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THE DECISIVE RULE ALGORITHM IN THE CLASSIFICATION OF AGRICULTURAL CROPS BY CONDITIONS

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ANNOTATION

The article developed an algorithm based on the selection of complexes of informative signs in the initial processing of agricultural crops and the construction of a decisive rule in the classification of melon varieties by conditions. Using this algorithm, based on the educational Selection (Table No. 1) presented below, it is determined which class the objects of control belong to, which is indicated in the educational selection. The experiment-test is based on the perfection of the proposed algorithm.

Key words:objects of control, identification of emblems, relevant areas of the field

The issue of identification of emblems and its application to the solution of vital problems is one of the most important and relevant areas of the field of intellectual analysis of information. Especially in the context of the digital economy, it is extremely attractive that these issues find their place in solving agricultural issues. Of course, the construction of decisive rules in the recognition of emblems [1], the selection of informative character complexes [2,3,6], as well as the skillful use of assessment calculation algorithms [5] are very useful in solving complex problems. Below is one such issue that the experiment tested.

In this, initially, control objects are formed, which are candidates from 8 classes specified in the training selection. Control objects $w_i, i = \overline{1,8}$let's mark in appearance. Inherew_i, i- the class is read as an object of control. The object of control is selected in such a way that their characters consist of the most encountered values from within the characters corresponding to the objects of the class being looked at. For this reason, it becomes known which class these objects belong to in advance. In the habit, the algorithm built in this way is experiment-tested. For example: $w_1 = (1\ 1\ 1\ 1\ 2\ 1) \in W_1; w_2 = (1\ 1\ 1\ 2\ 2\ 2) \in W_2; w_3 = (1\ 2\ 1\ 1\ 2\ 1) \in W_3; w_4 = (1\ 2\ 1\ 1\ 1\ 2) \in W_4; w_5 = (2\ 2\ 1\ 1\ 2\ 2) \in W_5; w_6 = (1\ 3\ 5\ 2\ 2\ 2) \in W_6; w_7 = (2\ 1\ 1\ 1\ 4\ 2) \in W_7; w_8 = (1\ 4\ 2\ 2\ 3\ 1) \in W_8$. Here, the signs of the objects of control and training selection consist of nominal signs.

Suppose N-in the space of dimensional signs$x_{p1}, x_{p2}, \dots, x_{pm_p} \in X_p, p = \overline{1,r}$let the training be berilgn selectable. Here it is$x_{pi} = \left(x_{pi}^1,\ x_{pi}^2, \dots x_{pi}^N\right), i = \overline{1, m_p},\ N$ - expression in the space of dimensional signs.

Let's enter the following designations:

$\lambda = (\lambda^1, \lambda^2, \dots, \lambda^N)$, $\mu = (\mu^1, \mu^2, \dots, \mu^N)$, being bul vectors, their components accept zero or one values. In here $\lambda = (\lambda^1, \lambda^2, \dots, \lambda^N)$the components of the vector indicate which character is or is not involved in the calculation work.

If $\lambda^j = 1$in the case ofj-the component is involved in the calculation work, otherwise$\lambda^j = 0$in the case of uhol, the j-component is not involved in computational work.

Just as well,$\mu = (\mu^1, \mu^2, \dots, \mu^N)$let's define the bul vector. The components of this vector are calculated as follows. Let's assume two$x_i, x_k \in X$let the objects be given, without it$\mu(x_i, x_k)$the components of the vector are calculated as follows :

$$\mu^j(x_i, x_k) = \begin{cases} 1 \quad if \left|x_i^j - x_k^j\right| = 0, j = \overline{1,N}. \\ \qquad 0 \text{ otherwise.} \end{cases} \quad (1).$$

In here $\mu^j(x_i, x_k) = 1$will, if in two the corresponding components of the object$x_i^j = x_k^j$when the reciprocal is equal.Thus, the training is for two optional objects of selection$\mu(x_i, x_k)$a vector can be defined as a value.

Setting the issue. Let's assume$\varkappa = \sum_{j=1}^{N} \mu^j(x_i, x_k)$by magnitude$x_i, x_k$let's define the coefficient of similarity of objects. This magnitudex_i, x_kdenotes the number of components of its objects that are the same.

Using these control objects, control objects are drained based on the formula given above.

Let's look at the following issue:

$$\begin{cases} \varkappa_p(w_t) = \frac{1}{m_p} \sum_{i=1}^{m_p} \sum_{j=1}^{N} \mu^j\left(x_{pi}, w_t\right) \to \max\limits_p \\ w_t \epsilon W_t, x_{pi} \epsilon X_p\ p = \overline{1,r},\ t = \overline{1,r}, i = \overline{1, m_p} \end{cases} \quad (2).$$

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The solution to this issue is to assess which class the control objects belong to and whether the proposed algorithm is correct or incorrect.

At some given p (2) the object of control is found to belong to the same class if the target receives a functional maximum value. Below, in the first table, the educational selection is given in the cross-section of classes:

Table№1

Name of melon varieties		**Omitted informative parameters**						**Regions listed in the register**
		x^1	x^2	x^4	x^5	x^{20}	x^{22}	
1-class (45object)								
MakhalliysariqHandalak	x_1	1	1	1	1	2	1	1,2,...,13
Samarkandsariqhandalagi	x_2	1	1	1	1	2	1	8,4,3
Zarg'aldog'Handalak	x_3	1	1	1	1	2	1	8
HandalakZamcha	x_4	1	1	1	1	2	1	1,13
MakhalliyHandalak	x_5	1	1	1	1	1	2	11,12
SariqZamcha	x_6	1	1	1	1	1	1	1,13
Ko'kZamcha	x_7	1	1	1	1	2	2	1,13
Oqkalla-po'sh	x_8	1	1	1	1	2	1	1,5,8,10
MakhalliySamarkandobinovvoti	x_{10}	1	1	1	1	2	1	8
Olabo'ri-kalla	x_{11}	1	1	1	1	2	1	1,2,...,13
Makhalliydagbedi	x_{12}	1	1	1	1	2	1	5,7,8,9
Oqbosvoldi	x_{13}	1	1	1	1	2	1	10,11
Makhalliybo'ri-kalla	x_{14}	1	1	1	1	2	1	3,6,8,12
Qoraqosh	x_{15}	1	1	1	1	2	1	5,8,9,12
Maxalliy (k-1161)	x_{16}	1	1	1	1	2	2	2
Zarmiton	x_{17}	1	1	1	1	2	1	5,8,9
Maxalliy (k-1162)	x_{18}	1	1	1	1	2	1	2,7
Assati 3806	x_{19}	1	1	1	1	2	1	12
ToshkentAssatisi	x_{20}	1	1	1	1	2	1	7,11
Makhalliy (k-1163)	x_{24}	1	1	1	1	1	1	1,13
Toshloqi 862	x_{30}	1	1	1	1	2	1	1,2,...,13
Lazzatli	x_{31}	1	1	1	1	2	2	3,10,11
Oq urug'1157	x_{34}	1	1	1	1	2	1	3,8,10,11
Bargi 816	x_{35}	1	1	1	1	2	2	11,12
Maxalliyamiri	x_{36}	1	1	1	1	2	2	1,3,5,8,9,10
Amiri	x_{37}	1	1	1	1	2	1	1,3,8,13
Doniyori	x_{43}	1	1	1	1	1	2	3,8
Makhalliyshirinpo'choq	x_{44}	1	1	1	1	2	1	1,13
Makhalliy (k-1166)	x_{45}	1	1	1	1	2	1	12,13
Zarkokil	x_{46}	1	1	1	1	2	1	2,7
Kizilshakarpalak 2580	x_{49}	1	1	1	1	2	2	12
Oltinvodiy	x_{52}	1	1	1	1	2	2	1,2,...,13
Makhalliy (k-1167)	x_{55}	1	1	1	1	2	1	12
Jiydayaproq	x_{56}	1	1	1	1	2	1	13
Maxalliy (k-1168)	x_{58}	1	1	1	1	2	1	4,8,10
Baytiqo'rg'on 424	x_{61}	1	1	1	1	2	1	4,10,11
Oqetliindamas	x_{62}	1	1	1	1	2	1	12
Qizilurug'	x_{63}	1	1	1	1	2	2	4,10,11
Baqiraman	x_{66}	1	1	1	1	2	1	1
Qoraqand	x_{76}	1	1	1	1	2	2	1,4,8,9,10,13
Maxalliy (k-1174)	x_{78}	1	1	1	1	2	2	8
Maxalliy (k-1171)	x_{80}	1	1	1	1	2	2	3,8,13
Tuyaqovun	x_{84}	1	1	1	1	2	1	13
Shoyiqovun	x_{92}	1	1	1	1	1	1	1,13
Maxalliy (k-1178)	x_{93}	1	1	1	1	2	1	1
2-class (6 object)								
Ko'kkalla-po'sh	x_9	1	1	2	1	2	2	3,5,6,8,9

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Zarchopon F1	x_{22}	1	1	1	2	2	2	1,2,...,13
Roxat	x_{29}	1	1	1	3	2	2	1,2,...,13
Suyunchi 2	x_{33}	1	1	3	2	2	2	1,10,11,13
Oltintepa	x_{64}	1	1	1	2	2	2	2,4,10,11
G'alaba	x_{77}	1	1	2	1	2	2	1,13
3-class (40 object)								
Maxalliy (k-1179)	x_{21}	1	2	1	1	2	1	8,11
Dutma	x_{23}	2	2	1	1	2	1	8, 10
Alleke	x_{25}	1	2	1	1	2	1	1,13
Oqgurvak	x_{26}	1	2	1	1	1	1	1,13
Ko'kgurvak	x_{27}	1	2	1	1	2	1	1,13
Olagurvak	x_{28}	1	2	1	1	2	1	1,13
Qarshiko'kchasi	x_{38}	1	2	1	1	2	1	5,8
Xitoyiamiri	x_{39}	1	2	1	1	2	1	1,8,10,12,13
Ko'ktinni 1087	x_{40}	1	2	4	1	2	1	1,2,...,13
Oqsut	x_{41}	1	2	1	1	2	2	13
Maxalliy (k-1164)	x_{42}	1	2	1	1	2	2	3, 10
Sariqpo'choq	x_{47}	1	2	1	1	2	1	11
Maxalliy (k-1165)	x_{48}	1	2	1	1	2	2	7
Kulixushtarin	x_{53}	1	2	1	1	2	1	1,3,6,13
Nongo'sht	x_{54}	1	2	1	1	1	1	1,13
Maxalliy (k-1181)	x_{59}	1	2	1	1	2	2	11,12
Yirikmevaliichqizil 1233	x_{60}	1	2	1	1	2	2	3,4,10,11
Maxalliy (k-1169)	x_{65}	2	2	1	1	2	1	2,7
Oqqovun 557	x_{67}	1	2	1	1	2	1	1,2,...,13
Maxalliy (k-1170)	x_{69}	1	2	1	1	3	1	13
Maxalliy (k-1184)	x_{70}	1	2	1	1	2	1	2,7,13
Shirinbeshak	x_{72}	2	2	1	1	2	1	1,13
Oqqosh	x_{73}	1	2	1	1	2	1	1
Makhalliy (k-1172)	x_{75}	1	2	1	1	2	1	8, 10
Maxalliy (k-1180)	x_{79}	1	2	1	1	2	1	11,12
Qoratirish	x_{82}	2	2	1	1	2	1	8,10,13
Qizilgulobi	x_{83}	1	2	1	1	1	1	3,4,5,8,9,10,13
Maxalliy (k-1175)	x_{85}	1	2	1	1	2	2	8
Maxalliyolahamma	x_{86}	2	2	1	1	2	1	1,13
Umirvoqi 3748	x_{87}	2	2	1	1	2	1	1,2,...,13
Bijir	x_{89}	2	2	1	1	2	1	1,8,10
Maxalliyqoraqand	x_{90}	1	2	1	1	5	1	1,3,8,9,13
Tornovvotbeshak	x_{91}	2	2	1	1	2	1	1
Gurlan	x_{94}	1	2	1	1	2	1	1,3,13
Qoraqo'tir	x_{95}	2	2	1	1	2	1	1
Xojeylibeshak	x_{97}	2	2	1	1	2	1	1,13
Qorabeshak	x_{98}	2	2	1	1	2	1	1
Qoraqovun	x_{99}	2	2	1	1	2	1	1
Hammabeshak	x_{101}	2	2	1	1	2	1	1,13
Madanizamon	x_{108}	2	2	1	1	2	1	1,13
4- class (6 object)								
Kamolkal	x_{32}	1	2	1	1	1	2	10,12
Olacha	x_{50}	1	2	1	1	1	2	1,3,8,13
Maxalliy (k-1182)	x_{71}	1	2	1	1	1	2	1,3,6,10,13
Zargulobi	x_{74}	1	2	1	2	1	2	1,3,13
Amudaryo	x_{102}	1	2	1	2	2	2	1,13
Qo'ybosh 476	x_{105}	1	2	1	1	3	2	1,2,...,13
5-class (7 object)								
Oqpar	x_{51}	2	2	1	1	3	1	4,10,11
Maxalliybeshak	x_{81}	2	2	1	1	1	1	1,13
Arqoni	x_{96}	2	2	1	1	3	1	3,8,9,10

Qorapo'choq 3744	x_{100}	2	2	1	1	2	2	2,7,10,11,12
GulobiXorazmiy	x_{104}	2	2	1	1	2	2	3,13
Ko'kgulobi 670	x_{106}	2	1	1	1	2	1	1,5,9
Qariqiz	x_{107}	2	2	1	1	1	1	1,3,8,13
6-class (1 object)								
Shirali	x_{57}	1	3	5	2	2	2	11,12
7-class (2 object)								
Aravakash 1219	x_{68}	2	1	1	1	4	2	4,5,8,11,12
Qoragulobi	x_{103}	2	1	1	1	2	2	1,8,12,13
8-class (1 object)								
To'yona	x_{88}	1	4	2	2	3	1	1,2,...,13

The first column of this table presents melon varieties delivered in Uzbekistan, the second column contains the designation of melon varieties, the nominal signs of melon varieties in 3-8 columns, and in Column 9 which region this melon variety is etazed according to the state register. The table below shows the conditions that can be planted on the basis of the State Register of the Republic of Uzbekistan on the cross - section. The last column in the table is represented as follows:

Name	Number
RepublicOfKarakalpakstan	1
Andijan region	2
Bukhararegion	3
Jizzakhregion	4
Kashkadaryaregion	5
Navoiregion	6
Namanganregion	7
Samarkandregion	8
Surkhandaryaregion	9
Syrdaryaregion	10
Tashkentregion	11
Ferganaregion	12
Khorezmregion	13

Recall that the elements of Table No. 1 are composed of nominal signs. (1) actions on its elements are performed to perform mathematical operations on these elements$\mu(x_i, x_k)$the elements of the function are formed. Then, (2) - determination of the solution of the optimization problem is carried out on the basis of the following algorithm.

Algorithm. So, each object in 8 class objects and classes is represented by a complex of informative characters from 6:

I-step:Initially, $t = 1$ in the case of$w_1 = (1\ 1\ 1\ 1\ 2\ 1)$is equal to and$p = 1; m_1 = 45;$ $\varkappa_1(w_1) = \frac{1}{45}\sum_{i=1}^{45}\sum_{j=1}^{6}\mu^j(x_{1i}, w_1) = \frac{1}{45}\sum_{i=1}^{45}[\mu^1(x_{1i}, w_1) + \mu^2(x_{1i}, w_1) + \mu^3(x_{1i}, w_1) + \mu^4(x_{1i}, w_1) + \mu^5(x_{1i}, w_1) + \mu^6(x_{1i}, w_1)] = \frac{1}{45}\cdot(45 + 45 + 45 + 45 + 40 + 32) = 5{,}6$

$w_1 = (1\ 1\ 1\ 1\ 2\ 1)$for the control objectX_1class objects voted 5.6. For this objectX_2we calculate the sound given by class objects.

II-step:$p = 2; m_2 = 6;$ $\varkappa_2(w_1) = \frac{1}{6}\sum_{i=1}^{6}\sum_{j=1}^{6}\mu^j(x_{2i}, w_1) =$

$$= \frac{1}{6}\sum_{i=1}^{6}[\mu^1(x_{2i}, w_1) + \mu^2(x_{2i}, w_1) + \mu^3(x_{2i}, w_1) + \mu^4(x_{2i}, w_1) + \mu^5(x_{2i}, w_1) + \mu^6(x_{2i}, w_1)] = \frac{1}{6}$$

$$\cdot (6 + 6 + 3 + 2 + 6 + 0) = \frac{1}{6}\cdot 23 = 3{,}83;$$

III-step:$p = 3; m_3 = 40;$ $\varkappa_3(w_1) = \frac{1}{40}\sum_{i=1}^{40}\sum_{j=1}^{6}\mu^j(x_{3i}, w_1) =$

$$=\frac{1}{40}\sum_{i=1}^{40}[\mu^1(x_{3i},w_1)+\mu^2(x_{3i},w_1)+\mu^3(x_{3i},w_1)+\mu^4(x_{3i},w_1)+\mu^5(x_{3i},w_1)+\mu^6(x_{3i},w_1)]=\frac{1}{40}$$

$$\cdot(26+0+39+40+35+34)=\frac{1}{40}\cdot(70+104)=4{,}35;$$

Given$w_1=(1\ 1\ 1\ 1\ 2\ 1)$for the control objectX_3class facilities gave 4.35 votes. For this objectX_4we calculate the sound given by class objects.

IV-step: $p=4; m_4=6;\ \varkappa_4(w_1)=\frac{1}{6}\sum_{i=1}^{6}\sum_{j=1}^{6}\mu^j(x_{4i},w_1)=$

$$=\frac{1}{6}\sum_{i=1}^{6}[\mu^1(x_{4i},w_1)+\mu^2(x_{4i},w_1)+\mu^3(x_{4i},w_1)+\mu^4(x_{4i},w_1)+\mu^5(x_{4i},w_1)+\mu^6(x_{4i},w_1)]$$

$$=\frac{1}{6}\cdot(6+0+6+4+1+0)=2{,}83;$$

Given$w_1=(1\ 1\ 1\ 1\ 2\ 1)$for the control objectX_4class facilities voted 2.83. $w_1=(1\ 1\ 1\ 1\ 2\ 1); X_5$we calculate the sound given by class objects.

V-step:$p=5; m_5=7;\ \varkappa_5(w_1)=\frac{1}{7}\sum_{i=1}^{7}\sum_{j=1}^{6}\mu^j(x_{5i},w_1)=$

$$=\frac{1}{7}\sum_{i=1}^{7}[\mu^1(x_{5i},w_1)+\mu^2(x_{5i},w_1)+\mu^3(x_{5i},w_1)+\mu^4(x_{5i},w_1)+\mu^5(x_{5i},w_1)+\mu^6(x_{5i},w_1)]=\frac{1}{7}$$

$$\cdot(0+1+7+7+3+5)=\frac{1}{7}\cdot 23=3{,}28;$$

$w_1=(1\ 1\ 1\ 1\ 2\ 1)$for the control objectX_5class facilities voted 3.28. For this given control objectX_6we calculate the sound that the class gives objects.

VI-step:$p=6; m_6=1;\ \varkappa_6(w_1)=\sum_{i=1}^{1}\sum_{j=1}^{6}\mu^j(x_{6i},w_1)=(1+1)=2;$

$w_1=(1\ 1\ 1\ 1\ 2\ 1)$for the control objectX_6class objects gave 2 votes. For this given control objectX_7we calculate the sound that the class gives objects.

VII-step:$p=7; m_7=2;\ \varkappa_7(w_1)=\frac{1}{2}\sum_{i=1}^{2}\sum_{j=1}^{6}\mu^j(x_{7i}w_1)=$

$$=\frac{1}{2}\sum_{i=1}^{7}[\mu^1(x_{7i},w_1)+\mu^2(x_{7i},w_1)+\mu^3(x_{7i},w_1)+\mu^4(x_{7i},w_1)+\mu^5(x_{7i},w_1)+\mu^6(x_{7i},w_1)]$$

$$=(0+2+2+2+1+0)=3{,}5;$$

so, $w_1=(1\ 1\ 1\ 1\ 2\ 1)$for the control objectX_7class objects gave 3.5 votes. For this given control objectX_8we calculate the sound that the class gives objects.

VIII-step:$p=8; m_8=1;\ \varkappa_8(\bar{x}_1)=\sum_{i=1}^{1}\sum_{j=1}^{6}\mu^j(x_{8i},w_1)=(1+0+0+0+0+1)=2;$

$$\max_{\varkappa_p(w_1)}(5{,}6;0{,}51;4{,}35;2{,}83;3{,}29;2;3{,}5;2)=5{,}6;p=\overline{1,..,8};w_1\epsilon X_1;(3).$$

The resulting result is formed according to (3)$w_1$control objectX_1it was established that it belongs to the class, that is, to its class.

Similarly, the 8 steps viewed in the algorithm are in case t=2$w_2=(1\ 1\ 1\ 2\ 2\ 2)$it is also returned for the control object, in which:

$$p=1; m_1=45;\ \varkappa_1(w_2)=\frac{1}{45}\sum_{i=1}^{45}\sum_{j=1}^{6}\mu^j(x_{1i},w_2)=$$

$$=\frac{1}{45}\sum_{i=1}^{45}[\mu^1(x_{1i},w_2)+\mu^2(x_{1i},w_2)+\mu^3(x_{1i},w_2)+\mu^4(x_{1i},w_2)+\mu^5(x_{1i},w_2)+\mu^6(x_{1i},w_2)]$$

$$=\frac{1}{45}(45+45+45+0+40+13)=4{,}18;$$

So, $w_2=(1\ 1\ 1\ 2\ 2\ 2)$for the control objectX_1class objects 4,18they voted. For this objectX_2we calculate the sound given by class objects.

$$p=2; m_2=6;\ \varkappa_2(w_2)=\frac{1}{6}\sum_{i=1}^{6}\sum_{j=1}^{6}\mu^j(x_{2i},w_2)=$$

$$=\frac{1}{6}\sum_{i=1}^{6}[\mu^1(x_{2i},w_2)+\mu^2(x_{2i},w_2)+\mu^3(x_{2i},w_2)+\mu^4(x_{2i},w_2)+\mu^5(x_{2i},w_2)+\mu^6(x_{2i},w_2)]=\frac{1}{6}$$
$$\cdot(6+6+3+3+6+6)=\frac{1}{6}\cdot 30=5;$$

$w_2=(1\ 1\ 1\ 2\ 2\ 2)$for the control objectX_2class objects gave 5 votes. For this objectX_3we calculate the sound given by class objects.

$$p=3; m_3=40;\ \varkappa_3(w_2)=\frac{1}{40}\sum_{i=1}^{40}\sum_{j=1}^{6}\mu^j(x_{3i},w_2)=$$
$$=\frac{1}{40}\sum_{i=1}^{40}[\mu^1(x_{3i},w_2)+\mu^2(x_{3i},w_2)+\mu^3(x_{3i},w_2)+\mu^4(x_{3i},w_2)+\mu^5(x_{3i},w_2)+\mu^6(x_{3i},w_2)]$$
$$=\frac{1}{40}(26+0+39+35+6)=\frac{106}{40}=2{,}65;$$

so, $w_2=(1\ 1\ 1\ 2\ 2\ 2)$for the control objectX_3class facilities gave 2.65 votes. For this objectX_4we calculate the sound given by class objects.

$$p=4; m_4=6;\ \varkappa_4(w_2)=\frac{1}{6}\sum_{i=1}^{6}\sum_{j=1}^{6}\mu^j(x_{4i},w_2)=$$
$$=\frac{1}{6}\sum_{i=1}^{6}[\mu^1(x_{4i},w_2)+\mu^2(x_{4i},w_2)+\mu^3(x_{4i},w_2)+\mu^4(x_{4i},w_2)+\mu^5(x_{4i},w_2)+\mu^6(x_{4i},w_2)]$$
$$=\frac{1}{6}(6+0+6+2+1+6)=\frac{1}{6}\cdot 21=3{,}5;$$

$$p=5; m_5=7;\ \varkappa_5(w_2)=\frac{1}{7}\sum_{i=1}^{7}\sum_{j=1}^{6}\mu^j(x_{5i},w_2)=$$
$$=\frac{1}{7}\sum_{i=1}^{7}[\mu^1(x_{5i},w_2)+\mu^2(x_{5i},w_2)+\mu^3(x_{5i},w_2)+\mu^4(x_{5i},w_2)+\mu^5(x_{5i},w_2)+\mu^6(x_{5i},w_2)]$$
$$=\frac{1}{7}(0+1+7+0+3+2)=\frac{1}{7}\cdot 13=1{,}86;$$

$w_2=(1\ 1\ 1\ 2\ 2\ 2)$for the control objectX_5class objects gave 1.86 votes. For this objectX_6we calculate the sound given by class objects.

$$p=6; m_6=1;\ \varkappa_6(w_2)$$
$$=\sum_{i=1}^{1}\sum_{j=1}^{6}\mu^j(x_{6i},w_2)$$
$$=[\mu^1(x_{6i},w_2)+\mu^2(x_{6i},w_2)+\mu^3(x_{6i},w_2)+\mu^4(x_{6i},w_2)+\mu^5(x_{6i},w_2)+\mu^6(x_{6i},w_2)]=(1+0$$
$$+0+1+1+1)=4;$$

$w_2=(1\ 1\ 1\ 2\ 2\ 2)$for the control objectX_6class objects voted 4. In hereX_7we calculate the sound given by class objects.

$$p=7; m_7=2;\ \varkappa_7(w_2)=\frac{1}{2}\sum_{i=1}^{2}\sum_{j=1}^{6}\mu^j(x_{7i},w_2)=$$
$$=\frac{1}{2}\sum_{i=1}^{7}[\mu^1(x_{7i},w_2)+\mu^2(x_{7i},w_2)+\mu^3(x_{7i},w_2)+\mu^4(x_{7i},w_2)+\mu^5(x_{7i},w_2)+\mu^6(x_{7i},w_2)]$$
$$=\frac{1}{2}(0+2+2+0+1+2)=\frac{1}{2}\cdot 7=3{,}5;$$

$w_2=(1\ 1\ 1\ 2\ 2\ 2)$for the control objectX_7class objects gave 3.5 votes. For this objectX_8we calculate the sound given by class objects.

$$p=8; m_8=1;\ \varkappa_8(w_2)$$
$$=\sum_{i=1}^{1}\sum_{j=1}^{6}\mu^j(x_{8i},w_2)$$
$$=[\mu^1(x_{8i},w_2)+\mu^2(x_{8i},w_2)+\mu^3(x_{8i},w_2)+\mu^4(x_{8i},w_2)+\mu^5(x_{8i},w_2)+\mu^6(x_{8i},w_2)]$$
$$=(1+0+0+1+0+0)=2;$$
$$\max_{\varkappa_p(w_2)}(4{,}18;5;2{,}65;3{,}5;1{,}86;4;3{,}5;2)=5\,;p=\overline{1,..,8};\ w_2\epsilon X_2.$$

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Hence, given$w_2$control objectW_2as long as it belongs to its class, that is, its own class, and other. For control objects of all class objects, prosedura is repeated and the following table№2 is formed:

Table№2

W	IBM	Voting results for control objects of class objects							
		X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8
w_1	1 1 1 1 2 1	5,6	0,51	4,35	2,83	3,29	2	3,5	2
w_2	1 1 1 2 2 2	4,18	5	2,65	3,5	1,86	4	3,5	2
w_3	1 2 1 1 2 1	4,6	2,83	5,35	3,83	4	2	2,5	2
w_4	1 2 1 1 1 2	3,4	2,83	3,85	5	3,85	2	3	1
w_5	2 2 1 1 2 2	3,18	2,83	4,35	3,83	4,71	2	4,5	0
w_6	1 3 5 2 2 2	2,18	3,5	1,675	2,5	0,71	6	1,5	2
w_7	2 1 1 1 4 2	3,29	1,83	2,475	2,66	3,43	1	5,5	0
w_8	1 4 2 2 3 1	1,71	1,83	1,225	1,5	1	2	0	6

In this table, a 100% correct result was obtained for control selections that were previously accurate.

Based on the calculation algorithm presented, a software tool was developed in the Pyton programming language, and the objects of the educational selection were checked through one program and tested in an experiment-test which class it belongs to, as a result of which a result of 93.5% was achieved. This result was presented in the table below.

Table №3

№	**Complexofinformativecharacters**						**$X_p, p=\overline{1..8}$number of votes cast by class objects**							
	x^1	x^2	x^4	x^5	x^{20}	x^{22}	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8
1	1	1	1	1	2	1	5,6	3,83	4,35	2,83	3,29	2	3,5	2
2	1	1	1	1	2	1	5,6	3,83	4,35	2,83	3,29	2	3,5	2
3	1	1	1	1	2	1	5,6	3,83	4,35	2,83	3,29	2	3,5	2
4	1	1	1	1	2	1	5,6	3,83	4,35	2,83	3,29	2	3,5	2
5	1	1	1	1	1	2	4,4	3,83	2,85	4,33	2,71	2	4	1
6	1	1	1	1	1	1	4,82	2,83	3,55	3,33	3,14	1	3	2
7	1	1	1	1	2	2	5,18	4,83	3,65	3,83	2,86	3	4,5	1
8	1	1	1	1	2	1	5,6	3,83	4,35	2,83	3,29	2	3,5	2
9	1	1	1	1	2	1	5,6	3,83	4,35	2,83	3,29	2	3,5	2
10	1	1	1	1	2	1	5,6	3,83	4,35	2,83	3,29	2	3,5	2
11	1	1	1	1	2	1	5,6	3,83	4,35	2,83	3,29	2	3,5	2
12	1	1	1	1	2	1	5,6	3,83	4,35	2,83	3,29	2	3,5	2
13	1	1	1	1	2	1	5,6	3,83	4,35	2,83	3,29	2	3,5	2
14	1	1	1	1	2	1	5,6	3,83	4,35	2,83	3,29	2	3,5	2
15	1	1	1	1	2	2	5,18	4,83	3,65	3,83	2,86	3	4,5	1
16	1	1	1	1	2	1	5,6	3,83	4,35	2,83	3,29	2	3,5	2
17	1	1	1	1	2	1	5,6	3,83	4,35	2,83	3,29	2	3,5	2
18	1	1	1	1	2	1	5,6	3,83	4,35	2,83	3,29	2	3,5	2
19	1	1	1	1	2	1	5,6	3,83	4,35	2,83	3,29	2	3,5	2
20	1	1	1	1	1	1	4,82	2,83	3,55	3,33	3,14	1	3	2
21	1	1	1	1	2	1	5,6	3,83	4,35	2,83	3,29	2	3,5	2
22	1	1	1	1	2	2	5,18	4,83	3,65	3,83	2,86	3	4,5	1
23	1	1	1	1	2	1	5,6	3,83	4,35	2,83	3,29	2	3,5	2
24	1	1	1	1	2	2	5,18	4,83	3,65	3,83	2,86	3	4,5	1
25	1	1	1	1	2	2	5,18	4,83	3,65	3,83	2,86	3	4,5	1
26	1	1	1	1	2	1	5,6	3,83	4,35	2,83	3,29	2	3,5	2
27	1	1	1	1	1	2	4,4	3,83	2,85	4,33	2,71	2	4	1
28	1	1	1	1	2	1	5,6	3,83	4,35	2,83	3,29	2	3,5	2
29	1	1	1	1	2	1	5,6	3,83	4,35	2,83	3,29	2	3,5	2
30	1	1	1	1	2	1	5,6	3,83	4,35	2,83	3,29	2	3,5	2

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31	1	1	1	1	2	2	5,18	4,83	3,65	3,83	2,86	3	4,5	1
32	1	1	1	1	2	2	5,18	4,83	3,65	3,83	2,86	3	4,5	1
33	1	1	1	1	2	1	5,6	3,83	4,35	2,83	3,29	2	3,5	2
34	1	1	1	1	2	1	5,6	3,83	4,35	2,83	3,29	2	3,5	2
35	1	1	1	1	2	1	5,6	3,83	4,35	2,83	3,29	2	3,5	2
36	1	1	1	1	2	1	5,6	3,83	4,35	2,83	3,29	2	3,5	2
37	1	1	1	1	2	1	5,6	3,83	4,35	2,83	3,29	2	3,5	2
38	1	1	1	1	2	2	5,18	4,83	3,65	3,83	2,86	3	4,5	1
39	1	1	1	1	2	1	5,6	3,83	4,35	2,83	3,29	2	3,5	2
40	1	1	1	1	2	2	5,18	4,83	3,65	3,83	2,86	3	4,5	1
41	1	1	1	1	2	2	5,18	4,83	3,65	3,83	2,86	3	4,5	1
42	1	1	1	1	2	2	5,18	4,83	3,65	3,83	2,86	3	4,5	1
43	1	1	1	1	2	1	5,6	3,83	4,35	2,83	3,29	2	3,5	2
44	1	1	1	1	1	1	4,82	2,83	3,55	3,33	3,14	1	3	2
45	1	1	1	1	2	1	5,6	3,83	4,35	2,83	3,29	2	3,5	2
46	1	1	2	1	2	2	4,18	4,67	2,67	2,83	1,86	3	3,5	2
47	1	1	1	2	2	2	4,18	5	2,65	3,5	1,86	4	3,5	2
48	1	1	1	3	2	2	4,18	4,67	2,65	3,17	1,86	3	3,5	1
49	1	1	3	2	2	2	3,18	4,67	1,68	2,5	0,86	4	2,5	2
50	1	1	1	2	2	2	4,18	5	2,65	3,5	1,86	4	3,5	2
51	1	1	2	1	2	2	4,18	4,67	2,67	2,83	1,86	3	3,5	2
52	1	2	1	1	2	1	4,6	2,83	5,35	3,83	4	2	2,5	2
53	2	2	1	1	2	1	3,6	1,83	5,05	2,83	5	1	3,5	1
54	1	2	1	1	2	1	4,6	2,83	5,35	3,83	4	2	2,5	2
55	1	2	1	1	1	1	3,82	1,83	4,55	4,33	3,86	1	2	2
56	1	2	1	1	2	1	4,6	2,83	5,35	3,83	4	2	2,5	2
57	1	2	1	1	2	1	4,6	2,83	5,35	3,83	4	2	2,5	2
58	1	2	1	1	2	1	4,6	2,83	5,35	3,83	4	2	2,5	2
59	1	2	1	1	2	1	4,6	2,83	5,35	3,83	4	2	2,5	2
60	1	2	4	1	2	1	3,6	2,33	4,4	2,83	3	2	1,5	2
61	1	2	1	1	2	2	4,18	3,83	4,65	4,83	3,57	3	3,5	1
62	1	2	1	1	2	2	4,18	3,83	4,65	4,83	3,57	3	3,5	1
63	1	2	1	1	2	1	4,6	2,83	5,35	3,83	4	2	2,5	2
64	1	2	1	1	2	2	4,18	3,83	4,65	4,83	3,57	3	3,5	1
65	1	2	1	1	2	1	4,6	2,83	5,35	3,83	4	2	2,5	2
66	1	2	1	1	1	1	3,82	1,83	4,55	4,33	3,86	1	2	2
67	1	2	1	1	2	2	4,18	3,83	4,65	4,83	3,57	3	3,5	1
68	1	2	1	1	2	2	4,18	3,83	4,65	4,83	3,57	3	3,5	1
69	2	2	1	1	2	1	3,6	1,83	5.05	2,83	5	1	3,5	1
70	1	2	1	1	2	1	4,6	2,83	5,35	3,83	4	2	2,5	2
71	1	2	1	1	3	1	3,71	1,83	4,5	3,83	3,86	1	2	3
72	1	2	1	1	2	1	4,6	2,83	5,35	3,83	4	2	2,5	2
73	2	2	1	1	2	1	3,6	1,83	5.05	2,83	5	1	3,5	1
74	1	2	1	1	2	1	4,6	2,83	5,35	3,83	4	2	2,5	2
75	1	2	1	1	2	1	4,6	2,83	5,35	3,83	4	2	2,5	2
76	1	2	1	1	2	1	4,6	2,83	5,35	3,83	4	2	2,5	2
77	2	2	1	1	2	1	3,6	1,83	5.05	2,83	5	1	3,5	1
78	1	2	1	1	1	1	3,82	1,83	4,55	4,33	3,86	1	2	2
79	1	2	1	1	2	2	4,18	3,83	4,65	4,83	3,57	3	3,5	1

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80	2	2	1	1	2	1	3,6	1,83	5.05	2,83	5	1	3,5	1
81	2	2	1	1	2	1	3,6	1,83	5.05	2,83	5	1	3,5	1
82	2	2	1	1	2	1	3,6	1,83	5.05	2,83	5	1	3,5	1
83	1	2	1	1	5	1	3,71	1,83	4,5	3,67	3,57	1	2	2
84	2	2	1	1	2	1	3,6	1,83	5.05	2,83	5	1	3,5	1
85	1	2	1	1	2	1	4,6	2,83	5,35	3,83	4	2	2,5	2
86	2	2	1	1	2	1	3,6	1,83	5.05	2,83	5	1	3,5	1
87	2	2	1	1	2	1	3,6	1,83	5.05	2,83	5	1	3,5	1
88	2	2	1	1	2	1	3,6	1,83	5.05	2,83	5	1	3,5	1
89	2	2	1	1	2	1	3,6	1,83	5.05	2,83	5	1	3,5	1
90	2	2	1	1	2	1	3,6	1,83	5.05	2,83	5	1	3,5	1
91	2	2	1	1	2	1	3,6	1,83	5.05	2,83	5	1	3,5	1
92	1	2	1	1	1	2	3,4	2,83	3,85	5,33	3,43	2	3	1
93	1	2	1	1	1	2	3,4	2,83	3,85	5,33	3,43	2	3	1
94	1	2	1	1	1	2	3,4	2,83	3,85	5,33	3,43	2	3	1
95	1	2	1	2	1	2	2,4	3	2,85	5	2,43	3	2	2
96	1	2	1	2	2	2	3,18	4	3,65	4,5	2,57	4	2,5	2
97	1	2	1	1	3	2	3,29	2,83	3,8	4,83	3,43	2	3	2
98	2	2	1	1	3	1	2,71	0,83	4,2	2,83	4,86	0	3	2
99	2	2	1	1	1	1	2,82	0,83	4,25	3,33	4,86	0	3	1
100	2	2	1	1	3	1	2,71	0,83	4,2	2,83	4,86	0	3	2
101	2	2	1	1	2	2	3,18	2,83	4,35	3,83	4,57	2	4,5	0
102	2	2	1	1	2	2	3,18	2,83	4,35	3,83	4,57	2	4,5	0
103	2	1	1	1	2	1	4,6	2,83	4,05	1,83	4,29	1	4,5	1
104	2	2	1	1	1	1	2,82	0,83	4,25	3,33	4,86	0	3	1
105	1	3	5	2	2	2	2,18	3,5	1,68	2,5	0,71	6	1,5	2
106	2	1	1	1	4	2	3,29	2,83	2,48	2,67	3,43	1	5,5	0
107	2	1	1	1	2	2	4,18	3,83	3,35	2,83	3,86	2	5,5	0
108	1	4	2	2	3	1	1,71	1,83	1,52	1,5	1	2	0	6

CONCLUSION

In agriculture, an algorithmic supply of a decisive rule for the classification and distribution of melon varieties in the space of informative signs has been developed. Based on the developed algorithm, preliminary processing work on melon varieties was carried out in the space of informative signs. First, an experiment-test was carried out in the control selections, and then a Test in the Real table. The results were presented in Table No. 2 and Table No. 3. In Real data, a result of 93.5% was achieved.

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