TPS Commodity Receiving

TPS Commodity Receiving (TCR) is a Ternpoint App for Microsoft Dynamics 365 Business Central (BC), that allows for receiving commodities (fruit, grain, vegetables, nuts etc.) from growers, taking into account the tare weight of inbound and outbound containers.

Capabilities exist to connect to scales and read weights from supported scales. Print Node is used to connect to scales. Not all models are supported out of the box and some may need support from Print Node to allow for a direct connection.

Included in the app are the ability to revalue commodities and make periodic payments to growers.

An app version with a dependency to the InsightWorks License Plating application is available outside of AppSource. Please contact us for details at info@ternpoint.solutions.

Licensing

A companion app to manage licensing is automatically installed when any app from Ternpoint Solutions is installed. This means if you have installed any other app from Ternpoint Solutions you can skip to step 3.

1. A new **Permissions Set** was added as part of the companion app install. **TPS LM LICENSE MGT**. Assign this permission sets to users in advance of use, on the **User Setup** card.

2. Extension Setup.

    a. Search for and open **Extension Management**.

    b. Select **Ternpoint License Management** and open.

    c. Ensure *Allow HttpClient Requests* is activated.
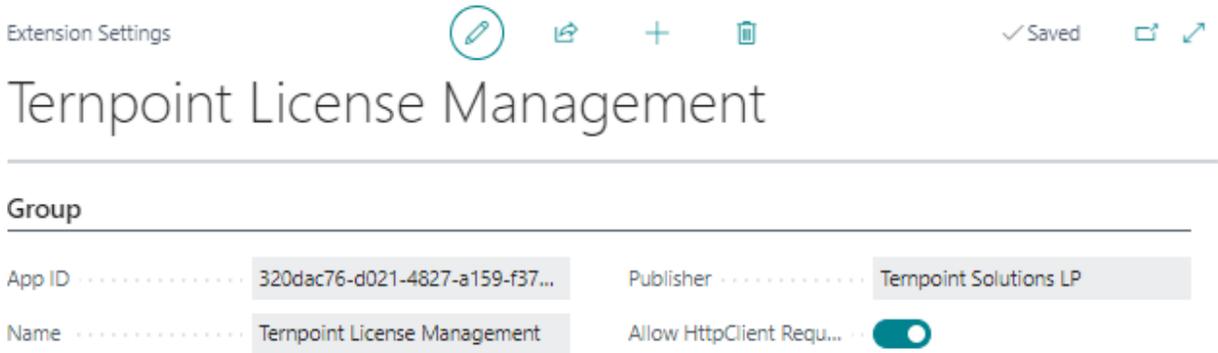
3. Ternpoint Product Registration (must be completed in each BC company the app is being used in).

    a. Search for and open **Ternpoint Product Registration**.

        i. On this page all subscription types *Ternpoint Solutions* apps that have been installed are shown.

        ii. Also, from this page you can:

            i. Contact Support

            ii. View your subscription status

            iii. Create a trial license

            iv. Apply for an extension to your trial license

            v. Request a full one-year license.

        iii. Enter appropriate Contact Info and select **Register** in the ribbon.

            i. *The license fee is per Business Central tenant. This means if other Ternpoint Solutions apps have already been purchased, you should ensure that the same contact information is used across all Business Central companies to avoid a second monthly subscription fee.*

        iv. In the line section of the page select **Create Trial License.**

4. A 30-day trial license will be created for evaluation purposes.

5. If more time is needed to evaluate the app, please select the **Extend License** or **Contact Support**.
6. In order to purchase a full license please select **Request Full License**.
   i. Email setup must be enabled in order to send emails requesting licenses or to contact support using the link.
7. In order to uninstall the app, navigate to Extension Management, select the app and select Uninstall in the ribbon.

NOTE: For any licensing issues or questions please contact Licensing@Ternpoint.Solutions.

Permissions
1. Three new **Permissions Sets** were added as part of the main app install. **TPS CTR COMMODITY**, **TPS CTR COMMREAD** and **TPS CTR COMMEDIT**. Assign these permissions sets to users in advance of use, on the **User** card or through Entra.

Commodity Setup
1. Search for **Commodity Setup** and open the page. The setups here are:
   a. The number series for **Contracts** and **Receipts** and **Pallets**.
   b. **Show Container on Weight In** controls whether the popup to input **Commodity Containers** happens after a weight in is recorded.
   c. **Scale**: Setups if using PrintNode to connect to scales.
      i. **Min Pallet Weight** stipulates a minimum weight that could be accepted during automation.
      ii. **Reading Time Interval (sec)** determines in seconds before the system will attempt to read a weight from the scale.
      iii. **Weight Check Sleep Time (sec)** in seconds the time between reading weights.
      iv. **No. of Times Scale Read** the read will always be 1 so if the value is set to 2 this means 3 times it will read after it finds a weight above the minimum giving the scale time to settle to an actual true weight.
   d. Under **Revaluation**
      i. **Reval. Item Charge No.** is the item charge that will be used on purchase invoice lines when a revaluation purchase invoice is created from the worksheet

ii. **Accrual G/L Account** is the account use on purchase invoice lines when making vendor payments. This can be the accrual account (see section on setting up posting to accrual accounts) or the AP account.

iii. **Payment Method Code** is used on purchase invoices for payments to redirect the payment from the accrual account if accruals are used (see section on accruals).

iv. **Auto Post-Invoice** select this option if purchase invoices generated for revaluation and payment should be auto-posted or created and left open for manual posting.

Commodity Container Setup

Commodity Containers are the physical packaging that the commodity that will be received in, which is often owned by the receiver. Empty containers are often taken back to the farm to be refilled after the truck is unloaded. The **Commodity Containers** can have a tare weight to be deducted from the received weight. Empty **Commodity Containers** can also be deducted from the outbound unloaded truck weight.

1. Search for **Commodity Container Types** and open the page.
2. Enter a new **Code** and **Description.**
3. Enter a **Container Type** or select **+New** to create a new type and fill in a **Code** and **Description**.
4. Enter a **Weight** for the weight of an empty container (tare weight).
5. Close the page to complete adding **Commodity Container Types.**

Code ↑		Description	Container Type	Weight
→ PALLET-PLA	⋮	PLastic Pallet	PALLET	21.00
PALLET-WOO		Wood Pallet	PALLET	18.00
TRAY-BLUE		Blueberry Tray	TRAY	3.00
TRAY-RASP		Raspberry Tray	TRAY	2.00

6. A setup on the **Item** card (Related->Item->Other->Default Containers) for default commodity containers and quantity is provided. Once setup, each time a pallet is created or truck weight recorded, the default commodity container and quantity will default.

Code ↑		Container Type	Description	Weight	Default Quantity
→ PALLET-PLA	⋮	PALLET	PLastic Pallet	21.00	1
TRAY-BLUE		TRAY	Blueberry Tray	3.00	20

Scale Setup

Scale server, scales and default scale by user can be setup if connecting to either a pallet or truck scale. Print Node connection to the supported scale is required. Reach out to Ternpoint for more information or Print Node (https://www.printnode.com/en).

Once setup and connected using the Print Node API a weight can be retrieved.

Scale No. ↑		Scale Name	Device Number	Scale Server ID	Scale Server Name
→ SC0001	⋮	Local Floor Scale	0	999999	Local Server

Vendor Setup

A new field named **Grower** has been added to the **Vendor** record to enable filtering. When looking up to select a **Vendor** for a **Commodity Receipt** the list is filtered to only show **Vendors** where **Grower** = true.

Commodity Contract

A **Commodity Contract** is the part of the app that defines the vendor (grower), item(s), dates and values for the **Contract**.

1. Search for **Commodity Contract** and open page.
2. The **Contract No.** will populate from the number series populated in the **Commodity Setup** section above.
3. Select a **Vendor** for the contract. When looking up the list of vendors, the list is filtered by **Vendors** where the new **Grower** checkbox is selected.
4. Enter a **Starting Date** and **Ending Date**.
5. Select a **Contract Type** of either a **Spot** or **Market.**
6. Select a **Crop Year** if required. To set up a new **Crop Year** click **+New** and enter a **Code** and **Description**.
7. In the lines.
    a. In the **Line Type** select **Item**.
    b. In the **No.** Field select an Item code.
    c. Enter an estimated **Quantity** for the contract.
    d. Enter a **Direct Unit Cost Excl. Tax**.
    e. From the **Line** selection, a list of posted and unposted transactions linked to the contract can be found.

Commodity Contract

CCON0019 · Grower

Home   Order   More options

📥 Create Commodity Receipt   📄 Release | ∨

General   Show more

Vendor Name · · · · · · · · ·	Grower ···	Buy-from	
Starting Date · · · · · · · · ·	1/1/2025 📅	Address · · · · · · · · ·	1627 Anakole st
Ending Date · · · · · · · · ·	12/31/2025 📅	Address 2 · · · · · · · · ·	
Contract Type · · · · · · · ·	Spot ∨	City · · · · · · · · · · · ·	Aiea ···
Crop Year · · · · · · · · ·	2025 ∨	Buy-from State · · · · · · ·	HI
Closed · · · · · · · · ·	⬤	Post Code · · · · · · · · ·	96785 ···
		Status · · · · · · · · · · · ·	**Open**

Lines   Manage   Line

➕ New Line   ✖ Delete Line

	Type	No.	Item Reference No.	Description	Location Code	Quantity	Unit of Measure Code	Direct Unit Cost Excl. Tax	Line Amount Excl. Tax	Qty. to Receive	Quantity Received	Quan Invoi
→	Item	1008		Organic Blueberry	NOPICK	100,000	LB	0.35	35,000.00		24,812	24,8

Subtotal Excl. Tax (USD) · · ·	35,000.00	Invoice Discount % · · · · · ·	0	Total Tax (USD) · · · · · · · ·	0.00
Inv. Discount Amount (U...	0.00	Total Excl. Tax (USD) · · · · ·	35,000.00	Total Incl. Tax (USD) · · · · · ·	35,000.00

8. When complete, **Release** the contract in order to allow for receiving against it.

Commodity Receiving by Truck

1. From a **Commodity Contract** an estimated receiving quantity can be entered into the **Qty. to Receive** and the function **Create Commodity** Receipt selected in the ribbon.
2. A **Commodity Receipt** can also be created by searching for **Commodity Receipt** and selecting **+** for a new record.
   - Enter/select a **Grower** (Vendor).
   - Select a **Contract No.** if required.
     - This will default all information from the contract to an open receipt.
3. Select **Truck Receive**, enter a **Driver License No.**, **Truck No.**, and **Driver Name**.
4. If using a connected scale, select the **Scale No.** and **Get Truck Weight In** else enter a **Truck Weight In** after reading the scale.
5. In the ribbon select **Order**-> **Containers**, if the **Commodity Containers** page does not open automatically.
   - Enter/Select a **Code** and **Quantity In** to record the types and amounts of each packaging type.
     - For instance, enter 26 pallets and second line for 1300 trays.
6. After the truck is unloaded and returns to the scale:
   - If using a connected scale, select **Get Truck Weight Out** else enter a **Truck Weight Out** after reading the scale

- o **Includes Outbound Containers.** If the empty containers are loaded after the truck has been weighed out then leave this <u>unselected</u> and simply record the **Quantity Out** in the following steps, if the empty **Containers** were placed on the truck before weighing out then <u>select</u> this field to have then considered in the net weight calculation.
  - ▪ In the ribbon select **Order-> Containers**.
  - ▪ Enter/Select a **Code** and **Quantity Out** to record the types and amounts of each packaging type.
    - If the same type of containers are returning to the field, no new lines are required, simply fill in the **Quantity Out.**
  - ▪ The net commodity quantity will calculate into the Quantity field.
    - Without outbound containers:
      - o **Truck Weight In**- **Tare Weight** – **Truck Weight Out.**
    - Including outbound containers:
      - o **Truck Weight In**- **Tare Weight** – **Truck Weight Out** (-Container tare weight out).

Order · 107520   ✓ Saved

Commodity Containers			⊕ ⌄	🔍	🗗	+ New	📝 Edit List	🗑 Delete			↪ ▽ ≡

Code ↑		Description	Weight	Contain... Type	Quantity In	Quantity Out	Total Weight In	Total Weight Out
PALLET-PLA		Plastic Pallet	21.00	PALLET	26.00	100.00	546.00	2,100.00
→ TRAY-BLUE	⋮	Blueberry Tray	3.00	TRAY	1,170.00	100.00	3,510.00	300.00

7. If the commodity is lot tracked, a function was added to the lines **Assign Lot No.** to assign the tracking. The **Item** must have a **Lot Nos.** series set on the **Item Tracking** tab in order to auto assign a lot code. Alternatively, if the commodity item is lot tracked select **Line->Item Tracking Lines** and enter a lot(s) and quantity(ies).

8. If creating average weight pallets based on the net weight:
   - o Enter a **No. of Pallets** on the commodity receipt header general tab and in the lines select **Line->Pallets**
   - o Select **Create Pallet** and the weight will be split upon that number of pallets
     - ▪ Note a separate extension must be installed to create InsightWorks License Plates from **Commodity Receiving**. Reach out to info@ternpoint.Solutions for details. Only the Insight Works License Plating app is supported.

Commodity Receipt

107615 · Grower

Home | Prepare | Print/Send | Request Approval | Order | Actions | Related | Automate | Fewer options

Post... | Release | Create Whse. Receipt | Archive Document | Containers | Get Truck Weight In | Get Truck Weight Out

✓ Saved

General   Show more

Vendor Name	Grower	Truck No.	T2946-76w	No. of Pallets	23
Contract No.		Driver Name	Kirk Southcott	Includes Outbound Containers	(toggle off)
Starting Date		Truck Receive	(toggle on)	Contact	
Ending Date		Scale No.	SC0001	Document Date	4/15/2025
Contract Type		Truck Weight In	34,000.00	Vendor Invoice No.	107615
Crop Year	2024	Truck Weight Out	1,234.00	Vendor Shipment No.	
Driver License No.	DLHs8264-T7	Tare Weight	1,218.00	Status	Open

Lines | Manage | Line | Functions | Order

New Line | Delete Line | Select Items... | Assign Lot No.

Type	No.	Item Reference No.	Description	Location Code	Bin Code	Quantity	Unit of Measure Code	Direct Unit Cost Excl. Tax	Line Amount Excl. Tax	Qty. to Receive	Quantity Received	Qty. to Invoice	Quantity Invoiced	Qty. to Assign	Item Charge Qty. to Handle	Qty. Assigned
Item	1008		Organic Blueberry	NOPICK	001	31,548	LB	0.35	11,041.80		31,548		_	0	0	_

| Subtotal Excl. Tax (USD) | 11,041.80 | Invoice Discount % | 0 | Total Tax (USD) | 0.00 |
| Inv. Discount Amount (USD) | 0.00 | Total Excl. Tax (USD) | 11,041.80 | Total Incl. Tax (USD) | 11,041.80 |

Invoice Details

9. When complete, select **Home**-> **Post**
   o *Note in standard BC there is a setting on the **User Setup** to control whether the user can post receipt or post receive and invoice.*

Commodity Receiving by Pallet

1. From a **Commodity Contract** an estimated receiving quantity can be entered into the **Qty. to Receive** and the function **Create Commodity** Receipt selected in the ribbon.
2. A **Commodity Receipt** can also be created by searching for **Commodity Receipt** and selecting **+** for a new record.
   o Enter/select a Vendor.
   o Select a **Contract No.** if required.
      ▪ This will default all information from the contract to an open receipt, if the contract has multiple items you will be prompted to select which one.
3. Leave unselected **Truck Receive**, optionally enter a **Driver License No.**, **Truck No.**, and **Driver Name**.
4. If using a connected scale, select the **Scale No.** if not defaulted from setup.
5. If the commodity is lot tracked, a function was added to the lines **Assign Lot No.** to assign the tracking. The **Item** must have a **Lot Nos.** series set on the **Item Tracking** tab in order to auto assign a lot
   o If the **Commodity Receipt** was not created from a **Contract** ensure a **Quantity** is entered or defaulted on the Line. A **Quantity** of 1 is fine as this will be overwritten during **Pallet** receiving with the actual **Quantity**.
6. From the line select **Line->Pallets**
7. If not using the scale automation select **Create Pallet**. If default **Commodity Containers** were set up on the item they will be populated and the **Tare** calculated. If they are not set up on the item, select the **Commodity Containers** if appropriate and enter the Quantity.

8. If connected to a scale without automation select **Get Weight**.
9. To start automatically reading scale weights and creating pallets select **Start Receiving**.
10. Alternatively, if no scale is connected to BC enter a gross weight.

11. Repeat this process until all pallets are weighted/recorded and click **Stop** Receiving and close the **Commodity Pallets** page.
12. The net weight (total gross – total tare) will be filled in on the line and in the item tracking lines.
13. To record outbound **Commodity Containers,** select **Order**-> **Containers** in the ribbon.
   o Enter/Select a **Code** and **Quantity Out** to record the types and amounts of each packaging type.
     ▪ If the same type of containers are returning to the field, no new lines are required, simply fill in the **Quantity Out.**
     ▪ Inbound **Commodity Containers** have been recorded as part of the pallet receiving process

Order · 107520   ✓ Saved

Commodity Containers

Code ↑		Description	Weight	Contain... Type	Quantity In	Quantity Out	Total Weight In	Total Weight Out
PALLET-PLA		Plastic Pallet	21.00	PALLET	26.00	100.00	546.00	2,100.00
→ TRAY-BLUE	⋮	Blueberry Tray	3.00	TRAY	1,170.00	100.00	3,510.00	300.00

14. When complete, select **Home**-> **Post**

Pick up and Drop off Commodity Containers

Functions have been added to the **Posted Commodity Containers** page to facilitate beginning of season pickup of **Commodity Containers** before fruit is delivered and to record drop off of left over **Commodity Containers** at the end of the season.

1. Select **Pick Up** or **Drop Off** and fill in the relevant container type and quantity that was done outside of **Commodity Receiving** or to make any adjustments.

Commodity Revaluation and Payments

A C**ommodity Worksheet** has been added to facilitate the adjustment of the commodity value as market conditions change as well as make full or partial payments to growers. The revaluation process and payment process can be done independently and multiple times, however the final revaluation to the final cost must be done before the final payment is processed to ensure all payments are made in full. In the event a revaluation is done after the final payment an additional payment must be done. Credits for overpayments are not supported using the **Commodity Worksheet**

Commodity Worksheet

Batch Name	· ·	KIRK

| | | Manage | ⊞ Calculate Payment Lines | ⊞ Calculate Revaluation Lines | ⊞ Post Payments | ⊞ Post Revaluation | ⊞ Final Payment |

Action Message	Line No. ↑	Document Type	Document No.	Document Line No.	Vendor No.	Vendor Name	Item No.	Description
					(There is nothing to show in this view)			

1. Search for **Commodity Worksheet** and open. If the **Commodity Worksheet Templates** and **Commodity Worksheet Batches** have not been setup, they can be at this time by selecting new.
    o   Since multiple batches can have data use caution when running revaluations and payments in separate batches for the same receipts to ensure the data is up to date.
2. Select **Calculate Payment Lines** or **Calculate Revaluation Lines** to cycle through the item ledger entries that were received through the **Commodity Receiving** process.
    o   Enter a **Posting Date** to be used on the posted transactions.
    o   Select a **Payment** Type of either Percent or amount.
    o   Enter a $/lb increase/decrease or percentage.
        ▪   For example if the value increase/decrease is 10% enter 10, if the payment is 10% then enter 10 or if the amount/base uom of increase is +/- .10 a lb enter +/- .10
    o   Enter **Item Ledger Entry** filters as needed.
    o   *Note only receipts received through the Commodity Receiving process will be suggested for payment or revaluation.*

Calculate Payments   ↗ ✕

General

Posting Date	· · · · · · · · · ·		🗓
Payment Type	· · · · · · · · · · · · · · · · · ·	Percent	⌄
Adj/Payment (Per/Lb)	· · · · · · · · ·		0.00

Filter: Item Ledger Entry

✕ Crop Year	· · · · · · · · · · · · · · · · ·		⌄
✕ Document No.	· · · · · · · · · · ·		
✕ Item No.	· · · · · · · · · · · · · · · · ·		⌄

＋ Filter...

[OK]   [Cancel]

3. The **Remaining Amt. to Post** represents the remaining amount that has yet to be invoiced (**Current Value**-**Invoices to Date**).

Open Amount	Amount	Ledger Entry No.	Crop Year	Unit of Measure	Quantity	Current Value	Current Value (Per/Lb)	Invoices To Date	Amount (Per/Lb)
19,251.76	2,912.09	24442		LB	34,785.00	29,120.85	0.84	9,869.09	0.08

4. If this is the final payment select **Final Payment** in the ribbon to adjust the amounts on all lines in the worksheet to be the open amount on each line.
5. Select **Post Payments** or **Post Revaluation** depending on the activity.
   o An error flag is presented if the **Amount** being paid is greater than the remaining un-invoiced amount on the receipt. Lines in error will not post and will need to be either deleted or the **Action Message** changed to **Accept.**

Commodity Worksheet

Batch Name ·   KIRK

Manage   Calculate Payment Lines   Calculate Revaluation Lines   Post Payments   Post Revaluation   Final Payment

Action Message	Item No.	Description	Lot No.	Posting Date	Remaining Amt. to Post	Amount	Ledger Entry No.	Crop Year	Unit of Meas...
Error	05 BLUEBERRY	Blueberry Conven...	030325	6/29/2025	-3,007.43	439.84	24344	2025	LB
Accept	05 BLUEBERRY	Blueberry Conven...	LN100002	6/29/2025	2,336.86	607.58	24345	2025	LB

6. An open or posted **Purchase Invoice** (Payment or Revaluation up) or **Purchase Credit Memo** (Revaluation Down) is generated depending on the value on the **Commodity Setup**. If **Auto Post Invoices** is off then the **Purchase Invoices** or **Credit Memos** must be posted manually after posting the **Commodity Worksheet**.

Setup for using an AP Grower Accrual Account

Standard setups can be used to redirect postings out of the AP account to a grower accrual account at the time of post invoicing a commodity receipt. Some implementations elect to separate grower AP in a separate account rather than the standard AP account as the amount can change and be paid out in multiple payments over the season.

1. Search for **Payment Methods** and create a new record (named GROWER below).
2. In the setup add a **Bal. Account No.** as the grower AP accrual account. Setting up the balancing account as the AP Accrual Account will cause the invoice to close on posting and the payment amount will reflect in the AP Accrual Account.
3. Link this payment method on the **Vendors** that are growers as the **Payment Method Code** on the payments tab of the vendor card.

Payment Methods ✓ Saved

+ New | Edit List | 🗑 Delete | Translation | More options

Code ↑		Description	Bal. Account Type	Bal. Account No.	Direct Debit	Direct Debit Pmt. Terms Code	Pmt. Export Line Definition
→ GROWER	⋮	Grower	G/L Account	22210	☐		