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PRELIMINARY RESULTS OF SEED SELECTION IN THE QUANG NINH AREA

- North Vietnam -

[Following is a translation of an article by
Mai Van Dong, Bureau of Agriculture, Quang
Ninh, in the Vietnamese-language periodical
Khoa Hoc Ky Thuat Nong Nghiep (Agricultural
Sciences & Technology), Hanoi, October 1964,
pp 592-594.]

Many species of rice can be found in the northern
sector of Quang Ninh. Excellent species are developing rap-
idly but many bad species still exist. Many species have
been cultivated for many years but due to lack of care and
selection some of them are undergoing mixing and regression.

Investigation in some cooperatives (at Dam Ha) has
shown the large extent of mixing in some rice species (Table I)

Table I
Investigation at Dam Ha

① Hợp tác xã	② Giống lúa	Tỷ lệ lẫn ③ (%)
Bắc-von	④ Chiêm trắng	20
	④ Lúa mùa :	
	Ngân-kêng-hồng	16
	Chín-chí-choọc	13
Yên-định	Chiêm trắng	15
Yên-hàn	Chiêm trắng	12
	④ Dọp-tái-chím (lúa mùa)	15

[Legend]: 1) Cooperative; 2) Rice species;
3) percent component; 4) white "chiem"; 5)
Main Crop; 6) Dop Tai Chim (main crop).

The increasingly poor seeds have given unstable yields
(Table 2).

Table 2
Rice Yields (piculs/ha) at Tien Yen

Q Tên xã	1959	1960	1961	1962
Dũng-ngũ	20	19	12	14
Hải-lạng-dông	24	22	18	19
Yên-than	18	16	15	15

[Legend]: 1) Villages.

Thus, it is important to select excellent seeds that
will give high and stable yields.

I. COMPARISON OF SEEDS

Rice yields have been observed through a number of
crops at the Ha Coi and Doan Tinh [work] camps and some co-
operatives. Results are, as follows:

1. Spring "chiem" rice. Comparison of yields for
spring crops over several years (sown 19 March, planted 17
April) indicate that "Nam Ninh" rice has been the most prom-
ising species, that its yield is almost stable and is higher
than that of white "chiem" (Pac Pha). (Table 3)

The duration of growth of "Nam Ninh" is five to seven
days shorter than that of white "chiem" which is an important
factor in labor scheduling. "Nam Ninh" plants are tougher
and develop faster than white "chiem". The "Nong Nghiep" I
seeds of "Nam Ninh" give strong stems, big ears, numerous
grains but are susceptible to "dao on" and "tiem lua" diseases.
Further study in this area is needed.

According to current data, "Nam Ninh" rice should be
readily adaptable to local conditions. It is being cultivated
by many cooperatives and occupies 70-80 per cent of the area
for "chiem" varieties.

Table 3

① Tên giống	② Thời gian sinh trưởng (số ngày)	③ Năng suất (tạ/ha)		
		1961	1962	1963
Nam-ninh	110-115	20	27,3	21,25
Nông nghiệp I	103	10,5	27,0	21,25
Chiêm âm	115-120	19,0	26,0	6,87*

[Legend]: 1) Species; 2) Duration of Growth (Days); 3) Yield (Piculs/ha).

* In 1963, blossoms fell prematurely

2. Main-crop rice. In addition to species existing locally, some species have been imported from China and from the delta regions in recent years. These species are tentatively classified into three groups:

- Local species: "loong xay chien," "tan thuy lien," "dop tai chim," "dai hong coc."

- Species brought from the delta region: "quyet tam" 813, "di huong," "tam thom."

- Species imported from Dong Hung (China): "tan tay duong," "chuc tuy," "moc toan," "chung thu," "ke nam ai," "thap thach kiem," "dong thu bo," unknown No. 1, unknown No. 2.

Yields are summarized in Table 4.

Investigations have led to the following conclusions:

- Among local species, "loong xay chim" and "tan thuy tien" gave the highest and most consistent yields. "Loong xay chim" is tasty, and it has been cultivated in this area for a long time. However, it has become mixed and needs to be selected. "Tan thuy lien" seeds produce tall and strong plants with large grains. The unhulled grains are red, and they are low quality grains. This species, however, can withstand alkalinity and resist diseases.

- Of the species imported from the delta, "di huong" produces uniform ears. Its short plants are not likely to collapse. "Tam thom" and "quyet tam" 813 are not adaptable.

- In the imported group, "tan tay duong" has been cultivated for a relatively long time. It is readily adaptable to local conditions, and it is becoming increasingly popular. A shortcoming of the "tan tay duong" is its tendency to collapse and to shed its grains. Selection is needed. At present, "tan tay duong" represents a large portion of rice grown in rice-rich huyen such as Dam Ha, Ha Coi and Mong Cai.

Table 4

① Tên giống	② Thời gian sinh trưởng (số ngày)	③ Năng suất (tạ/ha)		
		1961	1962	1963
Công-xây-chấm	135-140	21	36,00	23
Tân-thủy-liên	150	39,3	39,20	22,8
Dạp-tài-chấm	135	20,0		
Đại-hồng-cốc			21,70	
Quyết-tâm 813	165-170		34,0	20,5*
Di hương	150		30,0	17,0
Tám thơm	160		26,0	
Tân-tây-duong	152		30,0	26,8
Mộc-toàn	155		44,0	27,0
Chúc-tuy	155		37,0	7,5
Chứng-thu	157		40,0	27,0
Đông-thu-hồ	159			18,6
④ Vô danh số 2	159			26,43

[Legend]: 1) Species; 2) Duration of Growth (days); 3) Yield (piculs/ha); 4) Unknown No. 2.

* In 1963, the ears came late due to diseases

II. SEED SELECTION

In 1963, various [work] camps and cooperatives carried out seed selection on the basis of observations made by the seed union. Seeds were selected from fields which had received extensive care and high yield (Table 5).

Table 5

Data from Some Cooperatives in Dam Ha on Fields
Chosen from Seed Selection

① Công việc	② Hợp tác xã Bắc-sơn		③ Hợp tác xã Yên-dinh	
	④ Ruộng giống	⑤ Ruộng sản xuất	Ruộng giống	Ruộng sản xuất
⑥ Cày	3 lượt	2 lượt	3 lượt	2 lượt
⑦ Bừa	3 lượt	2 lượt	3 lượt	2 lượt
⑧ Bón lót/1 là	20 ⑫ gánh phân chuồng + 40 ⑬ gánh đất + 40 kg P	10 gánh phân chuồng + 15 gánh đất + 15 kg P/1 là	15 gánh phân chuồng + 10 gánh đất 20kg P, với +10kg N	6 gánh phân chuồng + 35 gánh đất + 3 kg xác mắm
⑨ Bón thúc/1 là	3 kgN+3kgP + 3 gánh phân chuồng	3 gánh phân chuồng	⑦ 6 gánh phân chuồng + 2,5kg N	⑧ 3 kg N
⑩ Làm cỏ	2 lượt	1 lượt	1 lượt	1 lượt
⑪ Năng suất (tạ/ha)	35	22	25	21

[Legend]: 1) Operation; 2) Bac Son Cooperative; 3) Yen Dinh Cooperative; 4) Selection Field; 5) Production Field; 6) Plowing; 7) Harrowing; 8) First fertilization 1La; 9) Additional Fertilizing 1 La; 10) Weeding; 11) Yield (piculs/ha); 12) 20 shoulder-loads manure; 13) +40 shoulder-loads soil; 14) +40 kg. phosphate; 15) 3 kg Nitrate + 3 kg phosphate; 16) 20 kg phosphate lime + 10 kg nitrate; 17) 6 shoulder-loads manure; 2.5 kg nitrate; 18) + 3 kg fish residue; 19) 3 kg nitrate.

- The number of stalks per clump in the "Nam Ninh" species are given in Table 6 for seed selection fields and production fields.

Where single stalks were planted for the purpose of seed selection, the growth was more vigorous, the number of grains per ear was double its counterpart in production fields where multiple stalks were planted. Most cases of single stalk planting occurred during the main-crop season in 1963.

- For single stalks, the number of ears per clump, the number of grains per ear were larger than in the case of multiple-stalk planting for production. And the proportion of empty grains was significantly lower.

Efforts in seed selection from 1962 to 1963 in the northern sector of Quang Ninh provided many fields for single-stalk planting and large quantities of seeds for production during subsequent years in various cooperatives.

Table 6

① Đơn vị	② Số dảnh cây	Số nhánh dảnh ③ 1 khóm		Số hạt 1 bông	
		⑤ Nhiều nhất	⑥ Ít nhất	⑤ Nhiều nhất	⑥ Ít nhất
Yên-dịnh	4-5 1	14	6	50	14
		12	2	108	60
Bắc-sơn	⑦ nhiều dảnh 1	13	4	50	22
		11	2	100	32

[Legend]: 1) Unit; 2) Number of stalks; 3) Number of shoots per clump; 4) Number of grains per ear; 5) maximum; 6) minimum; 7) Multiple stalks.

Table 7

①. Trung bình	② Chiếm trắng (Yên-dịnh)		② Chiếm trắng (Bắc-sơn)	
	③ Nhiều dảnh	④ 1 dảnh	③ Nhiều dảnh	④ 1 dảnh
⑤ Số bông 1 khóm	10	8	9	6,5
⑤ Số hạt 1 bông	27	82	38	75
⑤ Tỷ lệ hạt lép (%)	39	2,4	21,8	5,7

[Legend]: 1) Average; 2) White "chiem"; 3) multiple stalks; 4) single stalk; 5) ears per clump; 6) grains per ear; 7) hollow grains (%).

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