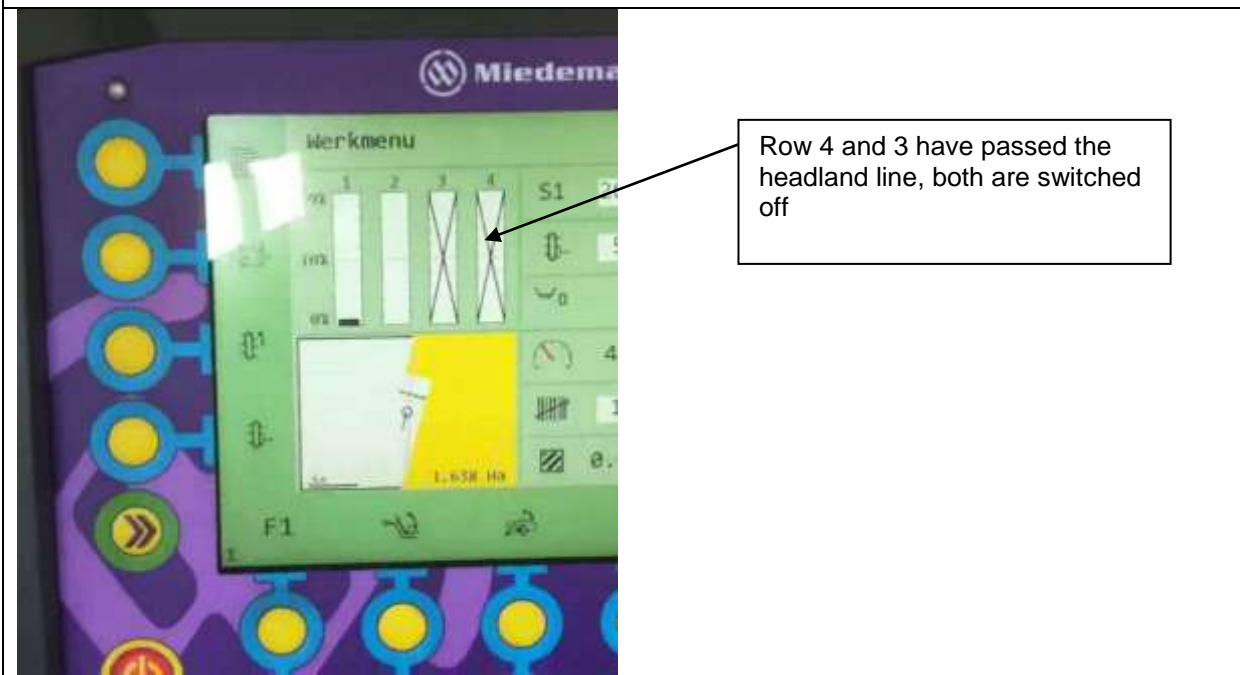
Close up from the parcel

Headland line

Picture 4: Close up of the parcel, showing ready planted surface, tractor and implement, to be planted surface and the headland line



Picture 5: the tractor and implement are passing the headland line, row 4 switches off first.



Picture 6: Row 4 and 3 have passed the headland line, both are switched off



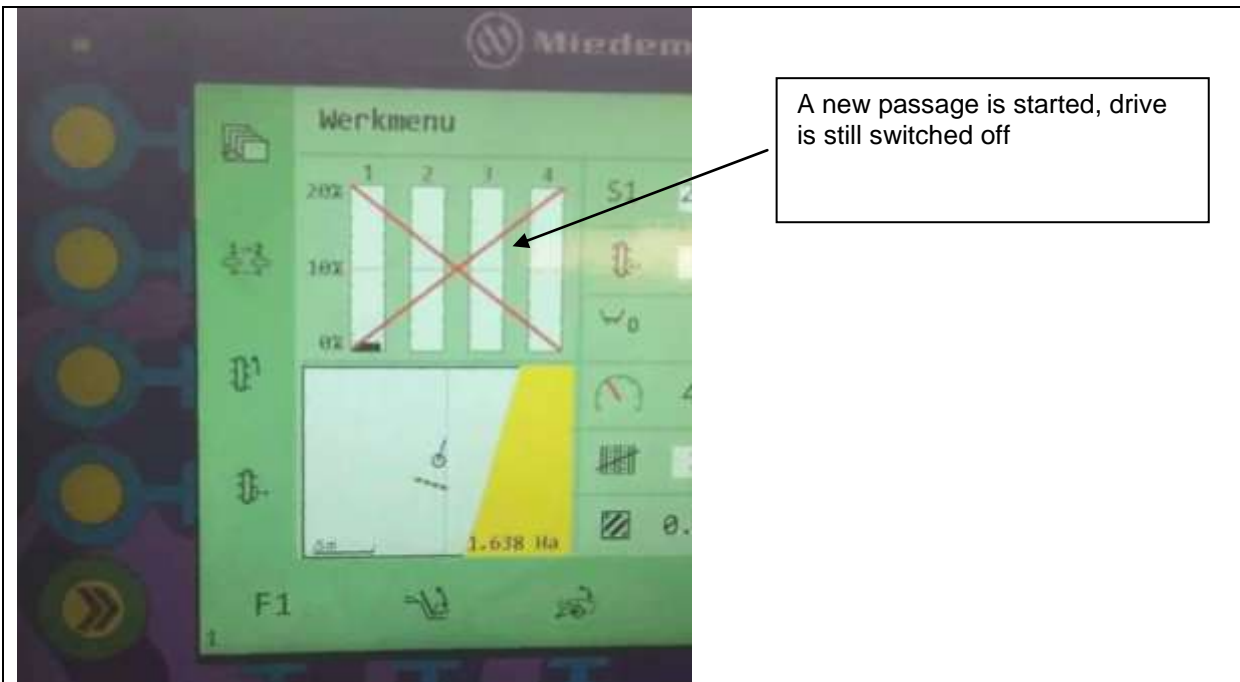
Row 4, 3 and 2 have passed the headland line, those 3 rows are switched off

Picture 7: Row 4, 3 and 2 have passed the headland line, those 3 rows are switched off

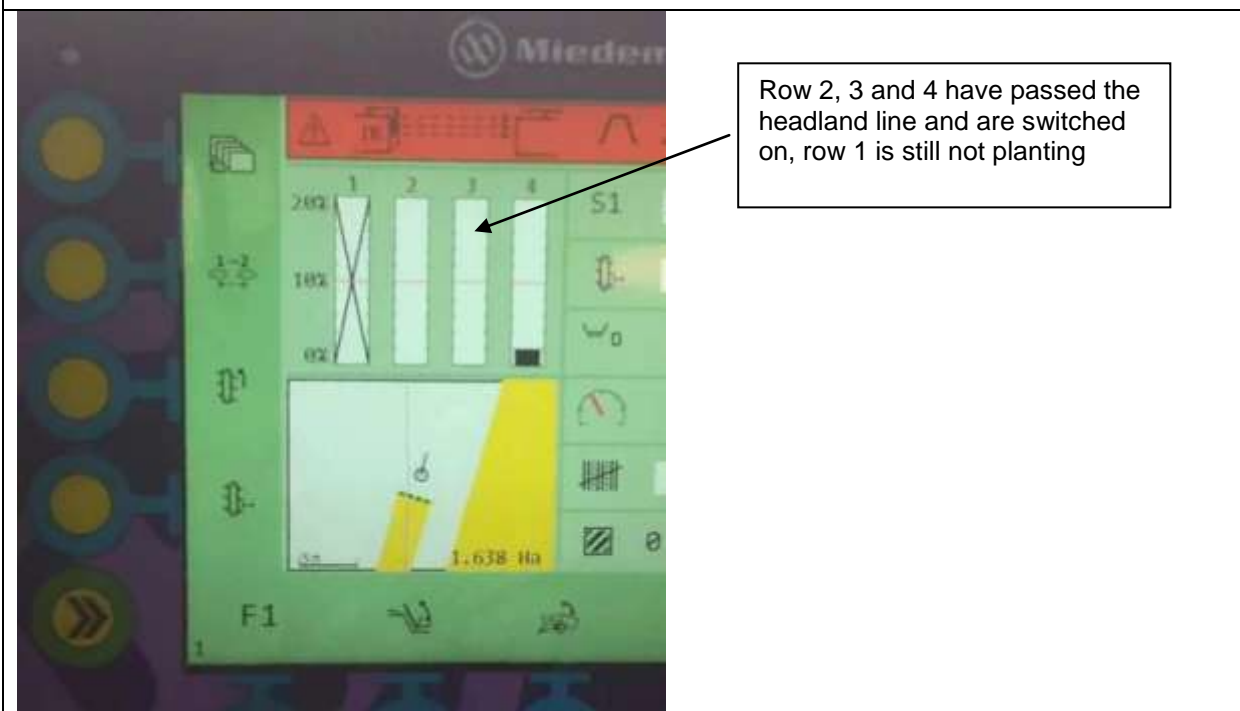


All rows have passed the headland line, the drive is switched off

Picture 8: All rows have passed the headland line, the drive is switched off, the machine does not plant anymore



Picture 9: a new passage is started, the drive is still switched off.



Picture 10: Row 2, 3 and 4 have passed the headland line and are switched on, planting.



Picture 11: front view from the tractor cabin

Ready planted inner part of parcel, with end of passages visible

View from tractor cabin, front implement to prepare soil is visible

Ready planted headland, tractor is driving parallel to the headland line



Picture 12: rear view from tractor cabin

Ready planted headland

Edge of planter bunker visible

Ready planted inner part of parcel, with end of passages visible



Picture 13: polygon of a parcel. All yellow parts are planted



Picture 14: overview in tractor cabin

GPS Autosteer panel with covered passages in parcel visible

HMI Control panel