DIABETICS

Calculation Data for Insulin Pumps

User guide

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Version 1.4

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INTRODUCTION TO DIABETICS APPLICATION

Diabetics is more than insulin calculator and it is more than nutrition data and exchange list.

***Diabetics* system** is offered for people with type 1 diabetes mellitus treated with intensive insulin therapy or whose are on the insulin pump (treated with continuous subcutaneous insulin infusion). It also could be used for person with other metabolic disease in which diet and counting of usual food intake are necessary for example in both low caloric and or high caloric diet. Moreover Diabetics software is helpful tool in education process of diabetic patients.

Diabetics gives opportunity for using an individually adopted diet. When this system is implemented also a diabetic regime regarding a strict timing of meals, its' size and contains could be refused, keeping a correct **post-prandial glycemia profile**. It facilitates calculation of insulin dose in different kind of diet. With the focus on carbohydrate and fat-protein counting, meal-time insulin dose is matched more precisely. Using Diabetics it is easy to get blood glucose in the normal range or close to normal.

One of the main advantages of this system is that it helps to count carbohydrate unit as well as fat and protein unit. Generally, it is recommended to count an insulin dose only for carbohydrate products, but meal reaches on fat may affects an inconsistencies blood glucose level.

Diabetics system consists of two integral parts: diabetes one and bolus calculator. Rich products database allows quickly calculate meal diabetes content. Product database can be extended by user to satisfy its needs.

Diabetics system allows to compose any complex meal (with any parameters: quantity and content), which can be saved as a pack for later use. When user chooses a product he can use its own measure units transitions (fe. 1 glass = 200 ml).

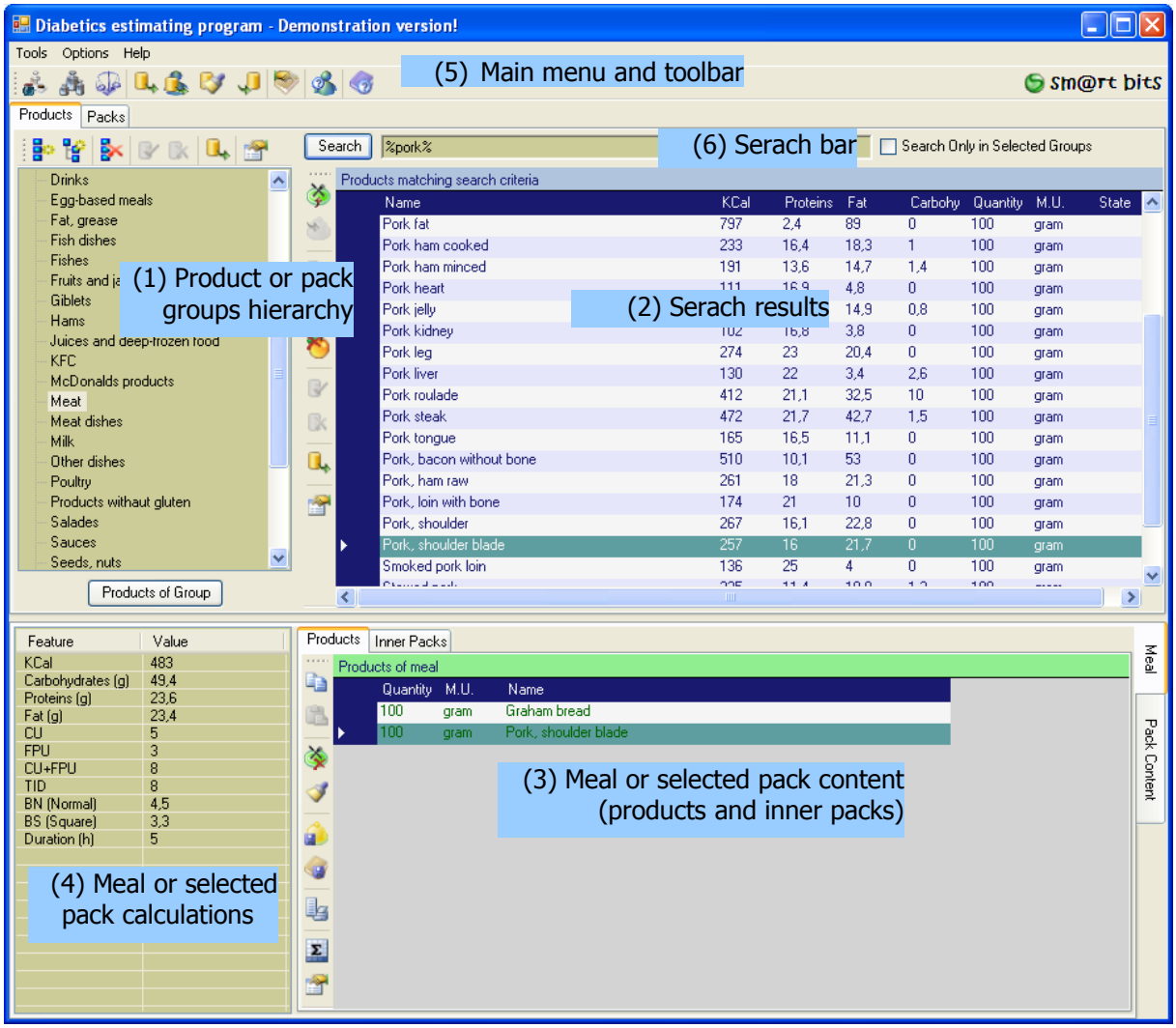
Insulin dose calculated for a meal depends on quantity and ford kind, blond glucose before eating and personal **insulin ratio**. Meal parameters are calculated by Diabetics after changing meal content. Calculations consist of carb units and fat-protein units. Next these main data are calculated according to personal insulin ratio and finally insulin dose is resolved for the meal.

Diabetics system is also available for Pocket PC.

START WORKING WITH PROGRAM

1. Choose icon 

on the desktop.
2. Application Diabetics will start (see Picture 1).



Picture 1 Main window

HIGHLIGHTING NEW OR MODIFIED ELEMENTS

After you add a new or modify existing: product group (see: New product group**, New child group, Modifying product group**), product (see: Defining new product**, Modifying product data**), pack group (see: New pack group**, New child group, Modifying pack group**), pack (see: Defining new pack**, Modifying pack data**) and after you modify archive (see: Modifying archive item) - these data will be highlighted as follow:

- ✓ **Green colour** – new element (product group, pack group, product, pack), which have been created but have not committed to database, yet.
- ✓ **Red colour** – element (product group, pack group, product, pac), which data have been changed but have not committed to database, yet.

After creating or modifying element you have to accept or rollback changes to populate or not changes to database.

MAIN WINDOW CONTENT

Application main window (Picture 1) is divided into followed subareas:

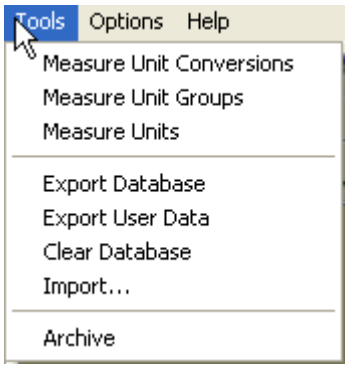
(**1**) **Product or pack groups hierarchy** – listed data depends on active tab (**Products** or **Packs**).

(**2**) **Serach results** – list of elements (product or packs) matching given search criteria. Element type depends on active tab (**Products** or **Packs**).

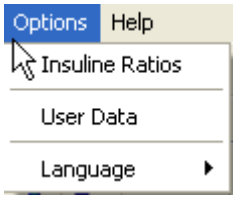
(**3**) **Meal or selected pack content (products and inner packs)** – detailed information abort meal or selected pack content (from **Serach results**).

(**4**) **Meal or selected pack calculations** – detailed calculations for meal or selected pack.

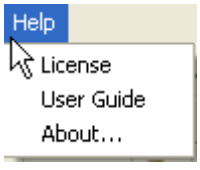
(**5**) **Main menu and toolbar** – grups functions for managing measure units, data exporting and importing, managing archive data (Picture 2), managing user sensitive data (Picture 3), application help and program information (Picture 4).



Picture 2 Menu Tools



Picture 3 Menu Options



Picture 4 Menu Help

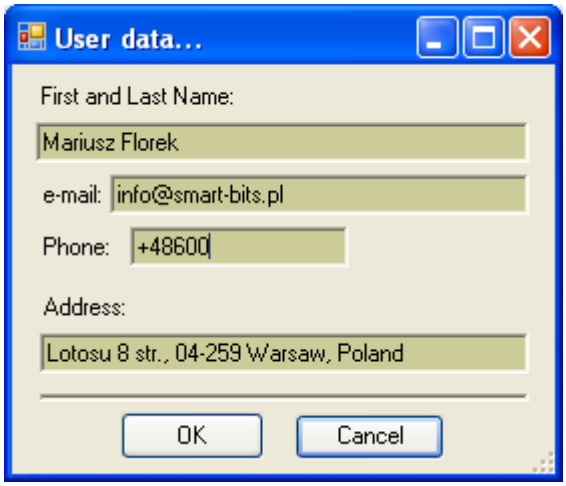
(**6**) **Search bar** – allows to define product or pack search criteria.

USER DATA

User data contains information about application user. This information allows identifying user during data export/import (see: Exporting user data**,** **Importing user data**).

Defining or modifying user data

1. Choose item **User Data** in menu **Options** (Picture 3) or click toolbar icon  .
2. Input user data in window **User data…** (Picture 5).



Picture 5 User data

3. Click **OK** button.
4. User data will be saved.

FINDING PRODUCTS OR PACKS

Selecting required element(s) on the list

You can select one ore more elements in tabular lists using **selecting belt**:

Move cursor into navy blue selection belt over specified element (product or pack) and click left mouse button. Required element will be selected. If you want to select more elements (multiply selection) drag cursor on selection belt to select more rows. You can also add to selected elements other by clicking on them with CTRL key pushed.

You can select all elements by clickin shortcut **CTRL+A.**

Finding products or packs

In **search bar** (in main window, see: Picture 1) you can input search criteria. To see search results push **Search** button.

Dynamic search results: during inputing search criteria (after each character) system trying to resolve search results matching the criteria (by default inputted string is preceded and followed by % character). As a result object list will change (products or packs). If the list is empty it means that there are no objects matching the criteria.

Character **%** stands for any string (f.e. **bre%** will find all elements which starts with **bre**, **%bre%** will find all elements that contains substring **bre** in any position of name).

Finding products or packs in specified group

Input search criteria as mentioned above.

You can narrow search result to specified product or pack group: select required group (on product or pack hierarchy tree) and select checkbox Search Only in Selected Groups and push **Search** button.

If you double click on a group name all products or packs will be added to search result list (or if you clic Products or Packs button).

MEASURE UNITS AND TRANSITIONS

Every product is qualified by a **measure unit** and measure units **transition ability**.
Measure units are divided into two groups: **transitive** and **nontransitive.**
Measure units in a **transitive group** (with the same name) can be **directly** converted.

Example:
Direct conversion: 1 kg = 1000 g (measure unit group – weight).

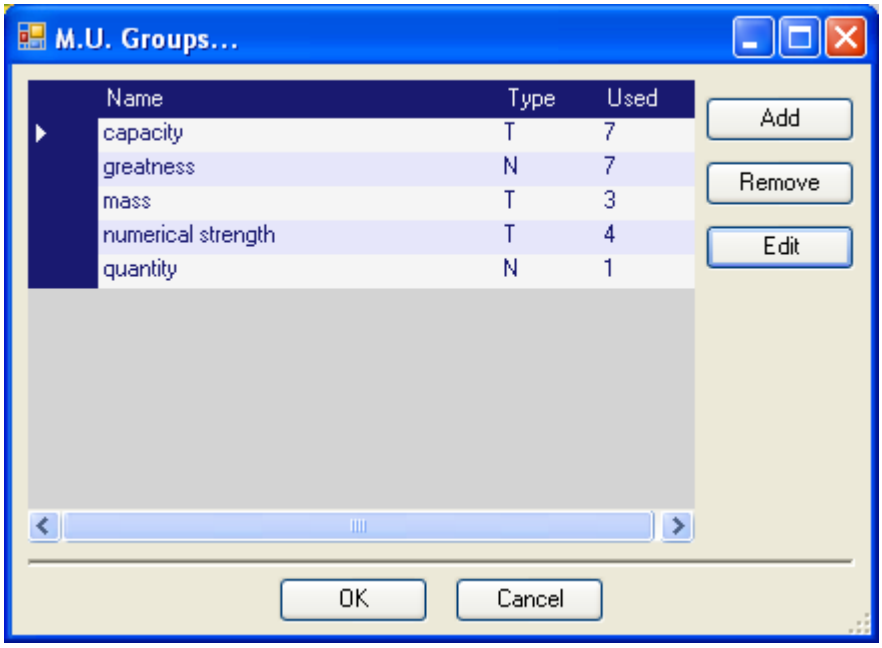
Product measure units can be **undirectly converted** between **two different groups**.

Example:
Undirect conversion (transition): 1 piece (apple) = 25 g.

Undirect conversions (transitions) are powerfull tool for estimating product quantity (without having scales) but remember that it can **input approximation errors** (f.e. you cat not find equals apples in real world).

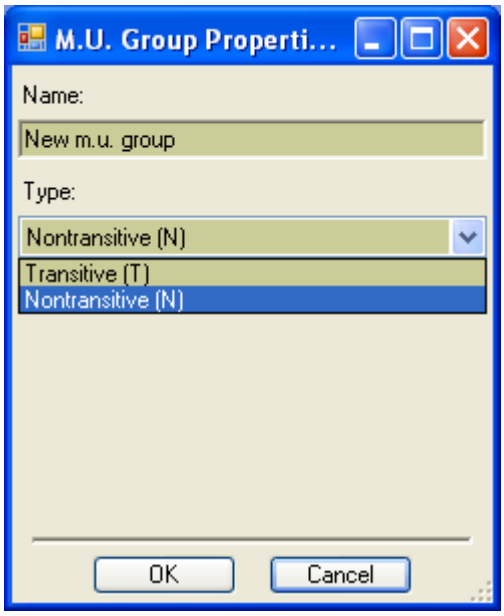
New measure unit group

1. Select item **Measure Unit Groups** in menu **Tools** (Picture 2) or click  icon on main toolbar.
2. Push button **Add** in window **M.U. Groups...** (Picture 6).



Picture 6 Window – Measure Unit Groups

3. In window **M.U. Group Properties...** (Picture 7) input: name, ability to covert between measure units in the group (**Transitive (T)**) or otherwise (**Nontransitive (N)**).



Picture 7 Window – Measure Unit Group Properties

4. Save changes (push **OK** button) or rollback changes (push **Cancel** button).
5. After saving changes will be populated to Measure Unit Groups list (Picture 6).

Modifying measure unit group

1. Select item **Measure Unit Groups** in menu **Tools** (Picture 2) or click  icon on main toolbar.
2. Select a measure unit group from the list in window **M.U. Groups...** (Picture 6) you want to change.
3. Push **Edit** button.
4. In window **M.U. Group Properties...** (Picture 7) change data you want.

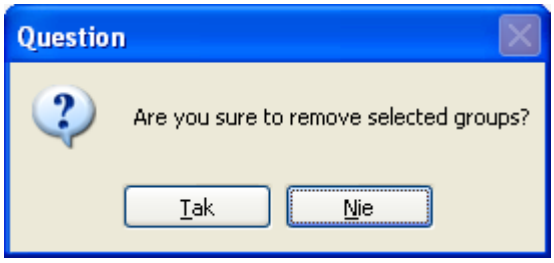
For used measure unit groups you can change only name.

5. Save changes (push **OK** button) or rollback changes (push **Cancel** button).
6. After saving changes will be populated to **Measure Unit Groups** list (Picture 6).

Removing measure unit group

1. Select item **Measure Unit Groups in** menu **Tools** (Picture 2) or click  icon on main toolbar.

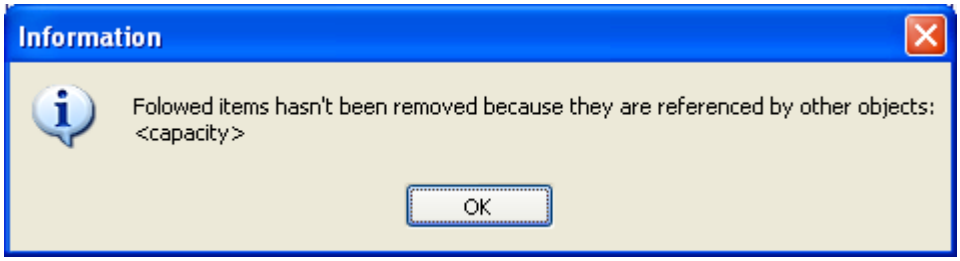
2. Select measure unit groups from the list in window **M.U. Groups...** (Picture 6) you want to remove.
3. Push **Remove** button.
4. Read system message about removing groups (Picture 8):



Picture 8 System message about removing m.u. groups

5. Push **Yes** button to remove group or **No** to cancel removing.
6. Removed group will be also removed from **Measure Unit Groups** list (Picture 6).

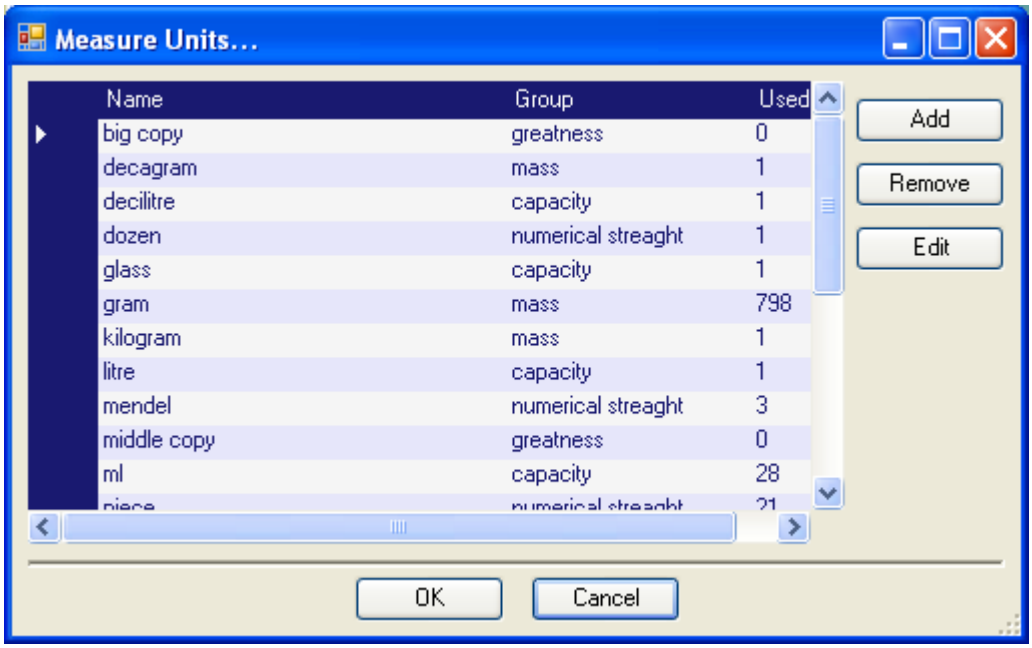
System does not allow to remove referenced group (example message - Picture 9).



Picture 9 Information – removing a group is not allowed

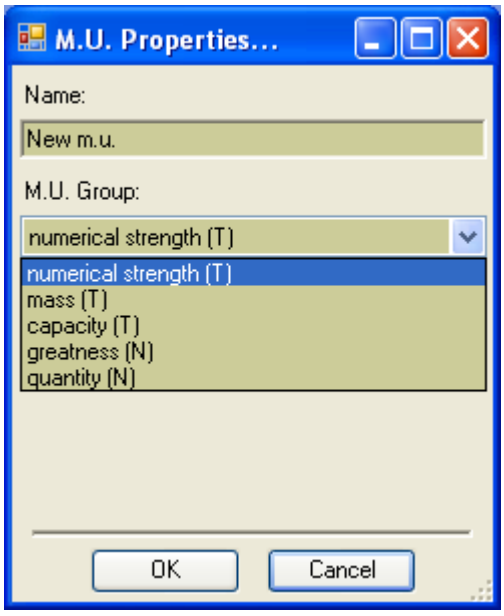
New measure unit

1. Select item **Measure Units** menu **Tools** (Picture 2) or click  icon on main toolbar.
2. Push **Add** button in window **Measure Units...** (Picture 10).



Picture 10 Window – Measure Units

3. In window **Measure Units Properties...** (Picture 11) input: name, and choose measure unit group (measure unit groups are managed by menu item **Tools/Measure Units Groups**)).



Picture 11 Window – Measure Unit Properties

4. Save changes (push **OK** button) or rollback changes (push **Cancel** button).
5. After saving changes will be populated to **Measure Unit** list (Picture 10).

Modifying measure unit

1. Select item **Measure Units** menu **Tools** (Picture 2) or click  icon on main toolbar.

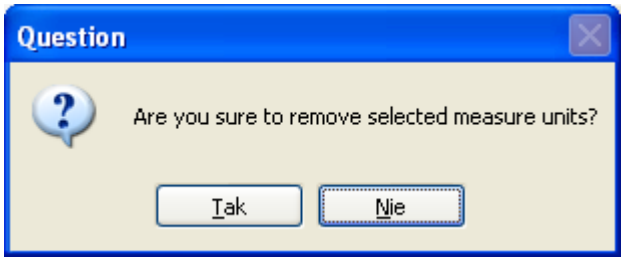
2. Select a measure unit from the list in window **Measure Units...** (Picture 10) you want to change.
3. Push **Edit** button.
4. In window **M.U. Group Properties...** (Picture 11) change data you want.

For used measure unit you can change only name.

5. Save changes (push **OK** button) or rollback changes (push **Cancel** button).
6. After saving changes will be populated to **Measure Units** list (Picture 10).

Removing measure units

1. Select item **Measure Units** menu **Tools** (Picture 2) or click  icon on main toolbar.
2. Select measure units from the list in window **Measure Units...** (Picture 10) you want to remove.
3. Push **Remove** button.
4. Read system message about removing the measure units (Picture 12):



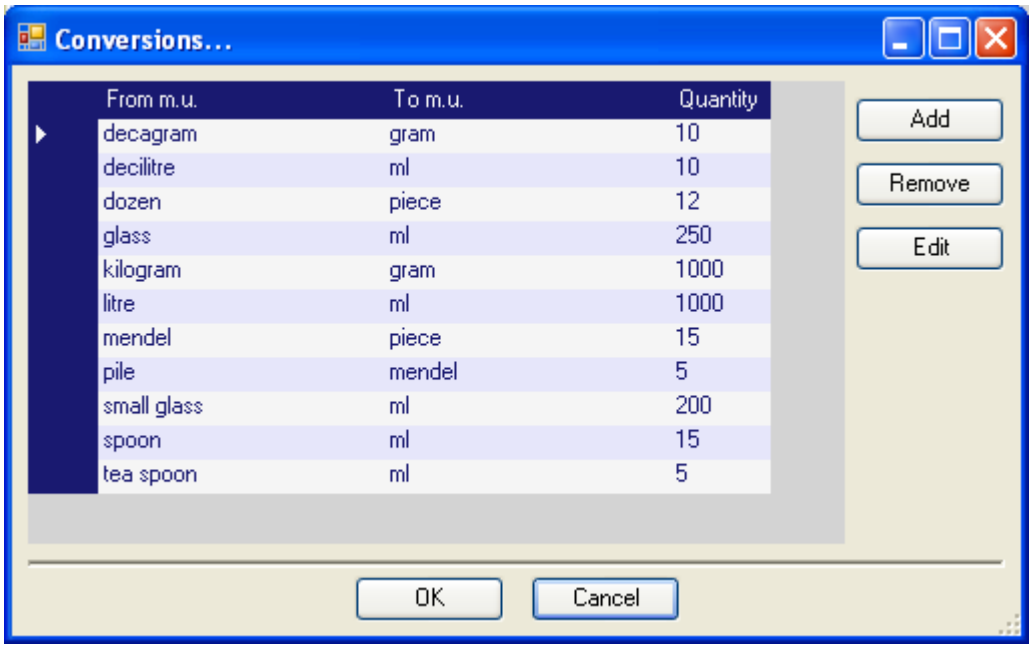
Picture 12 System question about removing measure units

5. Push **Yes** button to remove selected items or **No** to cancel removing.
6. Removed units will be also removed from **Measure Units** list (Picture 10).

System does not allow removing referenced group (example message - Picture 9).

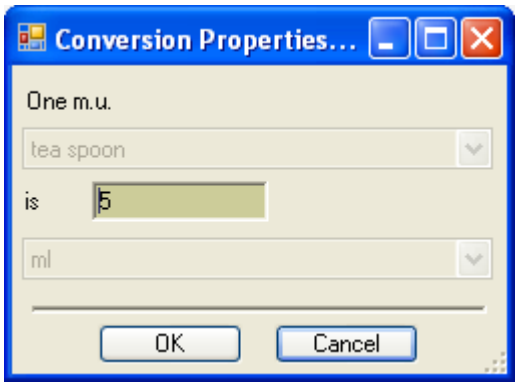
New conversion (transition)

1. Select item **Measure Units** menu **Tools** (Picture 2) or click  icon on main toolbar.
2. Push **Add** button in window **Conversions...** (Picture 13)



Picture 13 Window – Conversions

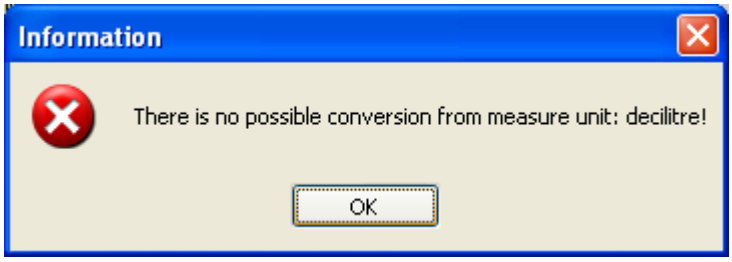
3. In window **Conversion Properties...** (Picture 14) input conversion definition: from what and to what measure unit conversion is defined and factor defining how much source m.u. is in destinated m.u.



Picture 14 Window – Conversion Properties

6. Save changes (push **OK** button) or rollback changes (push **Cancel** button).
4. After saving changes will be populated to **Conversions** list (Picture 13).

If you choose a measure unit form no conversion is possible system will show proper message (Picture 15).



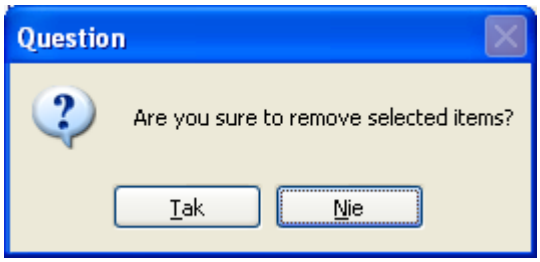
Picture 15 System information about that no conversion is posible to define from source m.u.

Modifying conversion

1. Select item **Measure Unit Conversions** menu **Tools** (Picture 2) or click  icon on main toolbar.
2. Select a conversion from the list in window **Conversions...** (Picture 13) you want to change.
3. Push **Edit** button.
4. In window **Conversion Properties...** (Picture 14) change conversion factor (field **is**).
7. Save changes (push **OK** button) or rollback changes (push **Cancel** button).
5. After saving changes will be populated to **Conversions** list (Picture 13).

Removing conversions

1. Select item **Measure Unit Conversions** menu **Tools** (Picture 2) or click  icon on main toolbar.
2. Select conversion from the list in window **Conversions...** (Picture 10) you want to remove.
3. Push **Remove** button.
4. Read system message about removing the conversions (Picture 16).



Picture 16 System question about removing conversions

5. Push **Yes** button to remove selected items or **No** to cancel removing.
6. Removed units will be also removed from **Conversions** list (Picture 13).

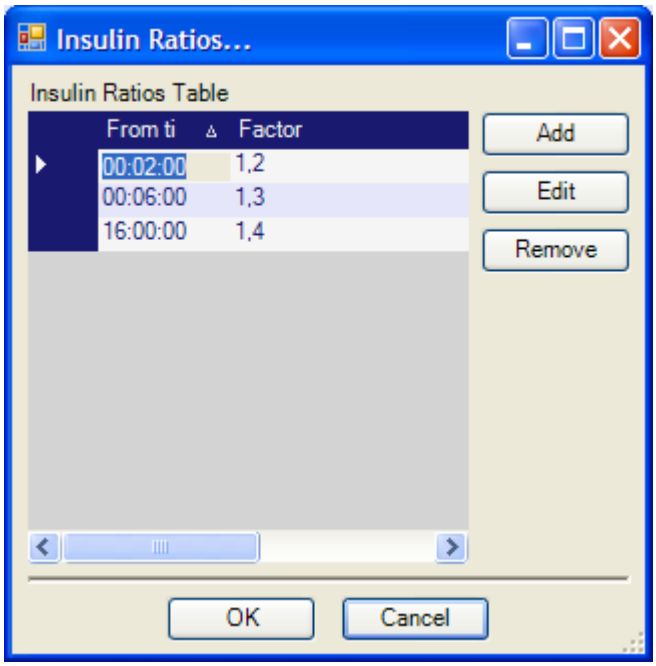
System does not allow removing referenced conversions (in saved or temporary data).

INSULIN RATIOS

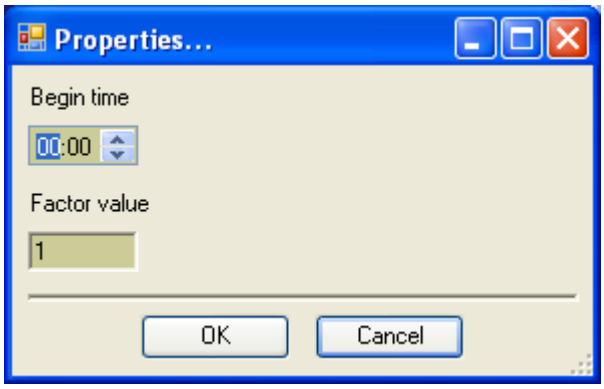
Insulin Ratio defines insulin doses quantity which has to be applied for one **Carbohydrate Unit** (CU) or one **Fat Protein Unit** (FPU). The factor is defineg for each patient individually.

Defining factors

1. Select item **Insulin Ratios** menu **Options** (Picture 3).
2. Push **Add** button in window **Insulin Ratios...** (Picture 17).
3. In window **Properties...** (Picture 18) input: begin time and factor value (the value takes effect from begin time to the next begin time; first begin time is midnight – value 1, last begin time is also midnight – the day after).
4. Save changes (push **OK** button) or rollback changes (push **Cancel** button).
5. After saving changes will be populated to **Insulin Ratios** list (Picture 17).



Picture 17 Window – Insulin Ratios



Picture 18 Window – Factor Properties

First (default) begin time: 00:00; default factor value 1.

Defining begin time you can use keyboard or control .

Modifying factors

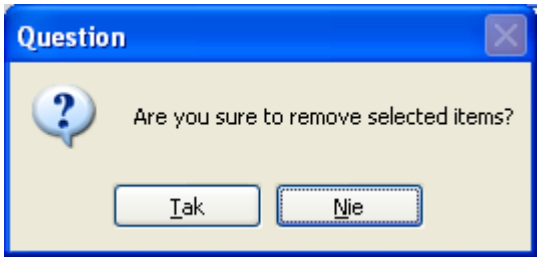
1. Select item **Insulin Ratios** menu **Options** (Picture 3).
2. Select a factor from the list in window **Insulin Ratios...** (Picture 17) you want to change.
3. Push **Edit** button.
4. In window **Properties...** (Picture 18) change data you want.

Defining begin time you can use keyboard or control .

7. Save changes (push **OK** button) or rollback changes (push **Cancel** button).
5. After saving changes will be populated to **Insulin Doses** list (Picture 17).

Removing factors

1. Select item **Insulin Ratios** menu **Options** (Picture 3).
2. Select factors from the list in window **Insulin Ratios...** (Picture 17) you want to remove.
3. Push **Remove** button.
4. Read system message about removing factors (Picture 19).



Picture 19 System question about removing selected item(s)

5. Push **Yes** button to remove selected items or **No** to cancel removing.
6. Removed factors will be also removed from **Insulin Ratios** list (Picture 17).

PRODUCTS

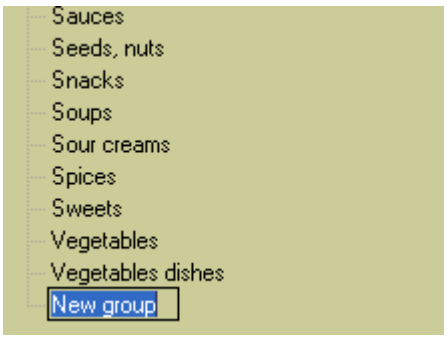
Dietetic part of Diabetics application contains product database (grouped by categories). Each **product** has followed attributes: **calority**, **proteins** (in grams), **fat** (in grams), **carbohydrates** (in grams).
Other data is calculated and is based on above attributes: **carbohydrates units** (CU), **fat-proteins units** (FPU), CU + FPU, percentage rates etc.
Each product can be a part of a meal or/and a product pack(s).

New product group

1. Click on tab **Products** in main window (Picture 1).
2. On the left side product groups' tree will appear.
3. Choose option **New** in context menu (Picture 20) or click  icon on the toolbar.

Picture 20 Product/pack group context menu

4. Input new group name (Picture 21).



Picture 21 New product group

5. Accept changes – choose option **Accept Changes** (Picture 20) or click  icon on the toolbar.

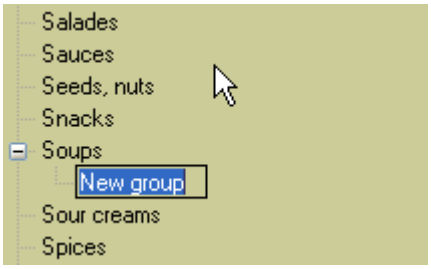
OR

Rollback changes – choose option **Rollback Changes** (Picture 20) or click on  icon on the toolbar.

6. Accepted changes will be populated to product group tree.

New child group

1. Select a group you want to create child group for (selected group will be a parent).
2. Choose option **New Child** in context menu (Picture 20) or click  icon on the toolbar.



Picture 22 Addin new child group

3. Input new child group name (Picture 22).
4. Accept changes – choose option **Accept Changes** (Picture 20) or click on  icon on the toolbar.

OR

Rollback changes – choose option **Rollback Changes** (Picture 20) or click  icon on the toolbar.

5. Accepted changes will be populated to product group tree.

Removing selected product group

1. Select a group on the hierarchy tree you want to remove.
2. Choose option **Delete** in context menu (Picture 20) or click  icon on the toolbar or click key **Delete** on the keyboard.
3. Read and accept system message (Picture 19).
4. Accept changes – choose option **Accept Changes** (Picture 20) or click on  icon on the toolbar.

OR

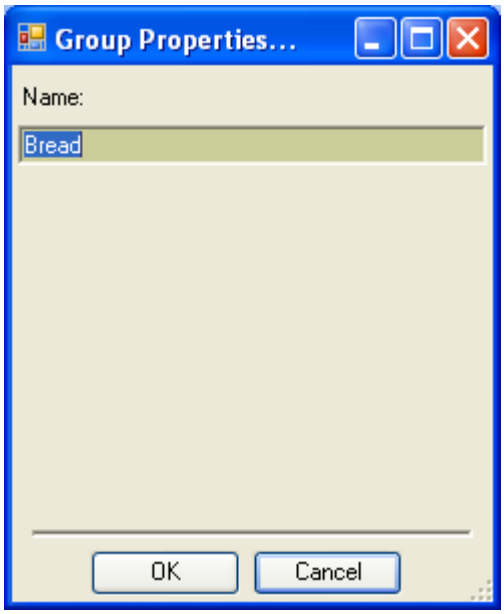
Rollback changes – choose option **Rollback Changes** (Picture 20) or click  icon on the toolbar.

5. Accepted changes will be populated to product group tree.

Removing a group means only removing relation between the group and group products. After removing the group their product will be marked as ungrouped (will be put to artificial group named: **Ungrouped**).
Removing a group causes removing all subgroups.

Modifying product group

1. Select a group on the hierarchy tree you want to modify.
2. Choose option **Properties** in context menu (Picture 20) or click  icon on the toolbar or double click on the selected group.
3. Change group name in the window **Group Properties…** (Picture 23).



Picture 23 Window – Product/pack properties

4. Save changes (push **OK** button) or rollback changes (push **Cancel** button).
5. Accept changes – choose option **Accept Changes** (Picture 20) or click  icon on the toolbar.

OR

Rollback changes – choose option **Rollback Changes** (Picture 20) or click on  icon on the toolbar.

6. Accepted changes will be populated to product group tree.

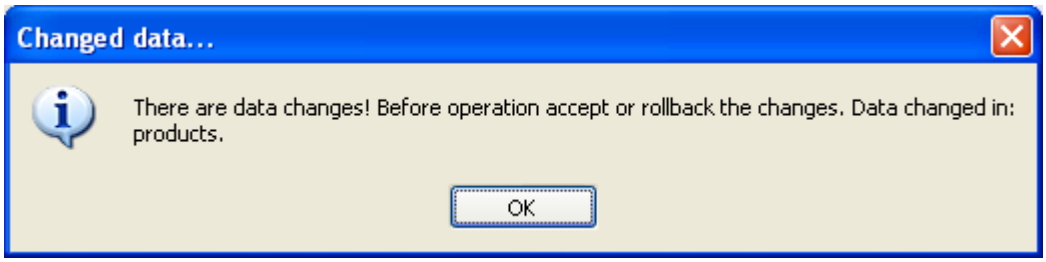
Exporting product group

1. Select a group on the hierarchy tree you want to remove.
2. Choose option **Export...** in context menu (Picture 20) or click  icon on the toolbar.
3. See the system message to get know where io data file for exported group is located (Picture 24).

Picture 24 System message – io file location for exported group

4. Exported data will be saved to a file in **C:\Program Files\Smart bits\Diabetics - en\io** directory.

Export file will contain all data necessary to import exported data into empty database.
Before export system checks database consistence and if not – will inform about it: (see – Picture 25).



Picture 25 System message – inconsistant database state

It is possibile to import products from a io file (own or from other users)
- see: Importing products

Selecting product in a product group

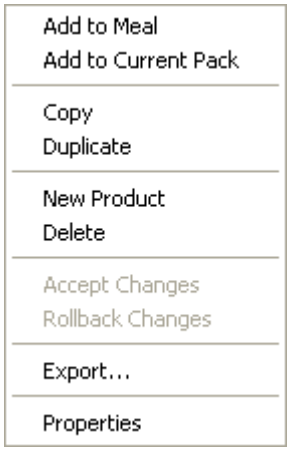
1. Select **Products** tab in the main window (Picture 1).
2. Select a group on the hierarchy tree which products you want to view.

You can quickly navigate to a group by clikcking their first letters on the keyboard.

3. Click **Products of Group** button or doubleclick on the selected group.
4. Products area will contain product data from selected product group.

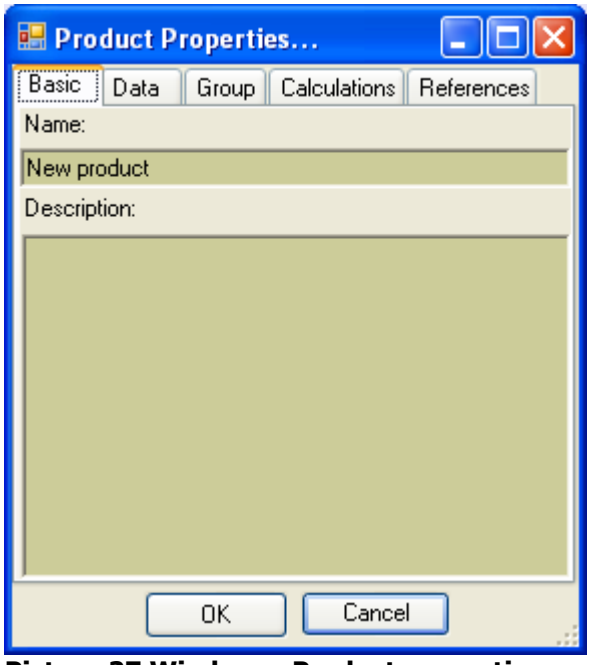
Defining new product

1. Choose option **New Product** in context menu (Picture 26) or click  icon on the toolbar in product area (Picture 1).



Picture 26 Products – context menu

2. In **Product Properties...** (Picture 27) window:
    a. in **Basic** tab input product name (and optionally description),
    b. in **Data** tab input: Kcal, proteins, fat, carbo-hydrates and optionally undirect transitions data,
    c. in **Group** tab classify the product to proper product group.



Picture 27 Window – Product properties

3. Save changes (push **OK** button) or rollback changes (push **Cancel** button).

4. Accept changes – choose option **Accept Changes** (Picture 26) or click  icon on the toolbar.

OR

Rollback changes – choose option **Rollback Changes** (Picture 26) or click on  icon on the toolbar.

5. Accepted changes will be populated to product database. New product can be used to define meal and product packs.

Data in tabs: **Calculations** and **Usage** is automatically resolved.
Calculations are made base on data defined in **Data** tab.
Usage data are resolved base on product references in meal and product packs.

Removing product data

1. Select a product (at least one) on the product area (Picture 1) you want to remove.
2. Choose option **Delete** in context menu (Picture 26) or click  icon on the toolbar or click **Delete** key on the keyboard.
3. Read and accept system message (Picture 19).
4. Save changes (push **OK** button) or rollback changes (push **Cancel** button).
5. Accept changes – choose option **Accept Changes** (Picture 26) or click  icon on the toolbar.

OR

Rollback changes – choose option **Rollback Changes** (Picture 26) or click on  icon on the toolbar.

6. Accepted changes will be populated to product database. New product can be used to define meal and product packs.

Removing a product will also remove all references to the product (in meal and product packs).

Modifying product data

1. Select a product (at least one) on the product area (Picture 1) you want to modify.
2. Choose option **Properties** in context menu (Picture 26) or click  icon on the toolbar or double-click on the selected product.
3. In **Product Properties...** (Picture 27) window:
    a. in **Basic** tab change product name (and optionally description),

b. in **Data** tab change: Kcal, proteins, fat, carbo-hydrates and optionally undirect transitions data,
c. in **Group** tab classify the product to other product group.

4. Save changes (push **OK** button) or rollback changes (push **Cancel** button).
5. Accept changes – choose option **Accept Changes** (Picture 26) or click  icon on the toolbar.

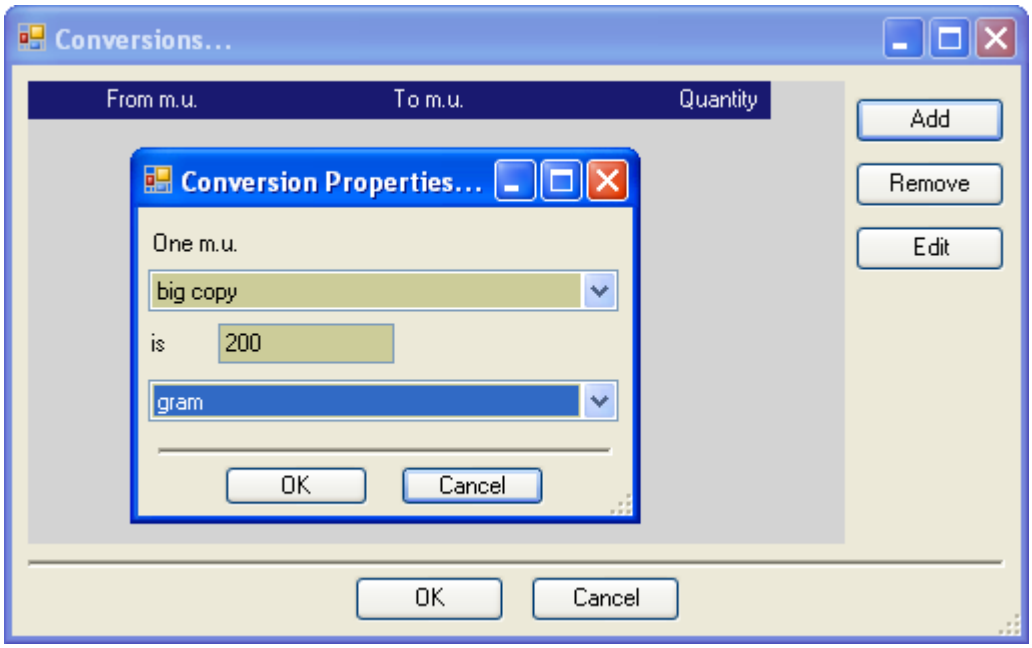
OR

Rollback changes – choose option **Rollback Changes** (Picture 26) or click on  icon on the toolbar.

6. Accepted changes will be populated to product database. Modified product can be used to define meal and product packs.

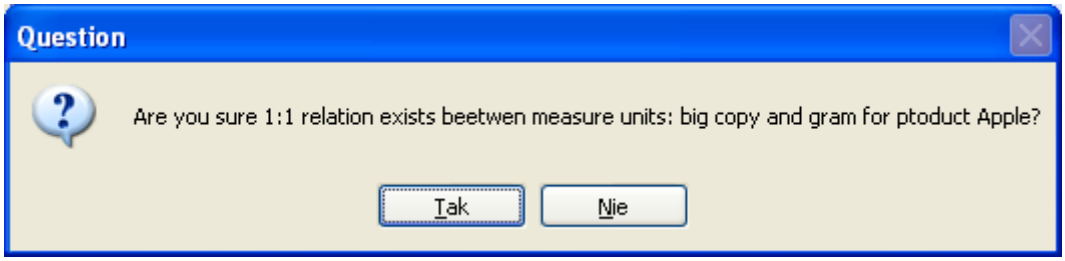
Product measure units conversions (undirect/related)

1. Push button **Transitions** in **Data** tab in **Product Properties...** window (Picture 27) for a product you want to define direct conversions.
2. In window **Conversions...** you can manage direct conversions for the product (**Add**, **Remove** or **Edit**). Managing rules are the same as for measure direct conversions). See: New conversion (transition)**, Modifying conversion** and Removing conversions.
3. Save changes (push **OK** button) or rollback changes (push **Cancel** button).
4. Accepted changes will be populated to product properties and can be used to define meal and product packs.

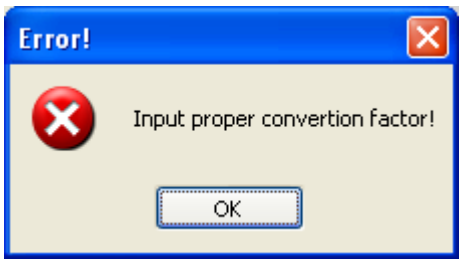


Picture 28 Defining new undirect conversion for a product

During defining new conversion system checks their consistence and informs about error or potential anomalies (Picture 29, Picture 30)



Picture 29 System question about detected potential anomaly



Picture 30 System message about invalid conversion factor

Duplicating product

If you want to create a product similar to already existing in database, use **Duplicate** function.

1. In products area (Picture 1) select product you want to duplicate.
2. Choose option **Duplicate** in context menu (Picture 26) or click  icon on the toolbar.

Warning: to duplicate a product it have to be accepted (it must not be temporary).

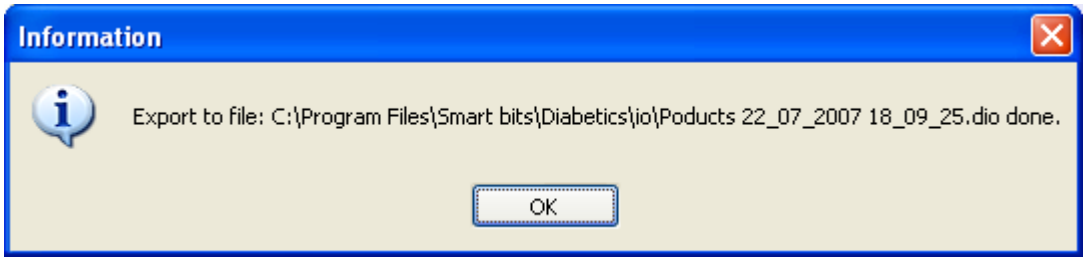
3. Temporary product will be created with the same attributes as original one, with name suffix – to provide unique new name. New product will be added to product list (at last position) and selected.
4. Open product properties window and modify any data you want, to differ it from the original one.
5. Save changes (push **OK** button) or rollback changes (push **Cancel** button).
6. Accept changes – choose option **Accept Changes** (Picture 26) or click  icon on the toolbar.

   OR

   Rollback changes – choose option **Rollback Changes** (Picture 26) or click on  icon on the toolbar.
7. Accepted changes will be populated to product database. New product can be used to define meal and product packs.

Exporting selected products

1. In products area (Picture 1) select product(s) you want to export.
2. Choose option **Export...** in context menu (Picture 26) or click  icon on the toolbar.
3. See the system message to get know where io data file for exported product(s) is located (Picture 31).



Picture 31 System message – io file location for exported product(s)

4. Exported data will be saved to a file in **C:\Program Files\Smart bits\Diabetics - en\io** directory.

Export file will contain all data necessary to import exported data into empty database.
Before export system checks database consistence and if not – will inform about it: (see – Picture 25).

It is possibile to import products from a io file (own or from other users)
- see: Importing products.

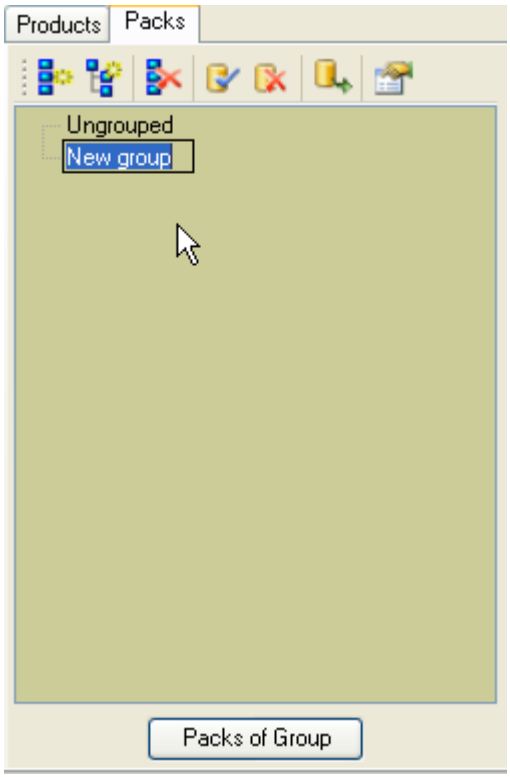
PACKS

Product packs can contain any products and/or other product packs (called inner packs). Packs can be a part of meal or can be defined from a meal.

Packs are powerful elements – they can define any complex meal and later using it as a whole or any part.

New pack group

1. Click on tab **Packs** in main window (Picture 1).
2. On the left side pack groups' tree will appear.
3. Choose option **New** in context menu (Picture 20) or click  icon on the toolbar.
4. Input new group name (Picture 32).



Picture 32 New pack group

5. Accept changes – choose option **Accept Changes** (Picture 20) or click  icon on the toolbar.

OR

Rollback changes – choose option **Rollback Changes** (Picture 20) or click on  icon on the toolbar.

6. Accepted changes will be populated to pack group tree.

New child group

1. Select a group you want to create child group for (selected group will be a parent).
2. Choose option **New Child** in context menu (Picture 20) or click  icon on the toolbar.
3. Input new child group name (Picture 32).
4. Accept changes – choose option **Accept Changes** (Picture 20) or click on  icon on the toolbar.

OR

Rollback changes – choose option **Rollback Changes** (Picture 20) or click  icon on the toolbar.

5. Accepted changes will be populated to product group tree.

Removing selected pack group

1. Select a group on the hierarchy tree you want to remove.
2. Choose option **Delete** in context menu (Picture 20) or click  icon on the toolbar or click key **Delete** on the keyboard.
3. Read and accept system message (Picture 19).
4. Accept changes – choose option **Accept Changes** (Picture 20) or click on  icon on the toolbar.

OR

Rollback changes – choose option **Rollback Changes** (Picture 20) or click  icon on the toolbar.

5. Accepted changes will be populated to produkt group tree.

Removing a group means only removing relation between the group and group packs. After removing the group their packs will be marked as ungrouped (will be put to artificial group named: **Ungrouped**).
Removing a group causes removing all subgroups.

Modifying pack group

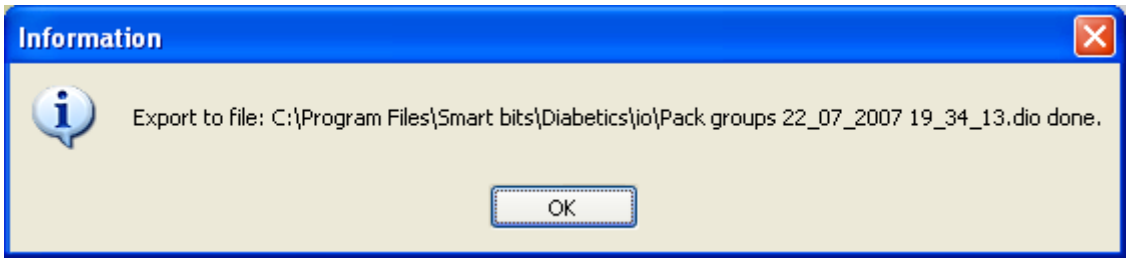
1. Select a group on the hierarchy tree you want to modify.
2. Choose option **Properties** in context menu (Picture 20) or click  icon on the toolbar or double click on the selected group.
3. Change group name in the window **Group Properties...** (Picture 23) zmień nazwę grupy produktów.
4. Save changes (push **OK** button) or rollback changes (push **Cancel** button).
5. Accept changes – choose option **Accept Changes** (Picture 20) or click  icon on the toolbar.

   OR

   Rollback changes – choose option **Rollback Changes** (Picture 20) or click on  icon on the toolbar.
6. Accepted changes will be **populated** to pack group tree.

Exporting pack group

1. Select a group on the hierarchy tree you want to remove.
2. Choose option **Export...** in context menu (Picture 20) or click  icon on the toolbar.
3. See the system message to get know where io data file for exported group is located (Picture 31).



Picture 33 System message – io file location for exported group

4. Exported data will be saved to a file in **C:\Program Files\Smart bits\Diabetics - en\io** directory.

Export file will contain all data necessary to import exported data into empty database.
Before export system checks database consistence and if not – will inform about it: (see – Picture 25).

It is possibile to import packs from a io file (own or from other users)
- see: Importing pack group).

Selecting product in a pack group

1. Select **Packs** tab in the main window (Picture 1).
2. Select a group on the hierarchy tree which packs you want to view.

You can quickly navigate to a group by clikcking their first letters on the keyboard.

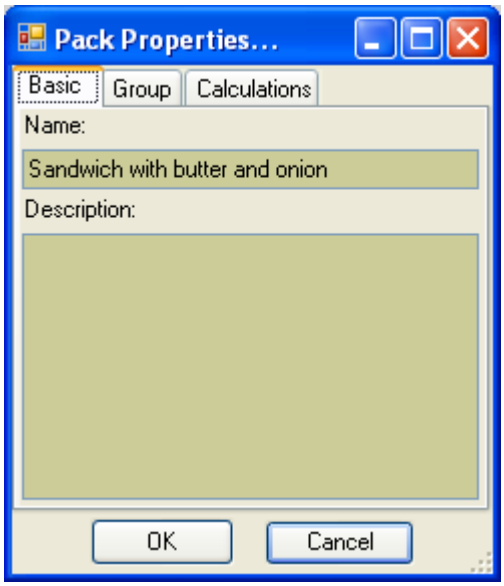
3. Click **Packs of Group** button or doubleclick on the selected group.
4. Packs area will contain product data from selected pack group.

Defining new pack

1. Choose option **New Pack** in context menu (Picture 34) or click  icon on the toolbar in pack area (Picture 1).

Picture 34 Packs – context menu

2. In **Pack Properties...** (Picture 35) window:
    a. in **Basic** tab input pack name (and optionally description),
    b. in tab **Group** classify the pack to proper pack group,
    c. in bottom-right screen area you can add any pack product or inner pack (see: Defining pack content),
    d. in **Calculations** tab – system displays summary calculations for pack components.



Picture 35 Window – Pack properties

3. Save changes (push **OK** button) or rollback changes (push **Cancel** button).
4. Accept changes – choose option **Accept Changes** (Picture 34) or click  icon on the toolbar.

   OR

   Rollback changes – choose option **Rollback Changes** (Picture 34) or click on  icon on the toolbar.
5. Accepted changes will be populated to pack database. New pack can be used to define meal and product packs as an inner pack.

Data in tab **Calculations** is automatically resolved.
Calculations are made base on data defined in inner products and packs.

Removing pack data

1. Select a pack (at least one) on the pack area (Picture 1) you want to remove.
2. Choose option **Delete** in context menu (Picture 34) or click  icon on the toolbar or click **Delete** key on the keyboard.
3. Read and accept system message (Picture 19).
4. Save changes (push **OK** button) or rollback changes (push **Cancel** button).
5. Accept changes – choose option **Accept Changes** (Picture 34) or click  icon on the toolbar.

   OR

Rollback changes – choose option **Rollback Changes** (Picture 34) or click on  icon on the toolbar.

7. Accepted changes will be populated to pack database.

Removing a pack will also remove all references to the pack (in meal and other packs).

Modifying pack data

1. Select a pack (at least one) on the pack area (Picture 1) you want to modify.
2. Choose option **Properties** in context menu (Picture 34) or click  icon on the toolbar or doubleclick on the selected pack.
3. In **Pack Properties...** (Picture 35) window:
   a. in **Basic** tab change product name (and optionally description),
   b. in tab **Group** classify the product to other product group,
   c. in bottom-right screen area you can add, change or remove any pack product or inner pack (see: Defining pack content**, Modifying pack content** and Removing pack components).
4. Save changes (push **OK** button) or rollback changes (push **Cancel** button).
5. Accept changes – choose option **Accept Changes** (Picture 34) or click  icon on the toolbar.

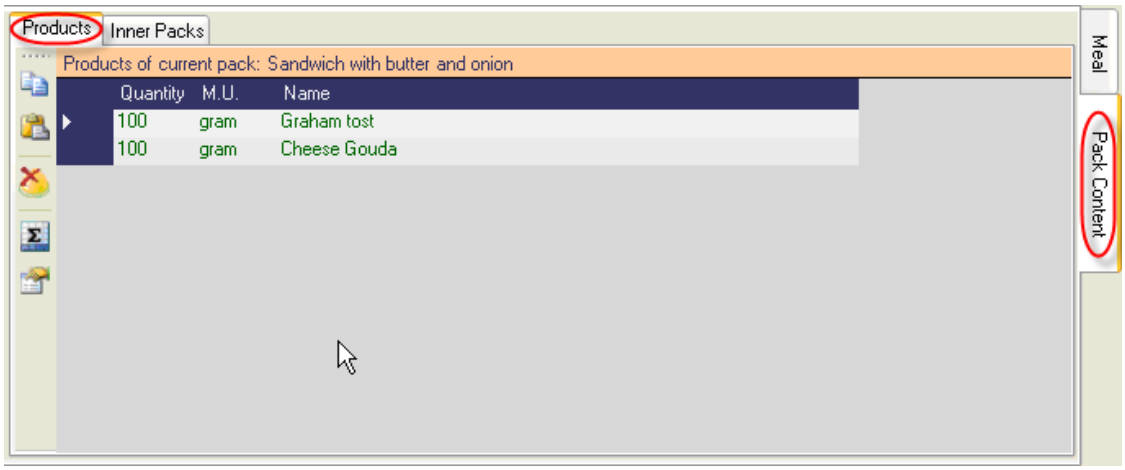
OR

Rollback changes – choose option **Rollback Changes** (Picture 34) or click on  icon on the toolbar.

6. Accepted changes will be populated to pack database. Modified pack can be used to define meal and other product packs.

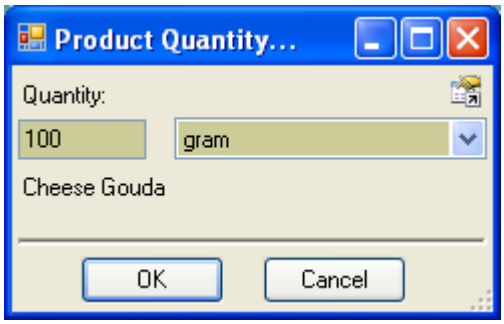
Defining pack content

1. Select a pack (at least one) on the pack area (Picture 1) you want to define content.
2. In bottom-right screen part select **Pack Content** tab (Picture 36) and **Products** tab (in top part).



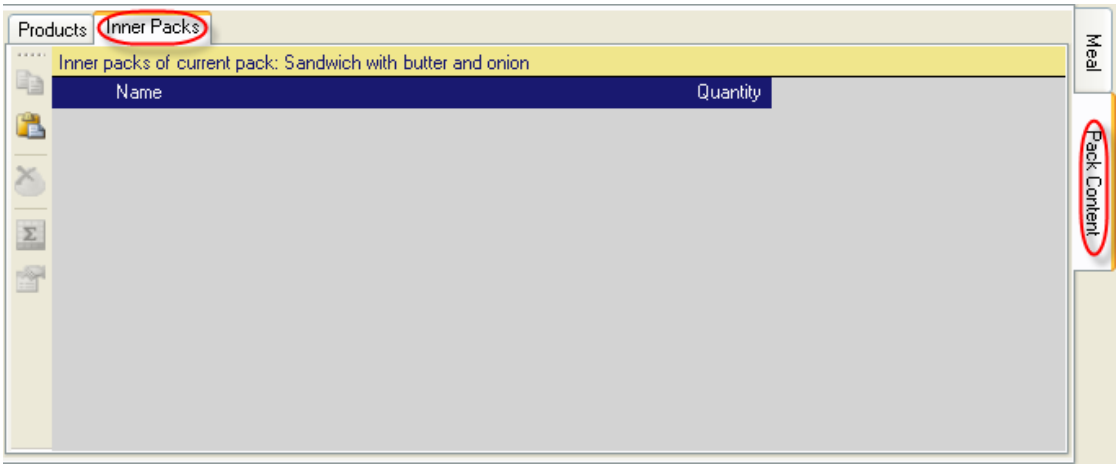
Picture 36 Pack content area - products

3. Go to the product area and select a product(s) (at least one) (Picture 1) you want to add to the pack.
4. Choose option **Add to Current Pack** in context menu (Picture 34) or click  icon on the toolbar.
5. Define product quantity in the pack (window will appear for each selected product separately) in window (Picture 37):



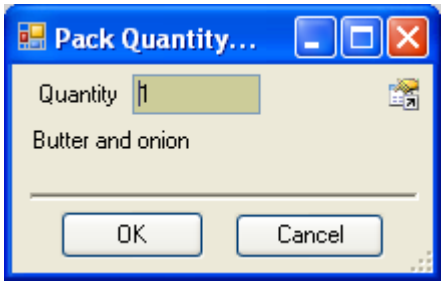
Picture 37 Window – product quantity

6. Save changes (push **OK** button) or rollback changes (push **Cancel** button).
7. (Similarly you can add inner packs) Go to pack area and select a pack/packs (Picture 1) you want to add to content and replay above steps or
8. In bottom-right screen part select **Pack Content** tab (Picture 36) and **Inner Packs** (in top part).



Picture 38 Pack content area – inner packs

9. Choose option **Paste** in context menu (Picture 40) or click  icon on the toolbar.
10. Define inner pack quantity in the pack (window will appear for each selected inner pack separatelly) in window (Picture 39):



Picture 39 Window – inner pack quantity

11. Save changes (push **OK** button) or rollback changes (push **Cancel** button).
12. Accept changes – choose option **Accept Changes** (Picture 34) or click  icon on the toolbar.

OR

Rollback changes – choose option **Rollback Changes** (Picture 34) or click on  icon on the toolbar.

13. Accepted changes will be populated to pack database. Defined pack can be used to define meal and other product packs.

From window **Product Quantity** – you can go to the window **Product Properties** (Picture 27) – by clcking on icon  .
From window **Pack Quantity** – you can go to the window **Pack Properties** (Picture 35) – by clcking on icon  .

Modifying pack content

1. Select a pack (at least one) on the pack area (Picture 1) you want to modify content.
2. In bottom-right screen part select **Pack Content** tab (Picture 36).
3. Choose product or inner pack you want to modify.
4. Choose option **Properties** in context menu (Picture 40) or click  icon on the toolbar or doubleclick on the pack component.

Picture 40 Pack Content – Context Menu

5. Change product quantity in window (Picture 37) or inner pack quantity in window (Picture 39).
6. Save changes (push **OK** button) or rollback changes (push **Cancel** button).
7. In pack area (Picture 1):

   Accept changes – choose option **Accept Changes** (Picture 34) or click  icon on the toolbar.

OR

   Rollback changes – choose option **Rollback Changes** (Picture 34) or click on  icon on the toolbar.

8. Accepted changes will be populated to pack database. Modified pack can be used to define meal and other product packs.

Copying pack components

1. Choose pack component(s) in the pack content area (Picture 36) wybierz which you want to copy.
2. Choose option **Copy** in context menu (Picture 40) or click  icon on the toolbar.
3. Selected pack component(s) will be copied to Clipboard.

Pasting data from Clipboard

1. After copying pack component(s) to Clipboard choose option **Paste** in context menu (Picture 40) or click  icon on the toolbar.
2. Copied pack components will be added to the pack.
3. In the pack area (Picture 1):

Accept changes – choose option **Accept Changes** (Picture 34) or click  icon on the toolbar.

OR

Rollback changes – choose option **Rollback Changes** (Picture 34) or click on  icon on the toolbar.

4. Accepted changes will be populated to pack database. Modified pack can be used to define meal and other product packs.

Removing pack components

1. Choose pack component(s) in the pack content area (Picture 36) which you want to remove.
2. Choose option **Delete** in context menu (Picture 40) or click  icon on the toolbar or click **Delete** key on the keyboard.
3. Read and accept system message (Picture 19).
4. In pack area (Picture 1):

Accept changes – choose option **Accept Changes** (Picture 34) or click  icon on the toolbar.

OR

Rollback changes – choose option **Rollback Changes** (Picture 34) or click on  icon on the toolbar.

5. Accepted changes will be populated to pack database.

Viewing pack components calculation data

1. Choose pack component(s) in the pack content area (Picture 36) which you want to view calculation data.

2. Choose option **Calculations** in context menu (Picture 40) or click  icon on the toolbar.
3. Detailed calculations for selected pack component will be shown (Picture 41).

Feature	Value
KCal	232
Carbohydrates (g)	50
Proteins (g)	7,5
Fat (g)	1,2
CU	5
FPU	0,5
CU+FPU	5,5
TID	7,7
BN (Normal)	7

Picture 41 Pack component calculations

Duplicating pack

If you want to create a pack similar to already existing in database, use **Duplicate** function.

7. In packs area (Picture 1) select pack you want to duplicate.
8. Choose option **Duplicate** in context menu (Picture 34) or click  icon on the toolbar.

Warning: to duplicate a pack it have to be accepted (it must not be temporary).

9. Temporary pack will be created with the same attributes as original one, with name suffix – to provide unique new name. New pack will be added to pack list (at last position) and selected.
10. Open pack properties window and modify any data you want, to differ it from the original one.
11. Save changes (push **OK** button) or rollback changes (push **Cancel** button).
12. Accept changes – choose option **Accept Changes** (Picture 34) or click  icon on the toolbar.

OR

Rollback changes – choose option **Rollback Changes** (Picture 34) or click on  icon on the toolbar.

8. Accepted changes will be populated to pack database. New pack can be used to define meal and product packs.

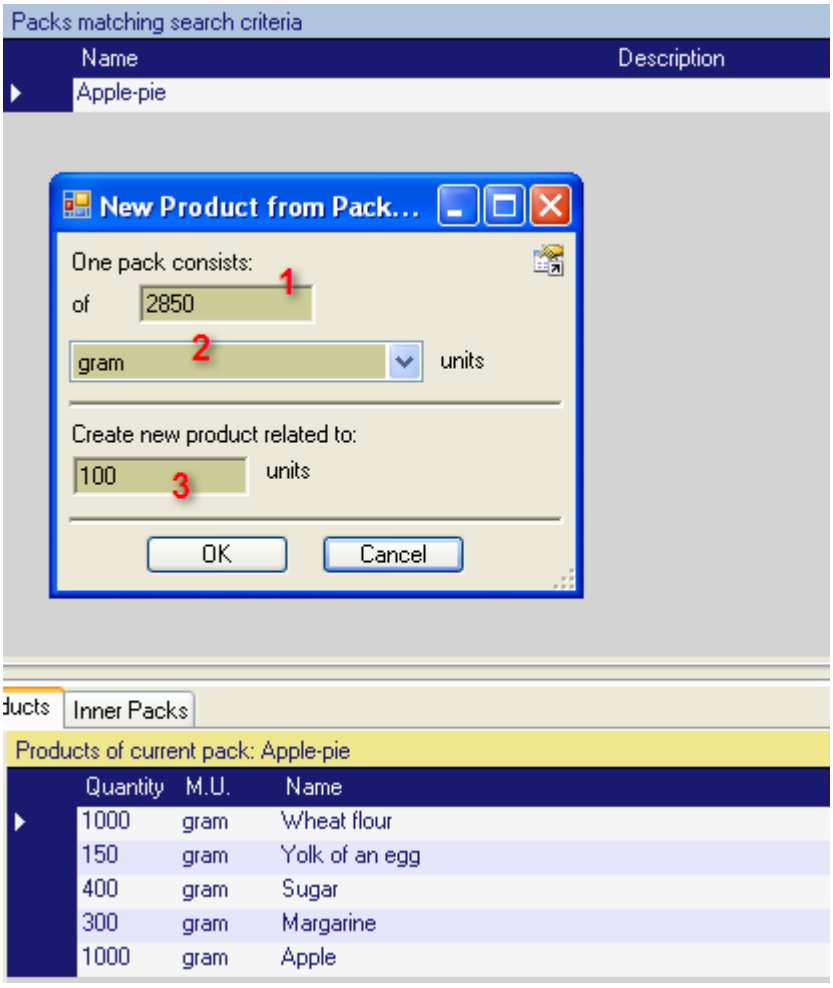
Creating product from pack

This function will be useful if using a pack is more natural in measure units than in pack parts or quantities.

A cake will be good example. Lets make a pack containing all product (or sub packs) needed to bake the cake. It is easier to use (and more precious) the cake in compositions giving its weight than as n-th part of the whole cake.

1. In packs area (Picture 1) select pack you want to create new product based on.
2. Choose option **Save as Product** in context menu (Picture 34) or click  icon on the toolbar.

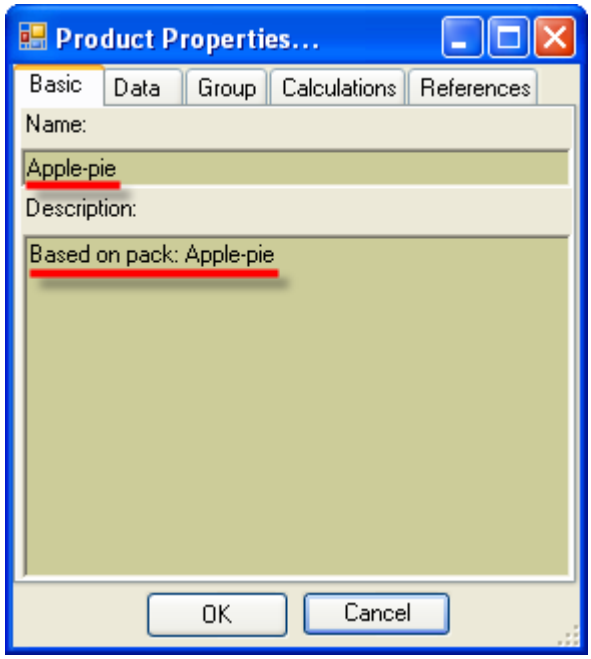
Warning: to save a pack as product it has to be accepted (it must not be temporary).

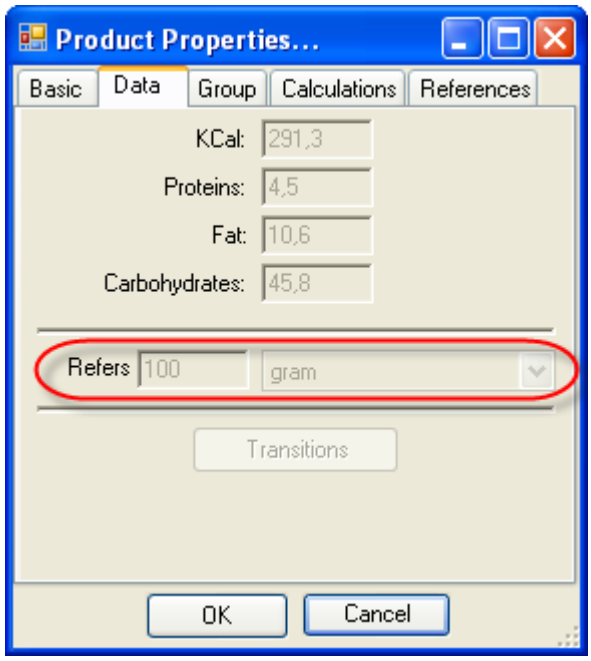


Picture 42 Window - New Product from Pack...

3. Window **New Product from Pack...** will be opened (Picture 42), which allows you to input pack to product transformation data.

4. Input the whole pack measure unit quantity in field **1** (in our example it is cake components weight).
5. Input a measure unit in filed **2** used relative to field 1 quantity (in our example **gram**).
6. Input new product measure unit base quantity in field **3** (in our example it is cake **100**).
7. When you click **OK** button, new product properties window will be opened.

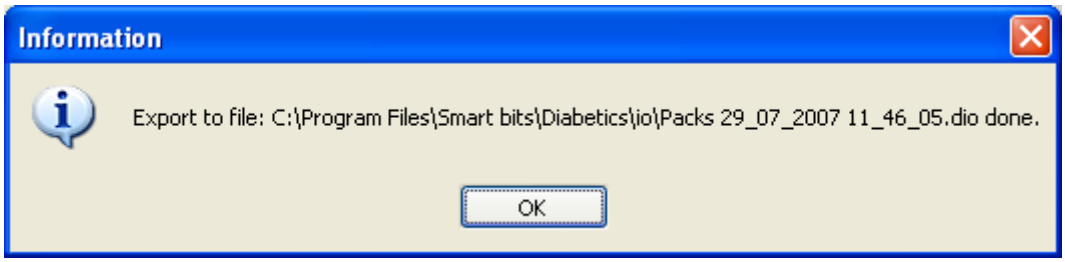




8. Change any of followed product data: name, description, group and press **OK** button.
9. New product will be created (and accepted) with data calculated from base pack (and inputted in **New Product from Pack...** window) (Picture 42). The product will be added at the end of product list.

Exporting selected packs

1. In packs area (Picture 1) select pack(s) you want to export.
2. Choose option **Export...** in context menu (Picture 34) or click  icon on the toolbar.
3. See the system message to get know where io data file for exported pack(s) is located (Picture 43).



Picture 43 System message – io file location for exported pack(s)

4. Exported data will be saved to a file in **C:\Program Files\Smart bits\Diabetics - en\io** directory.

Export file will contain all data necessary to import exported data into empty database.
Before export system checks database consistence and if not – will inform about it: (see – Picture 25).

It is possibile to import products from a io file (own or from other users)
- see: Importing packs).

MEAL

Defining meal

Meal consists of product(s) or/and pack(s).

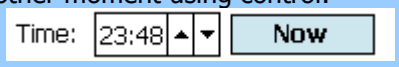
Goal of **meal** area is to give easy and fast mechanism for calculating data for food you have just eaten (ate recently or you are going to eat) and archive them for further analizing. Calculated data can be used to control insulin pump or direct insulin injection.

Meal area is positioned in the bottom (Picture 44):

(1) Meal calculations – summary calculation data for all meal content products and packs:

- ✓ Products and packs features (Kcal, carbohydrates, proteins, fat),
- ✓ Data for insulin pump (**CU** – carbohydrate units, **FPU** – fat protein units, **CU + FPU** – units sum, **TID** – total insulin dose, **BN (Normal)** – bolus normal, **BS (Square)** – bolus square, **Duration** – duration time of square bolus.

Calculations are solved according to meal content last modification time. They can be resolved for other moment using control:

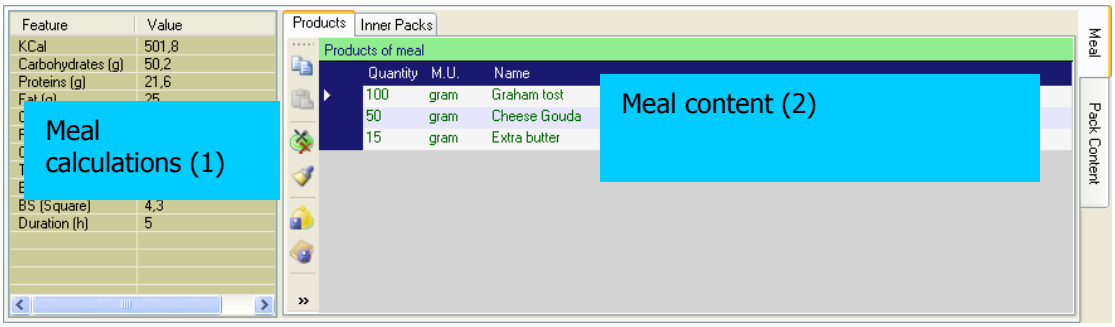


Now button allows to resolve calculations for current time.
Solving refers to to-carb insulin ratio (which time related factor).

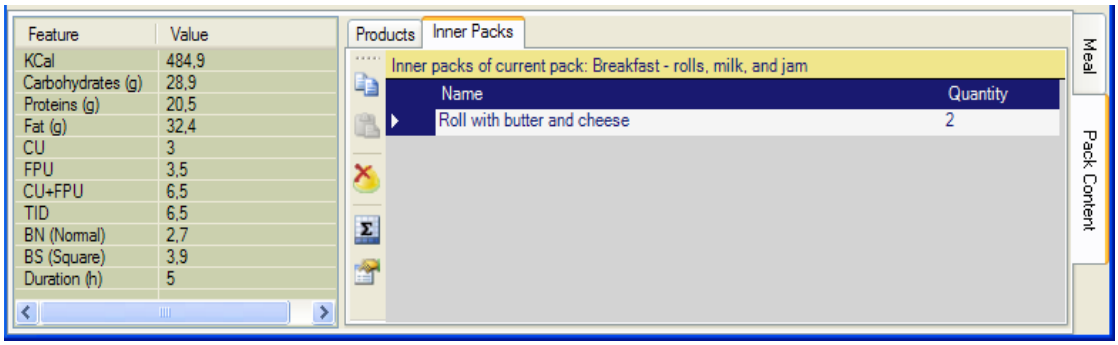
(2) Meal content – meal content elements:

- ✓ **Product** tab – meal products,
- ✓ **Innter Packs** tab – meal subpacks.

For each meal inner product or pack row in columns: CU and FPU adequate units are displayed (with 1 point after dot accuracy)



Picture 44 Main window – meal area (products)



Picture 45 Main window – meal area (inner packs)

Adding product to meal

1. Go to the product area and select a product(s) (at least one) (Picture 1) you want to add to the meal.
2. Choose option **Add to Meal** in context menu (Picture 26) or click  icon on the toolbar.
3. Define product quantity in meal (window will appear for each selected product separatelly) in window (Picture 37).
4. Save changes (push **OK** button) or rollback changes (push **Cancel** button).
5. Data related to selected product(s) will be shown in meal area (Picture 44).

Quantity is by default in product measure units. You can use any m.u. that can be directly converted from product base m.u. or undirectly converted from undirect conversions for the product.

From window **Product Quantity** – you can go to the window **Product Properties** (Picture 27) – by clcking on icon  .

System warn if you overdose maximum allowed carbohydrate and fat protein units sum (CU + FPU).

Adding pack to meal

1. Go to pack area and select a pack(s) (Picture 1) you want to add to the meal.
2. Choose option **Add to Meal** in context menu (Picture 34) or click  icon on the toolbar.
3. Define inner pack quantity in meal (window will appear for each selected inner pack separatelly) in window (Picture 39).
4. Save changes (push **OK** button) or rollback changes (push **Cancel** button).
5. Data related to selected pack(s) will be shown in meal area (Picture 44).

From window **Pack Quantity** – you can go to the window **Pack Properties** (Picture 35) – by clcking on icon  .

System warns if you overdose maximum allowed carbohydrate and fat protein units sum (CU + FPU).

Copying products and packs into meal

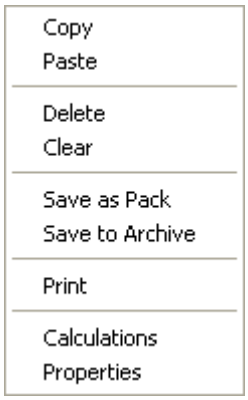
1. Go to product or pack area and select a pack(s) (Picture 1) you want to copy to the meal.

You can copy products and packs from any pack kontent or from the meal too.

2. Choose option **Copy** in meal area context menu or click  icon on the toolbar.
3. Selected products or packs data will be Copie to Clipboard.

Pasting data from Clipboard to meal

1. After copying product or pack data to Clipboard go to meal area and choose option **Paste** (Picture 46) in meal area context menu or click  icon on the toolbar.



Picture 46 Meal – context menu

2. Data related to selected pack(s) will be shown in meal area (Picture 44).

If you copy products or packs from product or pack area – pasting data case showing window for inputing quantity for each element (Picture 27 or Picture 35).
In other cases such windows will not appear.

Removing data from meal

1. In meal area (Picture 44) in tab **Product** select product(s) or in tab **Inner Packs** select pack(s) you want to remove from the meal.
2. Choose option **Delete** in context menu (Picture 46) or click  icon on the toolbar or push button **DELETE** on the keyboard.
3. Selected data will be removed from the meal.

Removing all data from meal

1. In meal area (Picture 44) choose option **Clear** in context menu (Picture 46) or click  icon on the toolbar.
2. All data from the meal will be removed (products and packs).

Saving meal as pack

1. In meal area (Picture 44) choose option **Save as Pack** in context menu (Picture 46) or click  icon on the toolbar.
2. Input pack data: name, description (optional), pack group in window **Pack Properties...** (Picture 35).

   System suggests new pack name base on meal content.
   Name consists of first 3 products or poack names (prior products). Name maximum length is 100. Each element name will have maximum 33 characters. If element name has more characters it will be shorten. Unused characters (if shorten) goes to next names.
3. Save changes (push **OK** button) or rollback changes (push **Cancel** button).
4. System will show a message with operation results (Picture 47).

Picture 47 System message – operation has been executed successfully

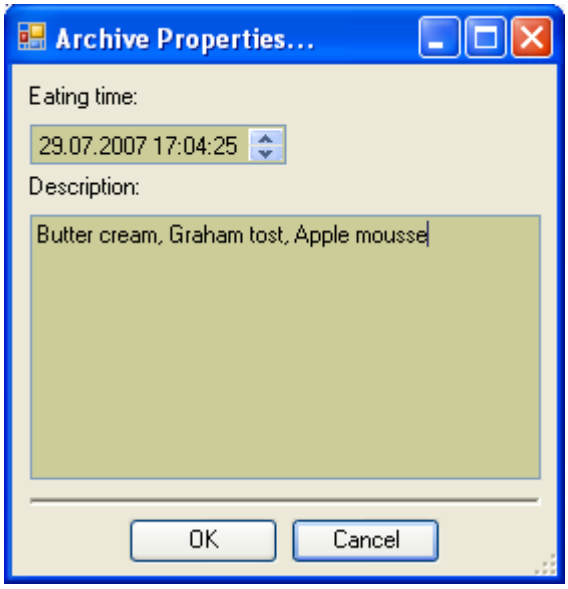
5. Meal data will be saved as pack and will be populated to pack list in **pack** area (Picture 1).

If you try to save a pack with a name that exists in pack database followed error message will be shown (Picture 48).

Picture 48 System message – name already used

Saving meal to archive

1. In meal area (Picture 44) choose option **Save to Archive** in context menu (Picture 46) or click  icon on the toolbar.
2. Input: eating moment (date and time), description in window **Archive Properties...** (Picture 49).



Picture 49 Window – archive properties

By default current date and time is proposed.
You can modify it easily with buttons  .

System suggests new pack name base on meal content.
Name consists of first 3 products or poack names (prior products). Name maximum length is 100. Each element name will have maximum 33 characters. If element name has more characters it will be shorten. Unused characters (if shorten) goes to next names.

3. Save changes (push **OK** button) or rollback changes (push **Cancel** button).

4. System will show a message with operation results (Picture 47).
5. Meal data will be save to the archive (see: Opening Archive**, Searching data in archive, Removing archive items, Exporting data from archive, Reportig archive data, Executing report from exported archive file, Viewing archive item properties, Modifying archive item**).

Reporting meal data

1. In meal area (Picture 44) choose option **Print** in context menu (Picture 46) or click  icon on the toolbar.
2. Window **Report Viewer...** (Picture 68) will open.

To see detailed iformation about read: Saving report, Printing report, Report tree, Viewing report item calculations, Refreshing report data, Navigating between report pages, Searching report content.

Viewing meal calculation data

1. In meal area (Picture 44) in tab **Products** select product(s) or in tab **Inner Packs** select pack(s) which calculations data you want to view.
2. Choose option **Calculations** in context menu (Picture 46) or click  icon on the toolbar.
3. Detailed calculations data foe selected elements will be shown (see example: Picture 41).

Viewing quantity of eaten product or pack

1. In meal area (Picture 44) in tab **Product** select product or in tab **Inner Packs** select pack which quantity you want to view.
2. Choose option **Properties** in context menu (Picture 46) or click  icon on the toolbar or double click on selected item.
3. Selected element quantity data will be shown (see examples: Picture 37, Picture 39).

Changing quantity of meal component

1. In meal area (Picture 44) in tab **Product** select product or in tab **Inner Packs** select pack which quantity you want to change.

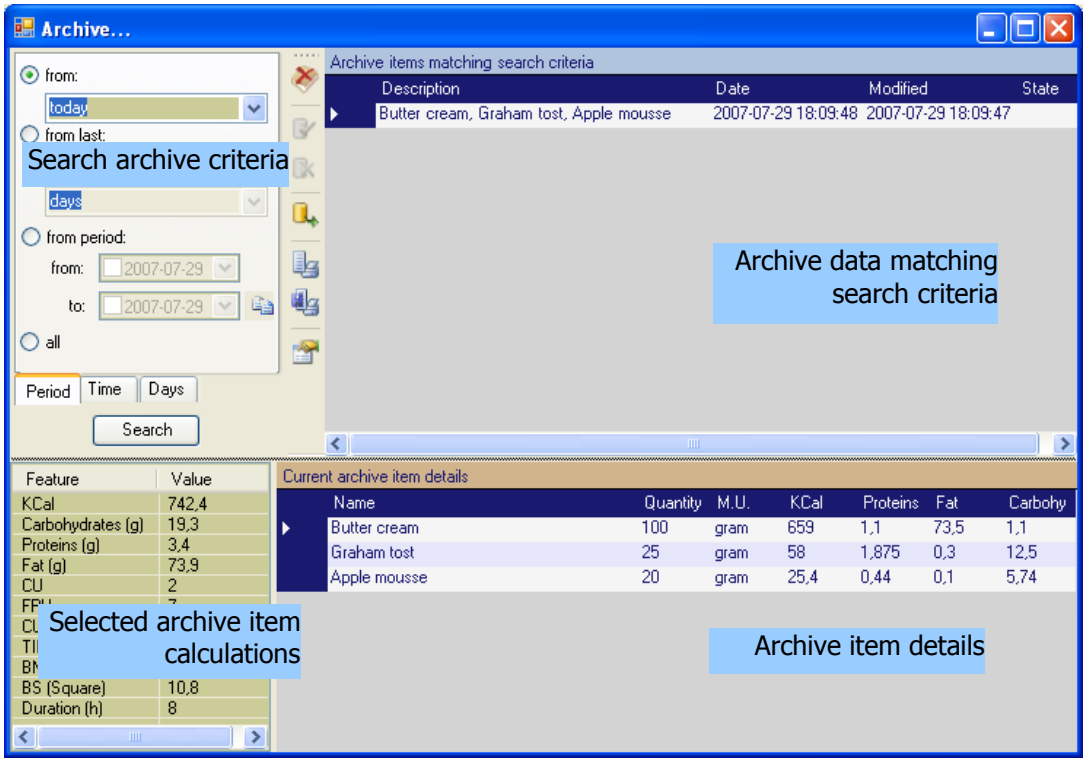
2. Choose option **Properties** in context menu (Picture 46) or click  icon on the toolbar or double click on selected item.
3. Change data in window: **Product Quantity…** (Picture 37) or **Pack Quantity…** (Picture 39).
4. Save changes (push **OK** button) or rollback changes (push **Cancel** button).
5. Changed data will be populated to meal content (in element lists and calculations).

ARCHIVE

You can save data about eaten meals in the **archive**.

Opening Archive

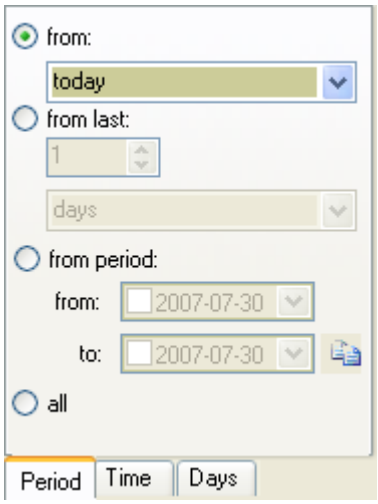
1. Select item **Archive** in menu **Tools** (Picture 2) or click  icon on main toolbar.
2. Window **Archive...** (Picture 50) will be opened.



Picture 50 Window - Archive

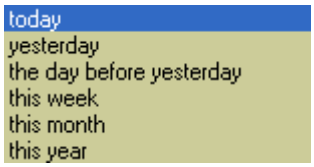
Searching data in archive

1. In archive area (Picture 50) go to **search criteria** subarea.
2. Input search criteria:
   a. In tab **Period** (Picture 51): day parameters (recent period, last x days, from x to y, all, etc.).



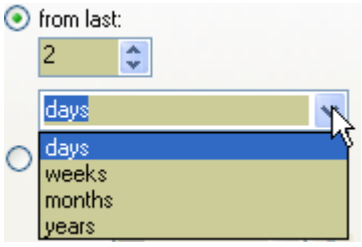
Picture 51 Search Criteria – Period tab

If you use **from** option (Picture 52) choose period from pull down list:



Picture 52 Period list for 'from' option

If you use **from last** option (Picture 53) in first field input numeric value (using keyboard or buttons), next choose period from pull down list:

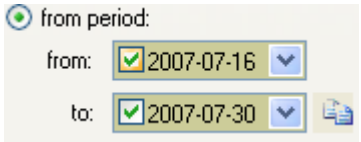


Picture 53 'from last' fields

If you want to specify known period, select **from** (checked) and **to** (checked) checkboxes and input required dates from calendar (which will show when you click on button) (Picture 54).

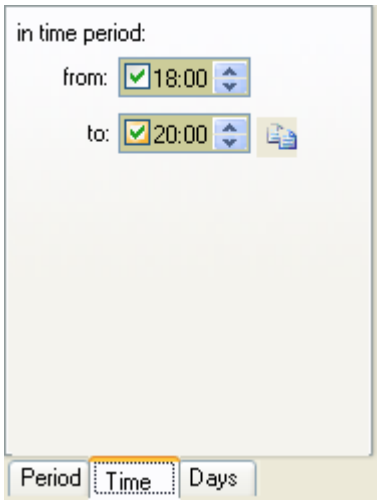
If you click on button value from field **from** will be copied to field **to** (useful if you want to input specified day from the past).

Fields **from** and **to** are optional. You can also use only one of them.



Picture 54 Inputing specific period

b. In tab **Time** (Picture 55): time period data.



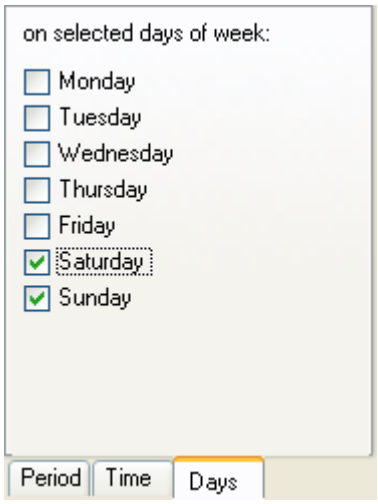
Picture 55 Search Criteria – 'Time' tab

If you want to specify known period, select **from** (checked ☑) and **to** (checked ☑) checkboxes and input required times. You can input numeric values from the ketboard or using ▲▼ buttons.

If you click on button 📋 value from field **from** will be copied to field **to** (useful if you want to input specified time).

Fields **from** and **to** are optional. You can also use only one of them.

c. In tab **Days** (Picture 56): specified days of week.



Picture 56 Search Criteria – 'Days' tab

Select required days of week by forcing ☑ before day name.

3. Klick on **Search** button.
4. Archive items matching search criteria will be shown in archive data list area.

Removing archive items

1. In archive area (Picture 50) go to archive items list.
2. Select item(s) you want to remove.

3. Choose option **Delete** in context menu (Picture 57) or click  icon on the toolbar or push button **DELETE** on the keyboard.

Picture 57 Archive – Context Menu

4. Read and accept system message (Picture 19).
5. Accept changes – choose option **Accept Changes** (Picture 57) or click on  icon on the toolbar.

OR

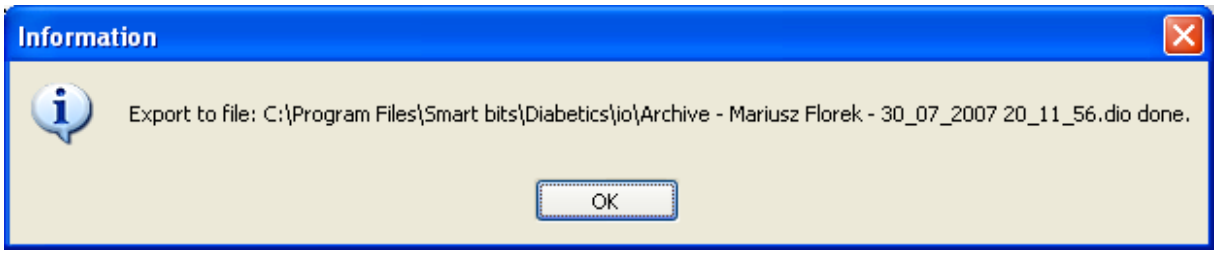
Rollback changes – choose option **Rollback Changes** (Picture 57) or click  icon on the toolbar.

6. Accepted changes will be populated to archive list.

Exporting data from archive

1. In archive area (Picture 50) go to archive items list.
2. Select item(s) you want to export.

   You can select all items by keyboard shortcut **CTRL+A**.
3. Choose option **Export...** in context menu (Picture 57) or click  icon on the toolbar.
4. See the system message to get know where io data file for exported group is located (Picture 58).



Picture 58 System message – io file location for exported archive items

5. Exported data will be saved to a file in **C:\Program Files\Smart bits\Diabetics - en\io** directory.

Reportig archive data

1. In archive area (Picture 50) go to archive items list.
2. Select item(s) you want to put in the report.

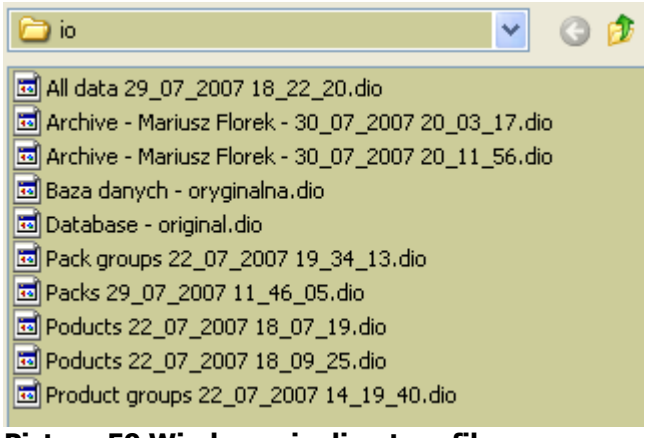
   You can select all items by keyboard shortcut **CTRL+A**.

3. Choose option **Print** in context menu (Picture 57) or click  icon on the toolbar.
4. Window **Report Viewer…** will be opened (Picture 69).

To see detailed information about working with reports see: Saving report**, Printing report, Report tree, Viewing report item calculations, Refreshing report data, Navigating between report pages, Searching report content**.

Executing report from exported archive file

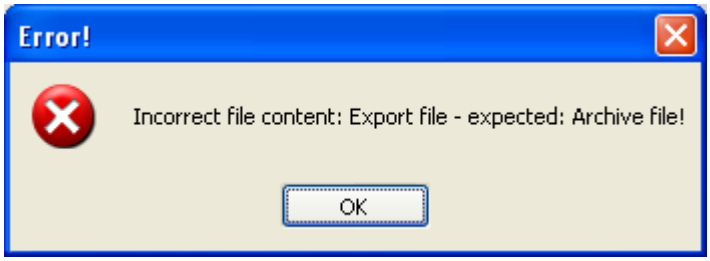
1. In archive area (Picture 50) go to archive items list.
2. Choose option **Print from File** in context menu (Picture 57) or click  icon on the toolbar.
3. Window with io file list from **C:\Program Files\Smart bits\Diabetics - en\io** directory will be opened.



Picture 59 Window – io directory files

4. Select file you want to open and click button **Open**.

If you choose file different than archive, system will inform you about it (Picture 60).



Picture 60 System Message – incorrect file type

5. Window **Report Viewer** will be opened (Picture 69).

To see detailed information about working with reports see: Saving report**, Printing report, Report tree, Viewing report item calculations, Refreshing report data, Navigating between report pages, Searching report content**.

Viewing archive item properties

1. In archive area (Picture 50) go to archive items list.
2. Select item which properties you want to view.
3. Choose option **Properties** in context menu (Picture 57) or click  icon on the toolbar or double-click selected item.
4. Window **Archive Properties…** will be opened (Picture 49).

Modifying archive item

1. In archive area (Picture 50) go to archive items list.
2. Select item which properties you want to view.
3. Choose option **Properties** in context menu (Picture 57) or click  icon on the toolbar or double click selected item.
4. Window **Archive Properties…** will be opened (Picture 49).
5. Change **eating time** and/or **description**.
6. Save changes (push **OK** button) or rollback changes (push **Cancel** button).

You can input numeric values from the ketboard or using  buttons.

7. Accept changes – choose option **Accept Changes** (Picture 57) or click on  icon on the toolbar.

OR

Rollback changes – choose option **Rollback Changes** (Picture 57) or click  icon on the toolbar.

8. Accepted changes will be populated to archive list.

EXPORTING AND IMPORTING DATA

Main export-import feature idea is ability to free data exchange between users. Export-import can be also used to synchronizing user database between desktop and pocket versions.

During import differential updates are made (data is not removed, newer data overrides older ones).

Selected data (products, packs, groups, archives etc.) can be exchanged and the whole database with user settings as well.

Whole data export is made during unisntallation. This data can be then imported Chile installing newer program versions.

Export-import can be done in following contexts:

- ✓ Export and import user data:
    a. **Exporting user data**,
    b. **Exporting user data**.
- ✓ Export and import database:
    a. **Exporting database**,
    b. **Database import**.
- ✓ Database cleaning:
    a. **Database clearing**.
- ✓ Export and import product group:
    a. **Exporting product group**,
    b. **Importing product group**.
- ✓ Export and import products:
    a. **Exporting selected products**,
    b. **Importing products**.
- ✓ Export and import pack group:
    a. **Exporting pack group**,
    b. **Importing pack group**.
- ✓ Export and import packs:
    a. **Exporting selected packs**,
    b. **Importing packs**.
- ✓ Export and import archive data:

a. **Exporting data from archive**,
b. **Executing report from exported archive file**.

Exporting user data

1. Choose option **Export User Data** in main menu (Picture 2) **Tools** or click  icon on the toolbar.
2. See the system message to get know where io data file for exported group is located (Picture 61).

Picture 61 System message – io file location for exported user data

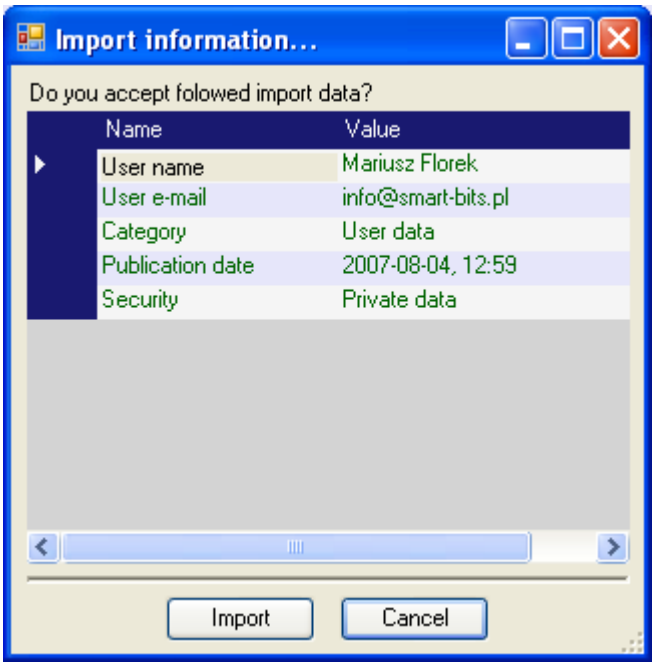
3. Exported data will be saved to a file in **C:\Program Files\Smart bits\Diabetics - en\io** directory.

Following data will be exported: user settings, insuline ratios, user archive.

Importing user data

Each exported file type is imported with the same schema as describe bellow. User chooses only different suitable files containg data to import.

1. Choose option **Import...** in main menu (Picture 2) **Tools** or click  icon on the toolbar.
2. Window (Picture 59) with io file list from: **C:\Program Files\Smart bits\Diabetics - en\io** directory will be opened.
3. Choose file you want to import (file name contains user name).
4. Read and accept selected file content information (Picture 62) – and press **Import** button.



Picture 62 Window – data exchange file content information

5. After successful import you can see appropriate message (Picture 63).

Picture 63 System Message – successful import

Following data will be imported: user settings, insuline ratios, user archive.

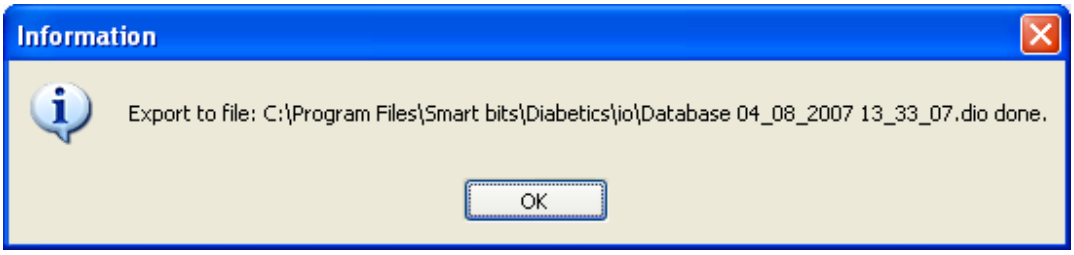
If you try to import a file other than io file, system will inform you with proper message (Picture 64).

Picture 64 System Message – Invalid imported file type

Exporting database

1. Choose option **Export Database** in main menu (Picture 2) **Tools** or click  icon on the toolbar.

2. See the system message to get know where exported io data file is located (Picture 65).



Picture 65 System message – io file location for exported database

3. Exported data will be saved to a file in **C:\Program Files\Smart bits\Diabetics - en\io** directory.

Following data will be exported: product groups, products, pack groups, packs, measure units, m.u. groups, m.u. direct and undirect conversions.

Database export is highly RECOMMENDED before database clearing (see: Database clearing).

Database import

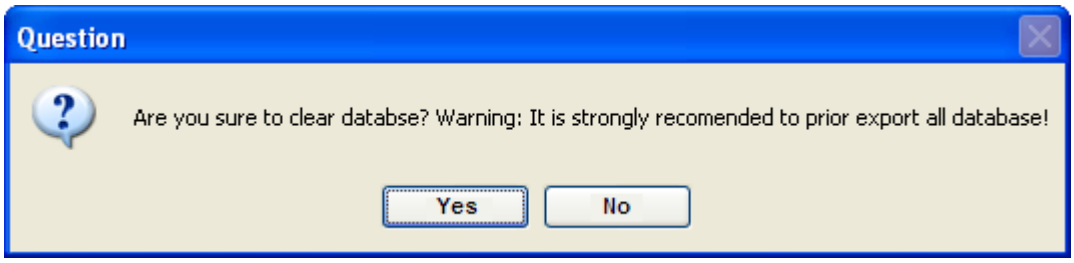
1. Choose option **Import...** in main menu (Picture 2) **Tools** or click  icon on the toolbar.
2. Window (Picture 59) with io file list from: **C:\Program Files\Smart bits\Diabetics - en\io** directory will be opened.
3. Choose file you want to import (file name contains database).
4. Read and accept selected file content information (Picture 62) – and press **Import** button.
5. After successful import you can see appropriate message (Picture 63).

Following data will be imported: product groups, products, pack groups, packs, measure units, m.u. groups, m.u. direct and undirect conversions.

If you try to import a file other than io file, system will inform you with proper message (Picture 64).

Database clearing

1. Choose option **Clear Database** in main menu (Picture 2) **Tools** or click  icon on the toolbar.
2. Read and accept system query (Picture 66).



Picture 66 System message – Database clearing

3. Push **Yes** button to clear database or **No** to cancel operation.
4. If you choose **Yes** after successful clearing you will see followed message (Picture 67).

Picture 67 System message – Database cleared

5. Database will be empty.

Database export is highly RECOMMENDED before database clearing (see: Exporting database).

Operation **reomoves** all products, packs, measure units and related data. Database clearing **does not remove** archive and user settings.

Importing product group

1. Choose option **Import...** in main menu (Picture 2) **Tools** or click  icon on the toolbar.
2. Window (Picture 59) with io file list from: **C:\Program Files\Smart bits\Diabetics - en\io** directory will be opened.
3. Choose file you want to import (file name contains 'product groups').
4. Read and accept selected file content information (Picture 62) – and press **Import** button.
5. After successful import you can see appropriate message (Picture 63).
6. Imported data will be populated to product group hierarchy tree.

If you try to import a file other than io file, system will inform you with proper message (Picture 64).

Importing products

1. Choose option **Import...** in main menu (Picture 2) **Tools** or click  icon on the toolbar.
2. Window (Picture 59) with io file list from: **C:\Program Files\Smart bits\Diabetics - en\io** directory will be opened.
3. Choose file you want to import (file name contains 'products').
4. Read and accept selected file content information (Picture 62) – and press **Import** button.
5. After successful import you can see appropriate message (Picture 63).
6. Imported data will be populated to product list in products area.

If you try to import a file other than io file, system will inform you with proper message (Picture 64).

Importing pack group

1. Choose option **Import...** in main menu (Picture 2) **Tools** or click  icon on the toolbar.
2. Window (Picture 59) with io file list from: **C:\Program Files\Smart bits\Diabetics - en\io** directory will be opened.
3. Choose file you want to import (file name contains 'pack groups').
4. Read and accept selected file content information (Picture 62) – and press **Import** button.
5. After successful import you can see appropriate message (Picture 63).
6. Imported data will be populated to pack group hierarchy tree.

If you try to import a file other than io file, system will inform you with proper message (Picture 64).

Importing packs

1. Choose option **Import...** in main menu (Picture 2) **Tools** or click  icon on the toolbar.
2. Window (Picture 59) with io file list from: **C:\Program Files\Smart bits\Diabetics - en\io** directory will be opened.
3. Choose file you want to import (file name contains 'packs').
4. Read and accept selected file content information (Picture 62) – and press **Import** button.

5. After successful import you can see appropriate message (Picture 63).
6. Imported data will be populated to pack list in packs area.

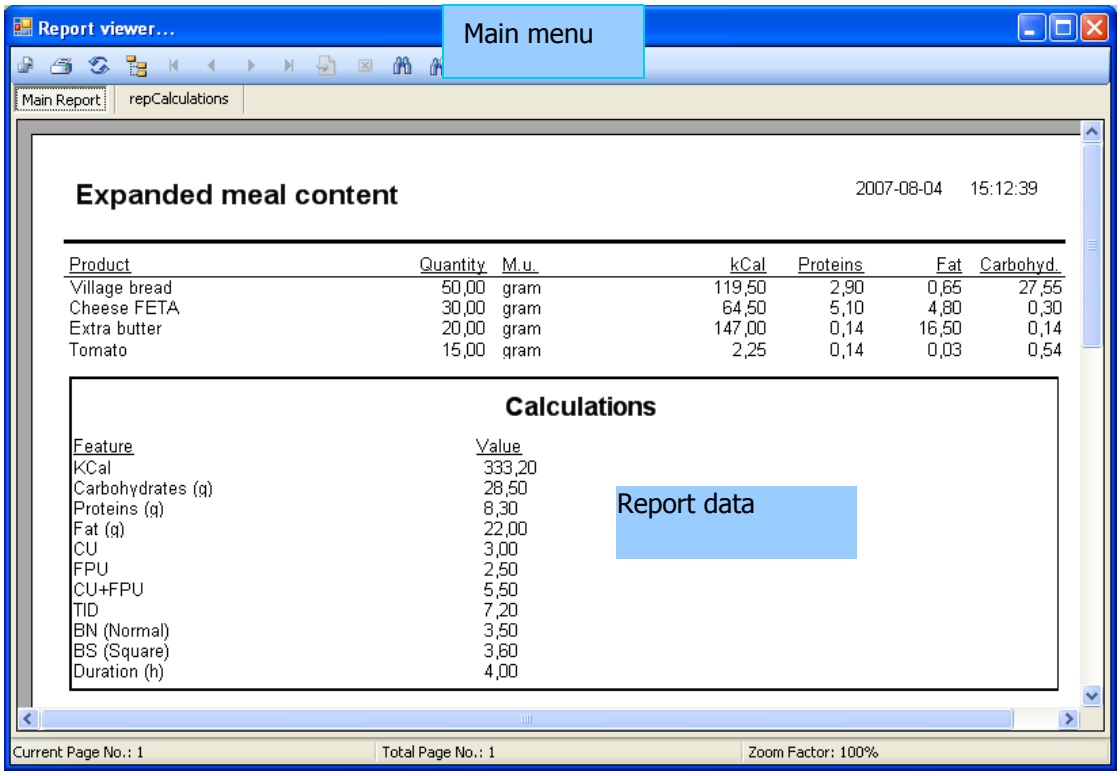
If you try to import a file other than io file, system will inform you with proper message (Picture 64).

REPORTS

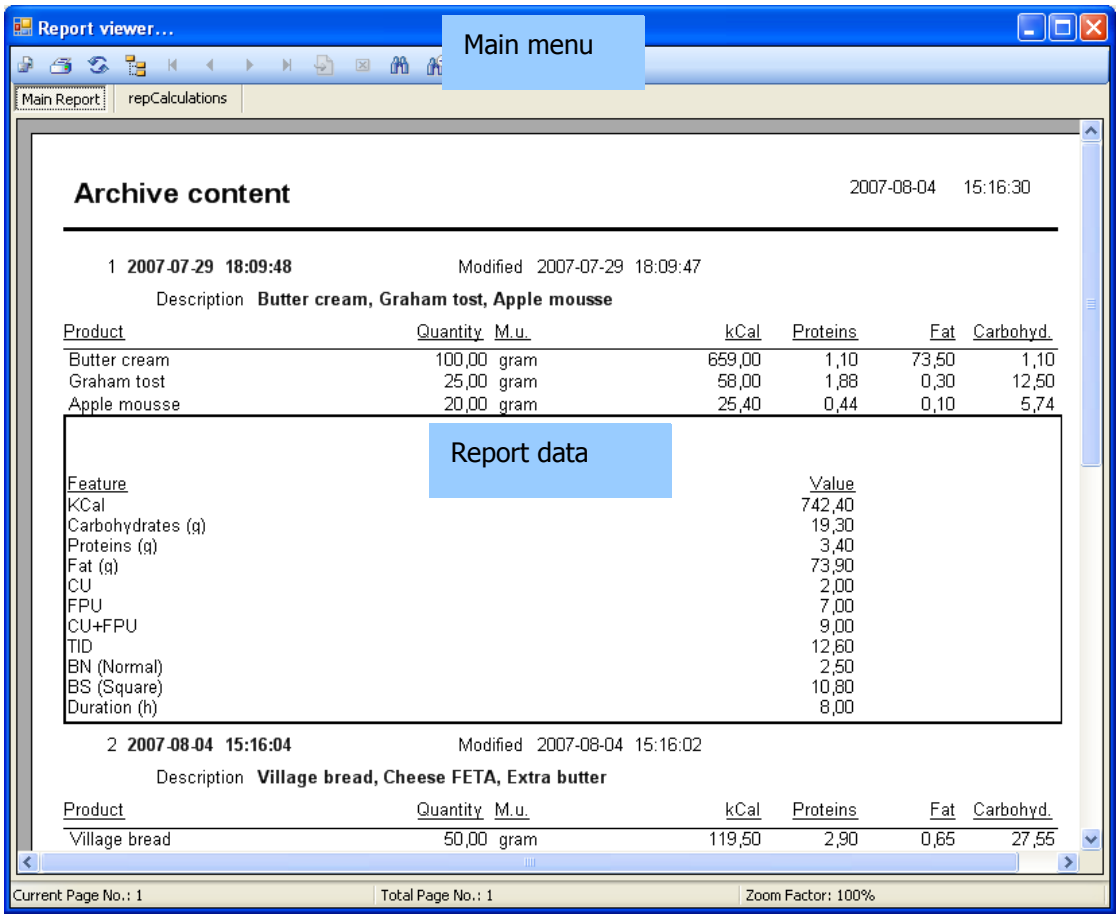
Diabetics system contains reporting features of:

- ✓ detailed meal calculations – Reporting meal data,
- ✓ archive data - Reportig archive data**, Executing report from exported archive file**.

Reports can be viewed in **Report viewer…** window (Picture 68, Picture 69) and can be saved in PDF format.



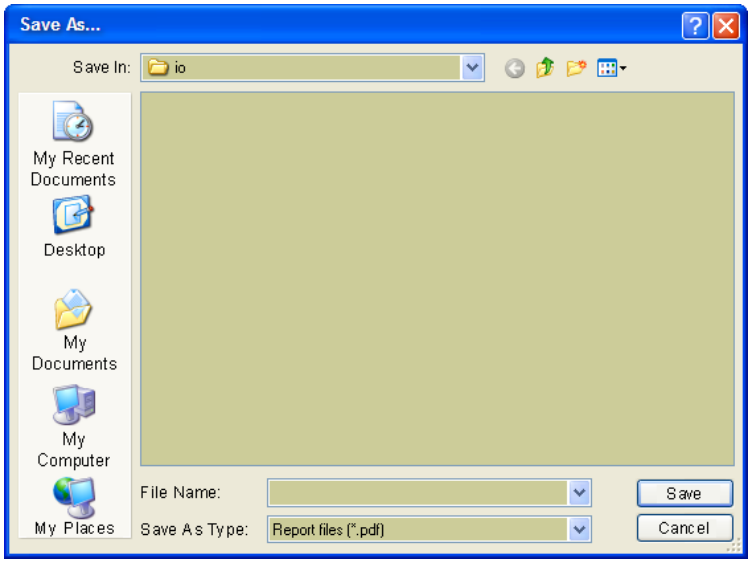
Picture 68 Report viewer (meal content)



Picture 69 Report Viewer (archive)

Saving report

1. Choose icon  on **Report Viewer...** (Picture 68, Picture 69) toolbar.
2. Window to specify report file name and path will be opened (Picture 70).
3. Save the file.

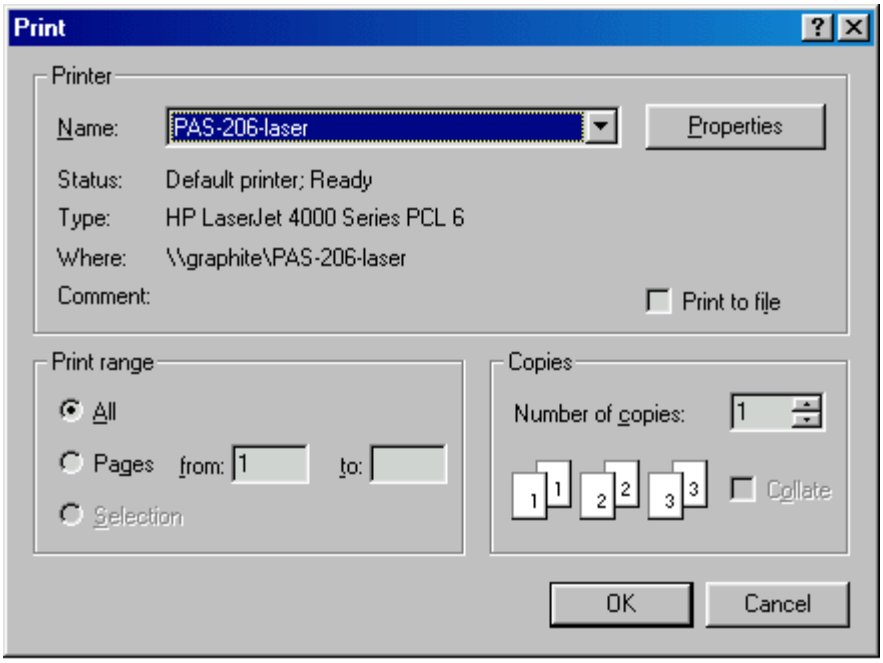


Picture 70 Window – Saving As...

4. If report save successfully you will see system message (Picture 47).
5. Report file will we saved in destination path.

Printing report

1. Click  icon on the **Report Viewer…** window toolbar (Picture 68, Picture 69).
2. **Print** window will be opened (Picture 71).

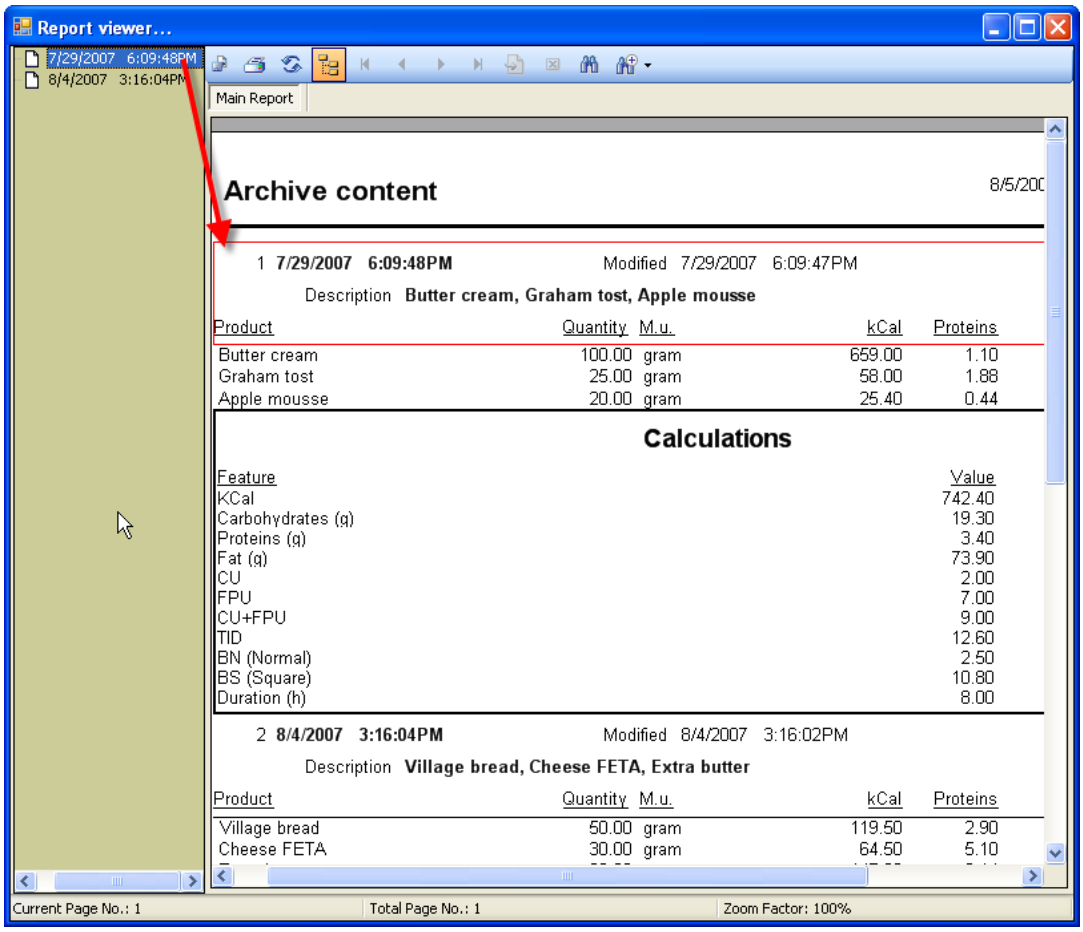


Picture 71 Window – Print

3. Click **OK** button to print report.

Report tree

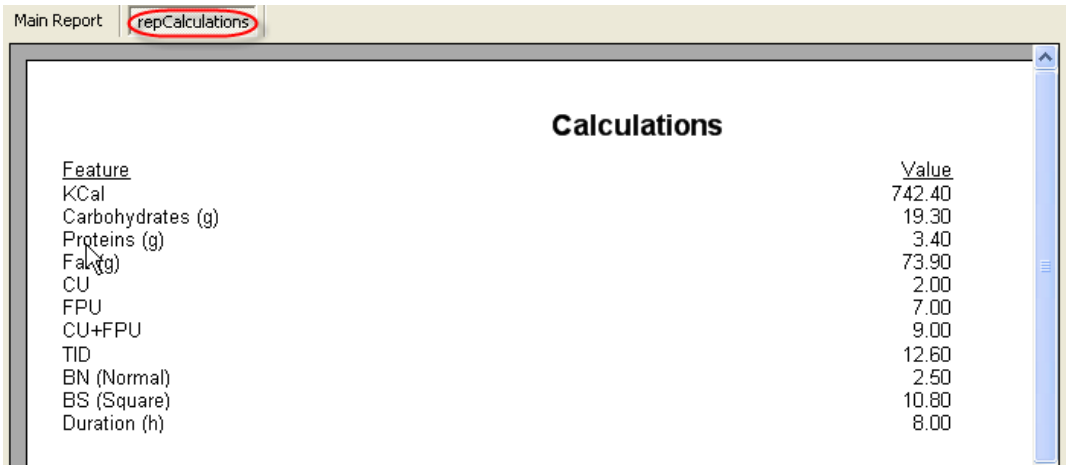
1. Click  icon on the **Report Viewer…** window toolbar (Picture 68, Picture 69).
2. Report details tree will be opened (Picture 72) which allows to navigate and view specified report elements.



Picture 72 Report tree

Viewing report item calculations

1. Click in **Calculations** area (in Report Data part) in **Report Viewer...** window (Picture 68, Picture 69).
2. Additional tab will be opened which contains detailed calculations chosen report item (Picture 73).



Picture 73 Nested sub-report

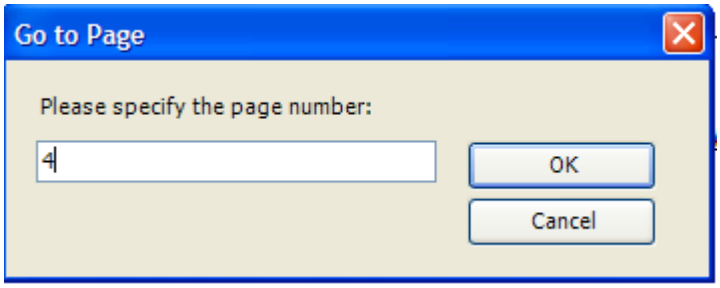
Refreshing report data

1. Choose icon  on **Report Viewer...** (Picture 68, Picture 69) toolbar.
2. Report view will be refreshed.

Navigating between report pages

1. Choose on **Report viewer...** (Picture 68, Picture 69) toolbar followed icons to.
   a.  - go to the first report page,
   b.  - go to previous report page,
   c.  - go to next report page,
   d.  - go to the last report page,
   e.  - go to specified report page.

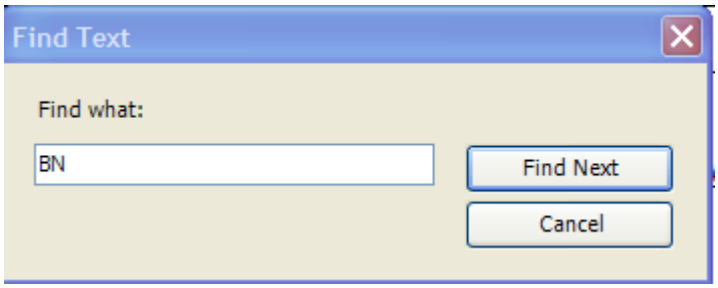
   If you choose  icon – input required page number in **Go to Page** window (Picture 74) and press **OK** button.



Picture 74 Navgating to specified report page

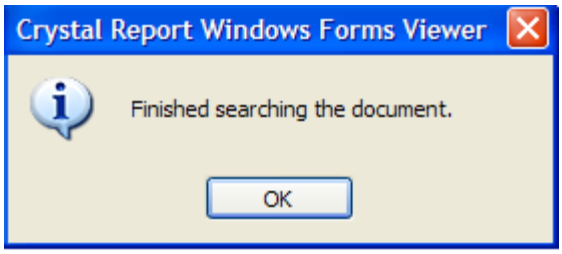
Searching report content

1. Choose icon  on **Report Viewer...** (Picture 68, Picture 69) toolbar.
2. Input a text you want to find in the **Find Text** window and press **Find Next** button.
3. System will try to find and highlight the first occurrence of searched text. Next occarence can be reached by clicking **Find Next** button again.



Picture 75 Searching a text in the report

4. If no matches is find or document end is reached, system will show followed message (Picture 76).

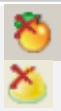


Picture 76 Search finished message

INDEX OF COMMANDS

Command	Icon	Main Menu	Context Menu	Annotations
Accept Changes			Accept Changes	Command available in areas: **Product Groups**, **Pack Groups**, **Products**, **Packs** (accept recent changes – populate to database)
Add selected products to current pack			Add to Current Pack	Command available in **Products** area
Add selected products to the Meal			Add to Meal	Command available in **Products** area
Clear			Clear	Command available in **Meal** area – products and inner packs (removes alll products and packs from the meal)
Clear Database		Tools / Clear Database		Remove all product, pack, measure unit, conversion data (and referenced) from database (without user settings)
Copy			Copy	You can copy to Clipboard: selected products/packs from areas: **Products**, **Packs**, **Meal, Current Pack Content** – products and inner packs
Copy and Paste (Duplicate)				Duplicating date/time parameters in **Archive** area (in search form)
Create New Child Group			Nowa podrzędna	Command available in areas: **Product Groups**, **Pack Groups** (creates new product or pack child group)
Create New Group			New	Command available in areas: **Product Groups**, **Pack Groups**

				pack group)
Create New Product or Pack			New Product New Pack	Command available in areas: **Products**, **Packs** (creates new product or pack)
Create product from pack			Save as Product	Command available in areas: **Packs** (creates new product from pack)
Duplicate product / pack			Duplicate	Command available in areas: **Products**, **Packs** (creates new product or pack copy)
Export		Tools/ Export Database Tools/ Export User Data	Export...	You can export whole database, user data, chosen product group, selected products, choosen pack group, selected packs or selected archive items
Import		Tools / Import…		You can import whole database, user data, chosen product group, selected products, choosen pack group, selected packs or selected archive items
Open Archive		Tools / Archive		Opens **Archive** window
Open Measure Units		Tools / Measure Unit		Opens **Measure Units** window
Open Measure Unit Conversions		Tools / Measure Unit Conversions		Opens **Measure Unit Conversions** window
Open Measure Unit Groups		Tools / Measure Unit Groups		Opens **Measure Unit Groups** window
Open User Data		Options / User Data		Opens **User Data** window
Open User Guide		Help / User Guide		Opens **User Guide**
Paste Product or Pack			Wklej	Command available in areas: **Meal, Current Pack Content** – products and inner packs (pastes product/ pack data from

				Clipboard)
Print data/execute report			Print	Command available in **Meal** and **Archive** areas
Print data/execute report from exported file			Print from File	Command available in **Archive** area
Remove archive item			Delete	Command available in **Archive** area (removes selected archive items)
Remove group			Delete	Command available in areas: **Product Groups**, **Pack Groups** (removes selected product or pack group with all children)
Remove item from meal			Delete	Command available in **Meal** area – products and inner packs (removes selected products or packs from the meal)
Remove product / pack			Delete	Command available in areas: **Products**, **Packs**, **Current pack** - products and inner packs (removes selected products or packs)
Rollback Changes			Rollback Changes	Command available in areas: **Product Groups**, **Pack Groups**, **Products**, **Packs** (rollbacks recent changes)
Save as Pack			Save as Pack	Command available in **Meal** area – products and inner packs (save meal content as a pack)
Save to Archive			Save to Archive	Command available in **Meal** area – products and inner packs (save meal content as an item in the archive)
View Calculations			Calculations	Command available in areas: **Meal, Current Pack Content** –

				products and inner packs (views selected products/packs detailed calculations)
View/Edit Properties			Properties	Command available in areas: **Product Groups**, **Pack Groups**, **Products**, **Packs**, **Meal, Current Pack Content** – products and inner packs, **Archive** (views selected item properties – depends on selected object type; in edit mode)

DICTIONARY

ARCHIVE

Special database area where data about eaten products is stored (see: MEAL).

MEALTIME BOLUS

Delivered to cover a meal, (delivered for meal)

See: BOLUS NORMAL, BOLUS SQUARE, BOLUS DUAL.

BOLUS NORMAL

Insulin (see: INSULIN) delivered immediately after setting. It is programmed as a correction dose or as mealtime insulin to cover a meal rich of carbohydrate.

See: BOLUS SQUARE, BOLUS DUAL.

Application shortcut – **BN**.

BOLUS SQUARE

Insulin is programmed in prolonged period of time, (from 0.5 hour to 7 hours) as a mealtime insulin.

See: BOLUS NORMAL, BOLUS DUAL.

Application shortcut – **BS**.

BOLUS DUAL

Bolus consists of two parts: normal bolus and square-wave bolus. It is programmed for mix meal includes carbohydrate, fat and protein.

See: BOLUS NORMAL, BOLUS SQUARE.

MEALTIME INSULIN DOSE

Arithmetic product of insulin to-carb ratio, CU (see: CARB UNITS) and F-PU (see: FAT-PROTEIN UNITS)

Application shortcut – **MID**.

CORRECTION DOSE / CORRECTION BOLUS

The amount of insulin dose required for hyperglycemia to decreased it to target range.

GLYCEMIA

Blood glucose. Glycemia in non-biabetic person is in range (80 – 140 mg/dl)

See: CORRECTION DOSE, TARGET RANGE OF GLYCEMIA.

TARGET RANGE OF GLYCEMIA

Recommended value of glycemia considering the individual needs of patients.

See: CORRECTION DOSE, GLUCOSE.

GLUCOSE

Simple carbohydrate measured in blood.

See: CORRECTION DOSE, GLYCEMIA, TARGET RANGE OF GLYCEMIA.

MEASURE UNIT GROUP

Measure units (see: MEASURE UNIT) grouping elemet by name and type, whitch group similar measure units and allows determine and define direct conversions between group measure units (see: CONVERSION)

F.e. Quantity group is transitive group (type), whitch allows direct conversions between group measure units;

See: TRANSITIVE MEASURE UNIT, NONTRANSITIVE MEASURE UNIT, CONVERSION, DIRECT CONVERSION, RELATED CONVERSION.

PRODUCT GROUP

Food products grouping element by category (patrz: PRODUCT);

F.e. products: any kind bread, rolls bagels – can be grouped in **Bread** group.

PACK GROUP

Product packs grouping element by category (patrz: PACK);

F.e. packs – cucumber soup, tomato soup with noodles, tomato soup with rice – can be grouped in **Soups** group.

ICON

Pictorial image used in a graphical user interface to represent a command; usually accessible from toolbar (patrz: TOOLBAR);

Executing commang – by clicking on a icon once.

PERSONAL INSULIN TO-CARB RATIO

Ratio differentiated by individual insulin sensitive (changing during a day and night).

See: MEALTIME BOLUS, BOLUS NORMAL, BOLUS SQUARE, BOLUS DUAL, CORRECTION DOSE, GLYCEMIA, TARGET RANGE OF GLYCEMIA, INSULINE, CARB UNIT, FAT-PROTEIN UNIT, INSULIN TO-CARB RATIO.

INSULIN

Hormone delivered by beta cell of pancreas, necessary to metabolism carbohydrate, fatty acid and protein.

See: MEALTIME BOLUS, BOLUS NORMAL, BOLUS SQUARE, BOLUS DUAL, CORRECTION DOSE, GLYCEMIA, TARGET RANGE OF GLYCEMIA, INSULINE, CARB UNIT, FAT-PROTEIN UNIT, INSULIN TO-CARB RATIO.

MEASURE UNIT

In general, a determinate quantity or magnitude of the kind designated, taken as a standard of comparison for others of the same kind, in assigning to them numerical values, as 1 gramm, 1 mililitr, etc.

See: TRANSITIVE MEASURE UNIT, NONTRANSITIVE MEASURE UNIT, CONVERSION, DIRECT CONVERSION, RELATED CONVERSION.

NONTRANSITIVE MEASURE UNIT

Measure unit, which can not be directly converted to other one in the same measure group (see: CONVERSION);

F.e. 1 glass (of milk) can not be defined in general as 2 small glasses (of milk).

See: MEASURE UNIT GRUP, MEASURE UNIT, TRANSITIVE MEASURE UNIT, DIRECT CONVERSION, RELATED CONVERSION.

TRANSITIVE MEASURE UNIT

Measure unit, which can be directly converted to other one in the same measure group (see: CONVERSION);

F.e. 1000 ml = 1l;

See: MEASURE UNIT GRUP, MEASURE UNIT, NONTRANSITIVE MEASURE UNIT, DIRECT CONVERSION, RELATED CONVERSION.

CALCULATIONS

Detailed information which describes amount of product (see: PRODUCT), pack (see: PACK), archive item (see; ARCHIVE): calority (**Kcal**), **carbohydrates (g)**, **proteins (g)**, **fat (g)**, carbohydrate units (**CU**), fat-protein units (**FPU**), carbohydrate and fat-protein units sum (**CU + FPU**), total insulie dose (**TID**), bolus normal (**BN**), bolus square (**BS**) i **duration (h)** time of square or dual bolus.

See: FOOD BOLUS, BOLUS NORMAL, BOLUS SQUARE, BOLUS DUAL, INSULIN, CALORITY, KILOCALORIES, INSULIN RATIO, UNIT, FAT-PROTEINT UNIT, CARBOHYDRATE UNIT.

CALORITY

Product/food energetic value;

See: CALCULATIONS, KILOCALORIES.

KILOCALORIES

Enegry units (KCal);

See: CALCULATIONS, CALORITY.

CONVERSION

Transformation from one measure unit to other one, recounting;

See: MEASURE UNIT GRUP, MEASURE UNIT, TRANSITIVE MEASURE UNIT, NONTRANSITIVE MEASURE UNIT, DIRECT CONVERSION, RELATED CONVERSION.

DIRECT CONVERSION

Independent transformation from one measure unit (see: MEASURE UNIT) to other one; typically defined inside transitive m.u. groups (see: TRANSITIVE MEASURE UNIT);

F.e. 1 kg = 100 dkg;

See: MEASURE UNIT GRUP, NONTRANSITIVE MEASURE UNIT, TRANSITIVE MEASURE UNIT, CONVERSION, RELATED CONVERSION.

RELATIVE CONVERSION (UNDIRECT)

Transformation from one measure unit to other defined for specified product (see: PRODUCT);

F.e. 1 glass of **rice** = 200 mg;

Warnig: related conversins can input (and usually inputs) round errors, use it carefully – (periodically) verify final conversion results before use;

See: MEASURE UNIT GRUP, NONTRANSITIVE MEASURE UNIT, TRANSITIVE MEASURE UNIT, CONVERSION, DIRECT CONVERSION.

MAIN MENU

Commands grouped by categories: Tools, Options, Help;

Executing command – choosing an option and suboption from menu by by pointing the option and click with left mouse button.

CONTEXT MENU

Commands group that can be executed for specified functional area items (products, packs, meal products/inner packs, archive, product/pack groups, current pack products/inner packs);

Executing command – clicking with right mouse button in specified area, choosing an option (and suboption) from displayed menu by pointing the option and click with left mouse button.

TOOLBAR

Icon group (see: ICON) that represents allowed commands to execute in specified functional area (products, packs, meal products/inner packs, archive, product/pack groups, current pack products/inner packs).

MEAL

Product(s) (see: PRODUCT) and/or pac(s) (see: PACK) composition (usually just eaten).

INNER PACK

Pack (see: PACK) or meal (see: MEAL) component which is a **pack**.

PRODUCT

Food product defined by followed features: calority (**Kcal**), **carbohydrates (g)**, **proteins (g)**, **fat (g)** in specified amout of measure unit (see: measure unit);

F.e. home biscuits contanis: KCal – 280, proteins – 7.9, fat – 4.3, carbohydrates – 52.7 in 100g of this product;

comp.: CALCULATIONS, PRODUCT PROPERTIES.

PRODUCT PROPERTIES

Food product features (see: PRODUCT) containing: name, description, feature for calculations (see: CALCULATIONS), product group relation (see: PRODUCT GROUP);

PACK PROPERTIES

Name, description and pack group relation (see: PACK GROUP) specified pack.

INSULIN TO-CARB RATIO

The amount of insulin per one CU or F-P U.

See: MEALTIME BOLUS, BOLUS NORMAL, BOLUS SQUARE, BOLUS DUAL, CORRECTION DOSE, GLYCEMIA, TARGET RANGE OF GLYCEMIA, INSULINE, CARB UNIT, FAT-PROTEIN UNIT, PERSONAL INSULIN TO-CARB RATIO.

INSULINE SENSITIVITY FACTOR

Amount of insulin needed to decrease glycemia by 100 mg/dl.

See: CORRECTION DOSE, TARGET RANGE OF GLYCEMIA, INSULINE TO-CARB RATIO, EXCHANGE, CARB UNIT, FAT-PROTEIN UNIT.

EXCHANGE (carb unit / bread unit)

Unit used to estimate a food.

See: CARB UNIT, FAT-PROTEIN UNIT.

FAT-PROTEIN UNIT

One F-P U is a 100 kcal from FAT-protein food.

See: EXCHANGE, FAT-PROTEIN UNIT.

Application shortcut – **F-PU**.

CARB UNIT

One carb unit is 10 grams of carbohydrate food.

See: EXCHANGE, FAT-PROTEIN UNIT.

Application shortcut – **CU**.

PACK

Composition of product(s) (see: PRODUCT) and/or inner pack(s) (see: INNER PACK) used for frequently used food products that can be grouped as a named pack for future use;

comp.: CALCULATIONS, PACK CONTENT.