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UPOV

TC/XVIII/11
ORIGINAL: anglais
DATE: 3 novembre 1982

UNION INTERNATIONALE POUR LA PROTECTION DES OBTENTIONS VÉGÉTALES

GENÈVE

COMITE TECHNIQUE

Dix-huitième session
Genève, 18 et 19 novembre 1982

MESURE DES COULEURS

Document rédigé par le Bureau de l'Union

L'annexe du présent document, qui contient le texte d'une lettre de M. Espenhain (Danemark) adressée le 26 octobre 1982 au Bureau de l'Union, donne des renseignements sur le colorimètre VIPDENS 501. Ces renseignements peuvent présenter un intérêt pour les débats qui auront lieu dans le cadre du point 4 du projet d'ordre du jour de la dix-huitième session du Comité technique (document TC/XVIII/1), au sujet des propositions de création d'un code des couleurs de l'UPOV.

[L'annexe suit]

ANNEXE

LETTRE DE M. ESPENHAIN (DANEMARK) ADRESSEE
LE 26 OCTOBRE 1982 AU BUREAU DE L'UNION

Objet : Session prochaine du Comité technique - Mesure des couleurs

Me référant aux observations faites au cours de la session tenue ce mois par le Conseil au sujet de diverses méthodes de mesure des couleurs, je vous fais parvenir ci-joint comme convenu des renseignements plus complets sur le colorimètre VIPDENS 501.

Comme je vous l'avais indiqué, l'un de nos organismes (le Laboratoire de recherche pour l'industrie fruitière et potagère) expérimente actuellement le colorimètre VIPDENS et fait des études comparatives avec le Hunterlab, utilisé précédemment.

Comme on peut le voir à la lecture du "mode d'emploi" ci-joint [en anglais seulement], le colorimètre est un appareil de poche et la fenêtre de lecture fait 3 mm, contre 2-4 cm pour le Hunterlab. Il coûte environ 1.500 francs suisses, contre environ 48.000 francs suisses pour le Hunterlab.

Le laboratoire précité a estimé que le Plantenyhedsnaevnet peut comme précédemment utiliser le nouveau colorimètre et nous avons l'intention d'utiliser cet appareil pour l'examen de l'Euphorbia pulcherrima Willd. ex Klotzsch. L'expérience acquise sera mise à la disposition du Groupe de travail technique sur les plantes ornementales l'année prochaine.

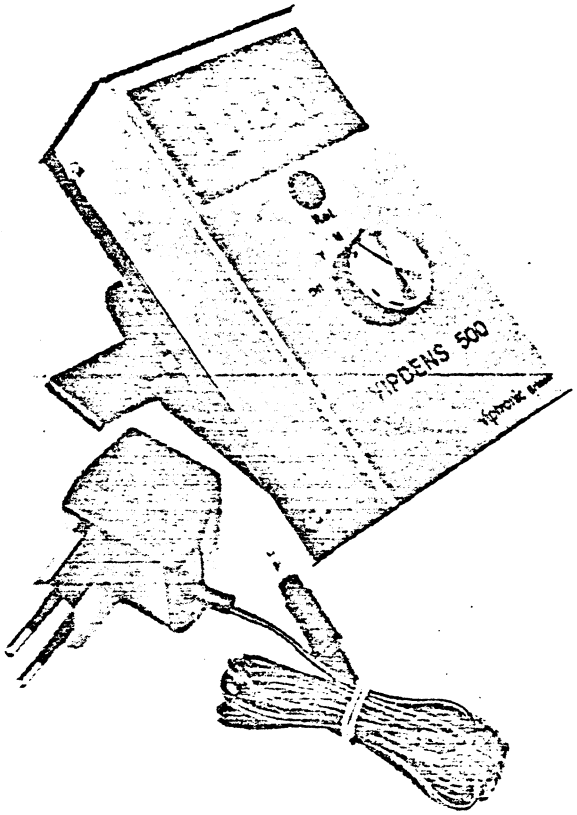
Lors des journées d'étude qui ont eu lieu à Milan du 6 au 9 juillet de cette année dans le cadre du programme Agrofood de la CEE au sujet de la qualité des pommes, les experts participants ont décidé de recommander à leurs autorités respectives l'achat du colorimètre VIPDENS. Je vous communique ces renseignements du fait que l'expérience acquise dans d'autres pays pourrait éventuellement vous être communiquée aussi. En outre, je peux vous faire savoir que le laboratoire en question travaille sur une formule mathématique qui permettra de comparer les résultats du VIPDENS et ceux du Hunterlab, ainsi que, par conséquent, ceux du code RHS des couleurs.

Vous êtes autorisé à copier le "mode d'emploi" pour le faire figurer dans le document que vous préparez à l'intention du Comité technique.

0353

USER MANUAL
BEDIENUNGSANLEITUNG

VIPDENS 500



VIPTRONIC GmbH
BRIXEN - ITALY
I-39042 Brixen
Fischzuchtweg 2
Tel. (0472) 24122

SPECIFICATIONS:

Range:	D 0,00 - D 2,50
Linearity:	± D 0,01
Repeatability:	± D 0,01
Accuracy:	± D 0,01
Digital display (height):	13 mm
Reading aperture:..	3 mm ø
Battery (rechargeable):	9 V
Dimensions:	135 × 78 × 40 mm

NOTE: B/W-version available!

INTRODUCTION

The VIPDENS 500 colour reflection densitometer is a instrument of very advanced design. Use of the most modern electronic developments has provided the VIPDENS 500 with exceptionally high linearity and stability as well as extraordinary reliability and compactness. Cordless operation, by use of a rechargeable battery, and a large liquid crystal digital display open new fields of application wherever colour reflection densitometry is required. The colour measurement filters conform to the DIN 16536 standard «colour density measurements on prints». For the yellow channel a special glass interference filter is employed which increases the range for the yellow readings to more nearly match those of the other colours. By comparison, densitometers employing the commonly used blue filter (Wratten no. 47 or equivalent) typically produce density readings up to 0.38 lower in the yellow channel than the VIPDENS 500.

CALIBRATION

The VIPDENS 500 is very strictly calibrated logarithmically in manufacture and conforms to the internationally used 10-step «quantalog check plaque». Because of the extreme stability of the VIPDENS 500 no further calibration is necessary.

Whilst not recommended, it is possible to co-ordinate the readings of the VIPDENS 500 with another densitometer having a non standard slope; if required this procedure is obtainable from your next authorized VIPTRONIC agent.

ZEROING

The VIPDENS 500 has a push-button zero function which will store the exact values for the particular «paper white» in use. These values remain stored in the instrument's memory, even when it is switched off, until replaced with new values by repeating the zeroing procedure.

ZEROING PROCEDURE

1. Switch instrument on by turning rotary switch to «Y» (yellow). Check that red indicator on left of digital display does not light indicating low battery charge - see sect. «BATTERY».

2. Release base plate lock (left-hand side of unit) by pulling outwards and raise reading head.

3. Locate area representative of «paper white» and place reading aperture over it. Steady the instrument by holding the extended base plate locking lever with left hand.

4. Presse button «Ref.» and while keeping it pressed lower the densitometer head to the reading position. **Important:** The head should be held down in the reading position with the «Ref.» button pressed until the yellow indicator light goes out. This takes about 1.3 seconds and ensures that the reading has entered the instrument's memory (RAM).

5. Raise the reading head. The «Y» (yellow) channel is now zeroed.

The «M» (magenta) channel is zeroed in the same way by turning the rotary switch to «M» and repeating steps 2 to 5. Also the «C» (cyan) and «B» (black) channels.

Remember that these values will remain stored in the instrument's memory when switched off, even for long periods, until replaced by new values from another zeroing procedure.

The VIPDENS 500 will zero automatically, as above, on paper stocks with densities up to 0.7 from «standard white».

Readings of 9.99, 9.98 etc. indicate densities of .01 and .02 respectively whiter than the sample used to zero the instrument.

COLOUR DENSITY READINGS

After the VIPDENS 500 has been zeroed in all channels on the paper stock in use, colour density readings are made as follows:

1. Release base plate lock.
2. Turn rotary switch to ink colour to be read (Y = yellow, M = magenta, C = cyan, B = black).
3. Place reading aperture over sample, making sure that entire area of the 3.5 mm ø aperture is filled. Hold instrument firmly in position with left hand on extended locking plate lever.
4. Lower reading head to reading position and hold it there until yellow lamp (LED) extinguishes (about 1.3 secs.) indicating that the reading is complete. Raise ethe reading head.
   Raise the reading head.
5. The density of the sample will be shown on the liquid crystal display, and remains until another channel is selected and a reading made, or the instrument is switched off.
6. Readings of the other colours are made by selecting the appropriate channel and repeating steps 3 to 5.

BATTERY

The VIPDENS 500 densitometer is powered by a rechargeable nickel-cadmium battery of 110 mA/h capacity, delivering 9 Volts d.c. Depending on the reading technique, up to 5000 readings can be made from a fully charged battery. A major contribution to extended battery life is made by the instrument's design which automatically switches the sample illumination lamp off after each reading (when the yellow LED goes out).

In the upper part of the window to the left of the LCD display is a red indicator lamp which illuminates to warn of low battery charge. If this lamp lights continuously the instrument should be recharged before use, otherwise spurious readings may result.

To recharge the VIPDENS 500 the battery charger (supplied) is plugged into the socket marked «Battery» on the lower side of the instrument and the charger plugged into a 240 V a.c. power socket; the recharging time for a completely exhausted battery is c. 14 hours. Longer times will not harm the battery but care must be taken to ensure that the recharging time does not exceed 30 hours.

If the red indicator lamp lights only during a reading, work with the instrument may continue with the charger connected as above. If a great many readings are to be made daily from a fixed location, the VIPDENS 500 may be operated with the charger connected continuously.

It is important to remember that once the red indicator lights continuously the instrument cannot produce accurate readings whether the charger is connected or not.

The battery's efficiency can be impaired by accidental over charging or by leaving it in a discharged state for long periods. A symptom of deteriorating battery efficiency is frequent need of recharging, or in extreme cases the red indicator light remaining on after recharging. In this case the battery should be replaced by removing the two screws securing the lower end plate («Battery») of the instrument and unplugging the battery. It should be replaced with a nickel-cadmium accumulator conforming to IEC 6F22; suitable types are available from numerous manufacturers including Varta (T7/8), ITT (T9) and General Electric.

Important: Never short circuit an accumulator, puncture the casing or dispose of in a fire!

SOME TIPS ON GETTING THE BEST FROM YOUR VIPDENS 500

1. Always keep the battery adequately charged.
2. Do not release densitometer head from reading position until reading is complete as indicated by yellow lamp.
3. Allow at least one second interval between readings.
4. Use only the recharging unit supplied with the VIPDENS 500.
5. Clean the measuring aperture and optic system when necessary with a cotton tipped stick slightly moistened with water. Do not use any other cleaning materials.
6. Do not press down hard on densitometer when making readings.

[Fin du document]