



Intelligent Feed Management



A full suite of feed management solutions to improve your profitability by helping you control your largest expense.



A full suite of feed management solutions to improve your profitability, by helping you control your largest expense.

Precision Feeding Suite

Feed smart. Feed easy.

On average feed expenses account for over 50 percent of a farm's input. With multiple factors affecting the feeding process, it can also be the area farmers lose control of the quickest. That is why Topcon offers you a complete suite of feed management products, to help you gain control of your largest input process.



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Feed Software





Better ROI

Striving to improve production while keeping costs down is key to running a successful professional livestock farm. As feed represents 40-55% of total farm management costs, this is one of the most important processes to consider.

The process of loading and delivering rations is one part of the feeding process where there is room for improvement. Nutritionists often refer to this process by mentioning the existence of 3 different ration types on a farm: the planned ration, the loaded ration and the eaten ration.

When talking about feeding, farmers will often say: "My feeding is already accurate". Research shows, however, that this is often far from the truth and deviations of up to 20% are not uncommon. According to independent research, even though farmers are feeding relatively accurately, even better results are obtained when they use Intelligent Feed Management Solutions. Using these solutions the cost of daily feed and the amount of feed refused can go down by at least 4% and 1% respectively.

This data underlines the urgent need for a system that makes feeding more accurate, more efficient, more transparent and, above all, more manageable. The Topcon "Digi-Star" Intelligent Feed Management systems offer a complete solution.

TMR Tracker™

TMR Tracker™ is a multi-featured Windows® based system that provides livestock farmers with a total solution to manage feed cost, promote efficiency and improve production. Feed ingredients, recipes, production groups and feed mixer information are entered using the PC. Wireless connections or a USB-stick can be used to send information to the indicator in the cabin or on the feed mixer. This displays the ingredient to be fed, its weight and the corresponding group information. During feeding the actual weights loaded and fed are saved and sent back to the PC.

Feed Management Control

- Easily monitor and amend the feeding process from start to finish
- Collect your valuable feeding data and analyse it for improving protocols
- Provide management information for daily business decisions and planning
- Share your feeding data with nutritionists, advisors, financial institutions and others

Stock and Ingredient Tracking

- Move away from time-consuming manual recording
- Accurately enter, edit and manage your ingredients
- Improve farm profits through consistent feeding
- Help control shrink by analysing and tracking ingredients

Operator Control

- Empower your team by providing ease of use and accuracy
- Make changes easily in the PC software, hardware, smartphone or tablet
- Easily manage group and ration changes



TMR Tracker™ Benefits

Benefits during loading

Saving on feed costs

As the product weighing indicator displays the ingredient and the exact target amount to be loaded, the operator automatically tries to hit this target. This immediately results in more accurate loading. Even professional livestock farmers that have always paid great attention to their feeding accuracy are experiencing savings of up to 4% or more on loading.

Saving on time

TMR Tracker™ users also achieve significant time savings. Hand written load sheets or notes are no longer necessary, meaning loading can be completed faster, saving time.

The feed management system includes a feature called “RESIZE”. This feature allows the farmer to change the total weight to be loaded on the indicator. Each ingredient in that load will then be recalculated to match the original percentage. The structure of the ration will exactly stay the same.

If the number of animals in a group changes, this number can also be changed on the phone or indicator. The weighing indicator will recalculate the complete ration. Regardless of the level of the operators’ ‘mathematical’ skills, the system will recalculate in only a matter of seconds.

Individual ingredients’ ratios

Another less obvious saving is being achieved by the improved control over individual ingredients. For example: if the total scheduled ration is 2500 Kg, and the operator has loaded 2550 instead, that means he is off 2%. A first reaction would be; that is not too bad. However, what if you find out that he has overfed the one ingredient and underfed the other? In this example it could be the case that he has loaded 25Kg less

corn than scheduled and accidentally overloaded 75 Kg of hay. The total error would be 50 Kg (2%) too much, but the errors from the individual ingredients are much bigger, of course. Errors like this will affect the quality of the milk, but can never be traced back to the total loading result. With TMR Tracker™ the farmer can track loading accuracy of both ingredients and rations constantly. By numbers and graphically. It gives him an immediate insight and an option to respond and correct quickly.

Inventory control

TMR Tracker™ will track daily usage of all ingredients. It will give a warning when running out of feed stock. Reorder alerts can be set flexibly in the software. It will avoid running into the surprise of being short of feed stock. Simply try to imagine the cost of running out of a product which would have to be replaced instantly by another and results in a ration of inferior quality.

Benefits during unloading

Tracking group delivery

In addition to tracking loading accuracy of ingredients, TMR Tracker™ also registers the amounts delivered to each individual group. A feeding report immediately shows deviations in performance by the operator. A more expensive mixed ration, meant for highly productive cows, should obviously end up in front of that group of highly productive cows.



Tracking DMI per group

TMR Tracker™ offers a calculated Dry Matter Intake report, which offers the farmer an excellent tool to analyse the DMI trend, per animal and per group. The farmer can determine the effects of a ration change, or feeding errors, to the DMI at a glance, so he can respond immediately. For an even higher accuracy, any feed refusal can be registered as well. Followed by an automatic recalculation. This gives a more precise picture of the dry matter intake.

Benefits for production

More constant production

TMR Tracker™ provides the farmer with accurate feeding data, and tools to respond quickly in case of errors and necessary ration changes. With the help of recalculation features, TMR Tracker™ users also tend to make small changes to their rations more often. From field results we see that farmers keep their protein and fat values more constant as a result of this. They experience a more consistent production.

More control on protein

Through a steady composition of the fed ration the animal receives a steady flow of energy and protein in the right ratio. This results in less protein loss and therefore, for example, higher protein content in the milk.

More control on fat

Through a steady composition of the fed ration a farmer can better steer on the fat content of the milk. It is better to produce low fat and high protein to maximize the paid milk price.

More control on urea

In countries where manure book keeping is mandatory, TMR Tracker™ proves to be of supplementary added value. Due to a better control of ration composition and ration quality it affects the quality of the manure. If penalty systems are in place for exceeding urea levels, this type of control results in immediate cost savings. Through a steady composition of the fed ration the cow receives a steady flow of energy and protein in the right ratio. This results in less protein loss in the rumen. Less protein loss in the rumen gives a lower milk urea. A yearly average reduction of 1 point urea is no exception. This reduction gives the farmer a cost saving on the manure processing.

Tracking feed efficiency

Instead of spending time gathering milk results from the milking system and reworking feeding data from the mixer, TMR Tracker™ will automatically take care of this. Therefore, the farmer or nutritionist no longer needs to spend time on building feed efficiency spread sheets. TMR Tracker™ can connect to every herd management system and collect milking data. Together with the feeding data the system automatically runs feed efficiency reports. It is also possible to enter milk production in TMR Tracker™ manually. This way it operates as a standalone system and still runs feed efficiency reports.

Improving herd health

Through a steady composition of the fed ration the animal receives a steady flow of energy and protein in the right ratio. This reduces the problems that come with underfeeding in the early stage of lactation and overfeeding in the final stage of lactation. Fewer problems lead to a healthier herd with better fertility, lower cull rate and lower veterinarian costs.

TMR Tracker™ Variants

TMR Tracker™ Pro+

An advanced management tool for medium & large livestock farms that want to achieve the highest returns on their feed. Ideal for the manager who wishes to keep track of the feeding process on a daily basis.

TMR Tracker™ Pro+ offers practical tech functions, such as the option for online data exchange with nutritionists, advanced pro-active stock management, linking to farm management systems, graphical visibility of feed trends, feed efficiency and a clear view of feeding cost.

TMR Tracker™ Pro

Management tool providing an overview of the animal feeding process and the related costs of feeding.

TMR Tracker™ Pro mainly generates management information, while Pro+ offers more possibilities to adjust and manage your farm based on that information. TMR Tracker™ Pro offers easy-to-use management reports on feeding accuracy, feed cost and stock management.

TMR Tracker™ Lite

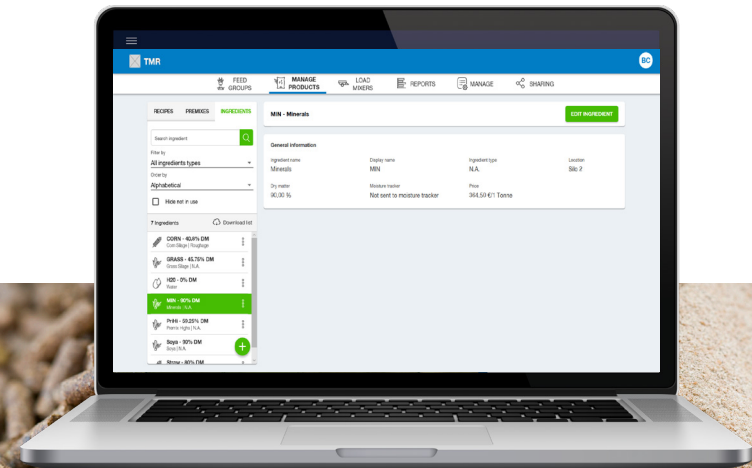
This feed management tool for small to medium sized livestock farms offers the farmer valuable information on rations and the related costs from day one. TMR Tracker™ Lite makes it easier to change ration and group data which saves a lot of time. Indispensable for farms with different feeders and farmers who are looking for better returns on their feed mixer and animals.

TMR Tracker™ Basic

This low-cost, low-entry feed management tool offers the farmer valuable load reports and information on dry matter intake. The software is easily upgradable to a higher level.

Minimum PC-system requirements

- Pentium or better PC, Windows 7 or higher
- 1 GB free disk space, 1 GB Ram, USB Port, Adobe Acrobat
- Broadband Internet Connection
- Screen resolution 1024 x 768

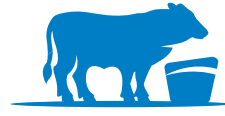


TMR Tracker™ for All Farm Applications



TMR Tracker™ Dairy

The TMR Tracker™ Dairy version contains special functions which allow the dairy farmer to monitor and control the feeding process, for example measuring the dry matter efficiency. It allows measurement of milk yields in kg versus the fed ingredients in kg, per group or per cow.



TMR Tracker™ Beef

TMR Tracker™ Beef is a specialized version of the feed management software for beef cattle farms. It allows you to track cattle by lot, create data reports for ADG (average daily gain) and feed cost per kg of gain, make Dry Matter conversions and closeout summary reports. In addition, a Bunk Reader Module is available.



TMR Tracker™ Contractor

The TMR Tracker™ Contractor version was developed for the independent contractor to be able to manage and control the feed process for multiple customers. Workflow Management is simplified because time and tonnage are tracked. Billing per customer per minute or tons fed is also facilitated.







TMR Tracker™ Central Office

If you need to manage and control the feeding process from a head office, a special TMR Tracker™ Central Office version is available through which all data are saved on a central server.



TMR Tracker™ Functionality by Levels

	 Dairy				 Beef		 Contractor	 Central Office
TMR TRACKER™ FUNCTION	Basic	Lite	Pro	Pro+	Pro	Pro+	Dairy / Beef	
Communicates with TMR3610, TMR4610, TST7600 units	•	•	•	•	•	•	TST7600 only	
Easy adjustment of Dry Matter values	•	•	•	•	•	•	•	•
Calculates Dry Matter Intake	•	•	•	•	•	•	•	•
Change “Group Call Weight” and/or “Head Count” at unit	•	•	•	•	•	•	•	•
Create recipes on a kg/load, kg/animal and DM%/load bases	•	•	•	•	•	•	•	•
Input ingredients and track costs	Limited	•	•	•	•	•	•	•
Input recipes and monitor feed costs	Limited	•	•	•	•	•	•	•
Operator accuracy monitoring	Limited	Limited	•	•	•	•	•	•
Flexible workday definitions		•	•	•	•	•	•	•
Feed refusal/weighback tracking			Manual	Auto	Manual	Auto	Auto	Auto
Premix options			•	•	•	•	•	•
Mixer rotation counter & mix time monitoring			•	•	•	•	•	•
Reports	2	10+	15+	25+	15+	25+	25+	25+
Ingredient usage report		•	•	•	•	•	•	•
Report generator offers report customization			•	•	•	•	•	•

	Dairy				Beef		Contractor	Central Office
TMR TRACKER™ FUNCTION	Basic	Lite	Pro	Pro+	Pro	Pro+	Dairy / Beef	
Automated reports			•	•	•	•	•	
Graphical reports				•		•	•	•
Reports customized by group/lot					•	•		•
Ration Transition					•	•		•
Summary closeout report					•	•		•
Inventory monitoring & forecasting			Limited	•	Limited	•	•	•
Milk production tracking				•				•
Calculate income over feed costs				•		•		•
Enter cattle in and out weights					•	•		•
Bunk reader module				•		•		
Auto adjust subsequent feeding				•		•		
Multiple farm databases							•	•
Upgradable to next program level	•	•	•		•			
Interface with most herd management programs			Limited	•				
Interface with the Moisture Tracker			•	•		•	•	



Feed Hardware



Feed Indicators



Digi-Star 2810-BT

Indicator with integrated Bluetooth function to Improve Loading & Unloading Efficiency.

- Standard integrated Bluetooth functionality
- Enhanced functionality with a brighter, high-contrast display
- Large 1.7" (43mm) white backlit COG
- Preset Weight function provides improved accuracy and management of loading & unloading
- Internal "alarm light & horn" alert operator of approaching target preset weights
- Rotation Counter/Timer, an exclusive, significantly aids in controlling mix time & processing
- Machine Hour Meter records total operating time & Maintenance Message for service reminder functions (when used with Rotation Counter)
- Compatible with FEED App



Digi-Star 3410-BT

Indicator with integrated Bluetooth function for Programmable Batching.

- Standard integrated Bluetooth functionality
- Programmable batching and enter preset weights.
- Program rations from the front panel of your indicator
- Eliminates the need for feed sheets
- 200 ingredient memory capacity, alphanumeric keypad
- First Ingredient Resizing - automatically adjust remaining ingredients
- Ingredient accumulation data is recorded internally, allowing for CSV data file download to PC
- Internal "alarm light and horn" alerts operator of approaching target weights
- Compatible with FEED App



TMR 3610 - Feed Management Indicator

Full management capability and USB or DataLink™ bi-directional data transfer.

- Program rations at your PC or from the front panel of your indicator
- Compatible with TMR Tracker® Feed Management Software
- Internal “alarm light and horn” alerts operator of approaching target weights
- Make “group call weights” and “head count” changes at the indicator
- Keeps up-to-date feed changes or reuse data from day-to-day



TMR 4610 - Advanced Feed Management Indicator

Full management capability and USB or DataLink™ bi-directional data transfer.

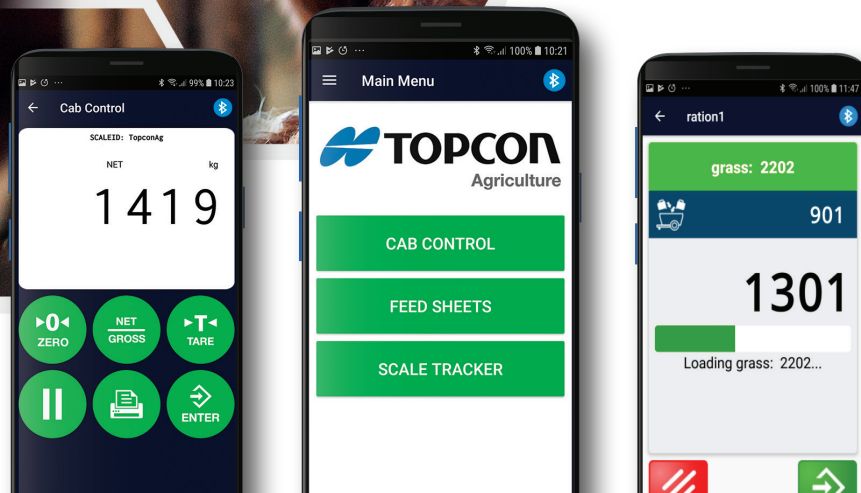
- Same features as TMR 3610 and more!
- Additional 3-line display provides more complete feeding information increasing operator efficiency
- Program rations at your PC or from the front panel of your indicator
- Compatible with TMR Tracker® Feed Management Software
- Customizable to accommodate your feeding style



TST 7600 - Advanced Feed Management Touch Screen Indicator

Adjust Dry Matter % on scale with Automatic Ration Recalculation.

- Program rations at your PC or from the front panel of your indicator
- Use and track Weigh Back (Refusal)
- Precisely load Small Ingredients
- 3-day History and additional information available at a glance
- Ingredient Substitution eases concerns when ingredients run out
- Graphic touchscreen is easier and intuitive when training new users and when utilizing additional functions
- Compatible with Digi-Star's new ERM modules
- Works with all Digi-Star's late model scales with J905 Serial port and updated to 9.B software or newer
- Works with all levels of Digi-Star TMR Tracker: Lite, Pro, and Pro +



FEED

TAP Topcon Agriculture Platform Feed smart. Feed easy.

The FEED App is a free software application for integrated remote control over feed operations using a smartphone or tablet. The FEED app communicates via Bluetooth with a Digi-Star 2810-BT or 3410-BT scale indicator on the feed mixer.

The FEED App combines three main functions of the feed process; CAB CONTROL for load management, FEED SHEETS for managing rations and SCALE TRACKER for managing weighing operations.

CAB CONTROL allows the operator to stay in the cabin of the loader and communicate to the Bluetooth indicator on the feed mixer remotely. The operator can view and control the indicator by pressing buttons on the Cab Control screen via his/her smartphone or tablet.

FEED SHEETS give the farmer the option of checking and setting up the right feed ration. The app offers a full set of options to fully program the right ration through the smartphone. Once the setup has been completed, the app provides instructions about proper recipes and loads.

SCALE TRACKER provides remote control and viewing capability. The app allows viewing weight information from the indicator.

Save time and efforts moving from display to display by managing your feed activities in a single, convenient app.



Wireless Components

ERM WiFi Module



External WiFi MODEM

- Designed to communicate and provide data transmission with Digi-Star hardware systems, Cab Control App and FEED App.
- WiFi-Datalink ration data exchange
- External mag-mount antenna
- Internationally certified 2.4GHz WiFi transceiver

ERM-2.4 Module



External Radio MODEM 2.4GHz

- Easy to install
- Connects to the J905 serial port on the indicator
- Connects with all types of Cab Control systems
- Up to 90 m transmission range
- Internationally certified transceiver

ERM-900 Module



External Radio MODEM 900 MHz

- Easy to install
- Connects to the J905 serial port on the indicator
- Extended transmission range
- Datalink ration data exchange
- Regionally certified transceiver

Cab Control™ Indicators

Cab Control™ is a wireless remote display and control system installed in the loader cab, that works seamlessly with the mixer scale indicator. There is no need to leave the loader cab during loading. The view of weight and information will not be affected by rain, snow, dirt, or darkness. You can view Recipe, Resize, and more and control the standard scale functions. With this system overloading of key ingredients is reduced.



Cab Control™ 2.4

- Solution for Wireless Operation and Remote Read Out
- Provides loading information by wireless communication between your loading equipment and indicator/touch screen
- On-board operation on loader to process function from the indicator on the mixer
- Direct access to loaded weights and ingredients
- 24 channels available for maximum 24 feed mixers
- Makes the loading process more efficient, more accurate and easier



Cab Control™ Touch 400 & 500

- Easier navigation through rations
- Access to basic loading settings
- Allows resizing of head numbers or total weights
- Direct access to loaded weights and ingredients
- Works with Digi-Star series indicator range (software version 8.J or higher)
- Can also be operated with gloves
- Makes loading more efficient, more accurate and easier



Cab Control™ App

- Access to basic loading settings
- Direct access to loaded weights and ingredients
- Works with new and existing Digi-Star series indicator range (software version 9B or higher)
- Makes loading more efficient, more accurate and easier

Remote Displays

Wired and wireless remote displays to better view and control indicator functions on the feed mixer from the wheel loader, skid steer or telescopic loader.



Remote Display RD 2500 V

Large 1.7" LCD display with alarm light

- Slimline profile
- Bright LCD backlight for dark or inclement conditions
- Impact resistant window protects LCD



Remote Display RD 4000

Large 4" LED ultra bright display

- Lighted load progression bar graph
- Viewable from 200 feet
- Visor is available as an accessory

Accessories



T/R Transmitter

Set Tare or Zero and select Net or Gross Weights from Loader Cab up to 100ft away. Advance the ingredient or pen when using batching indicators.



Rotation Counter - Patented

For a consistent blend every time. Indicates desired number of revolutions. The rotation Counter is available on Digi-Star type 2810, 3410, 3610, 4610 and 7600 indicators.



Alarm Horn

Provides a loud audible alarm for precise loading and unloading. Activates when the desired weight is reached. Can be used with the Alarm Light. Needs additional power cable.



Alarm Light

Provides a bright visual alarm for precise loading and unloading. Activates when the desired weight is reached. Can be used with Alarm Horn. Needs additional power cable.



NIR Technology

The Value of NIR Technology

It sounds so easy – just test each ingredient and determine the dry matter. However, until now measuring moisture was not as easy as it sounded. You had to take samples and wait for your dryer, dehydrator, or results from samples sent to a lab.

The innovation of the Moisture Tracker™ is providing NIR-scanning technology, which was previously only available using costly semi-portable or stationary apparatus, in an affordable, simple to use hand-held device. In short, the Moisture Tracker saves you costs and time. And productivity and efficiency will be significantly improved.

A good example in the feeding process; problems caused by changes in dry matter can easily be solved by routinely measuring forage dry matter and adjusting the ration. A 2% variation in dry matter can cost up to € 80 per cow per year.



With Moisture Tracker™ you receive quick results for your ingredients, forages or crops. From a simple series of trigger pulls, you can have instant and accurate readings of each moisture and dry matter content.

Moisture Tracker™

Get a handle on your Dry Matter

The Moisture Tracker™ is an affordable hand-held, Near-Infra-Red (NIR) scanning device, which rapidly and accurately measures and records the dry matter and moisture content of feeds, forages or crops on site. The Moisture Tracker enables you to quickly react to changes in dry matter. A complete Moisture Tracker system case includes the hand-held device and a PC utility software package to collect, view and store recorded measurements. Moisture Tracker is set up with a growing range of calibrations for forages, crops and by-products. New ingredients can easily be added or old ones be removed at any time. Updates for calibrations are 24/7 available via the web.



Moisture Tracker™ for Different Applications

Farmers strive to feed a consistent ration

Dry matter content is a simple concept that can have a significant nutritional impact on the ration that is actually fed. Farmers can utilize the information gathered by the Moisture Tracker to provide more consistent rations with the goal of improving productivity, herd health, and profitability.

Know the exact dry matter content of each bale

With Moisture Tracker it is possible to pull a core sample on the bale and read the moisture levels on the sample. This would allow dry matter coming into the ration from baleage to be more accurately accounted for.

Nutritionists provide up-to-date advise

As a nutritionist advising feed components to farmers, the possibility to accurately and instantaneously knowing the dry matter content holds a lot of potential.



Moisture Tracker™ benefits:

- Durable and compact
- Portable, easy and accurate
- Convenient, clear and instantaneous readings
- Accurate dry matter readings within 1-2%
- Manage changes in dry matter on site
- Test inbound and loaded ingredients
- ROI realized within the first year



Accurate harvesting for best dry matter content of crop

Taking samples before and during harvest and getting a better dry matter average is really appealing. You can establish an average moisture content of each field, determining the best harvest time or taking samples of every semi load. Being able to measure dry matter instantly allows you to take more samples and be more accurate.

Improve the efficiency of your biogas installation

With Moisture Tracker you can measure before loading to secure a sufficient dry matter for fermentation. The key is to obtain higher yields as a result of the right level of plant dry matter.





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