



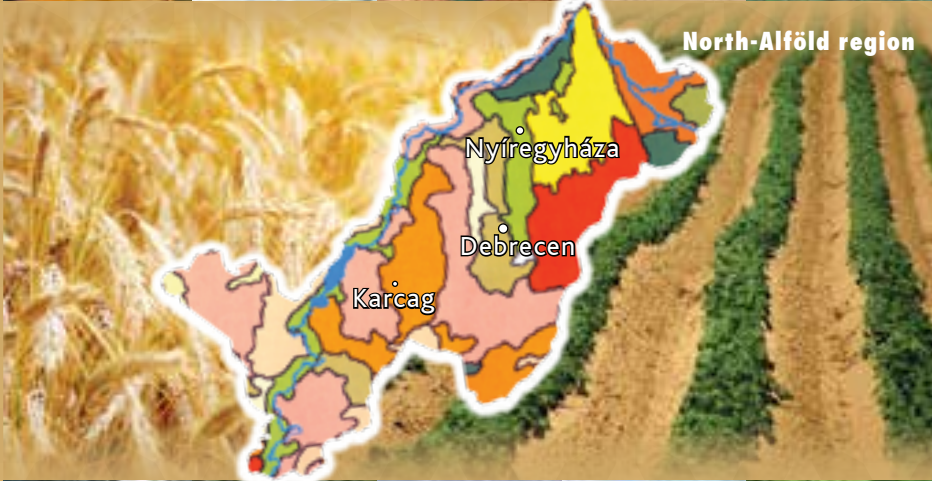
Bred protein plants of the Centre for Agricultural Sciences, University of Debrecen



Debrecen, 2016

Progressive tradition

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Centre for Agricultural Sciences



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Bred protein plants
of the Centre for
Agricultural Sciences,
University of Debrecen



Research Institute
of Karcag



Research Institute
of Nyíregyháza

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FOREWORD

The aim of the Center for Agricultural Sciences of the University of Debrecen – committed to its mission – is the development of the food industry of the three counties belonging to the North Great Plain Region by using university resources in conjunction with the economic, governmental, local governmental and non-profit spheres.

The Research Institutes of Karcag and Nyíregyháza have decades-long history of plant breeding, breed maintenance, propagation, production and evaluation of seeds. The plants that are bred by the Institutes and adapt exquisitely to the extreme agroecological (soil, climate) conditions, come form a unique breed portfolio and play a significant role in foddering as well as in human consumption and the management of soil resources.

The importance of the latter one is increased by the new 'going green' program introduced in 2015, connected to the direct support system in which the species and breed portfolio offers practicing farmers a variety of choices in order for them to meet the requirements of the 'going green' programs and produce Hungarian plant breeds that fit the landscape, have good adapting ability, can be produced economically with a high degree of safety and high composition values.

April 2016, Debrecen

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LÉDA



Year of registration: 1987

Botanical characterization: Léda is a very early variety.

The breeding season from sowing to harvesting is 67-71 days. It is of medium size with good standing ability. The stem is 45-55 cm long, thin, hard, and flexible with no offshoots. The foliage is dark green, the leaves are small. The flowers are white.

The pods are situated on the upper part of the stem, usually in pairs. The pods are 5-7 cm long, flat or weakly curved, with hollow ending. The green maturing is concentrated. There are 6-7 dark green grains in one pod. The green seeds are small, and 95% of the round grains have a diameter of 6.0-9.5 mm. The grown grains are wrinkled, flat cube-shaped, pale dark green pith type. The thousand seed weight is 165-185 gram.

Main economic values are in freezing- and conservation processing. Potential production capacity is 6-8 t/ha. The crop safety is good, resistant to the first race of *Fusarium oxysporum* f. sp. pisi, tolerant to bean yellow-mosaic virus. It has good drought resistance.

Recommended root number at production for trading is 1.2-1.4 million sprout/ha.



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ZITA



Year of registration: 2001

Mid-early maturing pith peas.

The breeding season from sowing to harvesting is 70-74 days. It is medium height with good standing ability. The stem is 60-70 cm long, medium joint space, with medium tendril growing ability. The foliage is medium green, the leaves are small. The flowers are white.

The pods are situated on the upper part of the stem, usually in pairs. The pod is 9-10 cm long. The yield is concentrated. The grains have a diameter of 8-9 mm, dark green and small. The thousand seed weight of the green grains is 350-355 gram. The grown grains are wrinkled, flat cube-shaped, green coloured. The thousand seed weight is 138-142 gram.

Main economic values are in freezing- and conservation processing and it is suitable for gardening too. Potential production capacity is 5-6 t/ha green grain. The crop safety is good. It is resistant to the first race of *Fusarium oxysporum* f. sp. pisi, moderately tolerant to *Ascochyta pisi*, requires protection. It has good drought resistance.

Recommended root number at production for trading is 1.2-1.3 million sprout/ha.



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ZEUSZ**Year of registration: 1985**

Mid-late maturing pea breed.

The breeding season from sowing to harvesting is 79-84 days. The plant is high, thick with strong tendrils growing ability. The stem is 60-80 cm long, strong and flexible. The foliage is medium-large, half green. The flowers are white.

The pods are situated on the upper part of the stem, usually in pairs. The pods are 8-9 cm long, flat or weakly curved, with picked ending. There are 7-9 dark green grains in a pod. 50% of the round grains have a diameter of 7-9 mm and 50% has a diameter of 9-11 mm. The thousand seed weight is 400 ggram. The yield is concentrated. The grown grains are wrinkled, square, pale yellow. The thousand seed weight is 180-210 gram.

Main economic values are in freezing- and conservation processing and it is suitable for gardening too. The yield is extremely high, 10-12 t/ha. The crop safety is good. It is resistant to the first race of *Fusarium oxysporum* f. sp. pisi. It has good drought resistance. It is suitable for mechanical harvesting even at a low level of maturity. It does not require special production technology.

Recommended root number at production for trading is 0.8-0.9 million sprout/ha.



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LORA**Year of registration: 2001**

Late maturing pea breed.

The breeding season from sowing to harvesting is 86-90 days. It is higher than medium and has a good standing ability. The stem is 60-70 cm long, medium joint space, with pronounced tendrils growing ability. The foliage is dark green, the leaves are medium-sized. The flowers are white. The pods are 9-10 cm long, they are situated on the upper part of the stem. The yield is concentrated. The seeds are dark green, relatively small, 61,3% of the round grains have a diameter of 8-9 mm, adequately balanced. The thousand seed weight is 385-390 gram. The grown grain is round shaped. The thousand seed weight is 152-158 gram.

Main economic values are in freezing- and conservation processing. Potential productivity: 5-6 t/ha. The crop safety is good. It is resistant to the first race of *Fusarium oxysporum* f. sp. pisi, slightly tolerant to *Ascochyta pisi*.

Recommended root number at production for trading is 1-1.2 million sprout/ha.



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ZSUZSI



Year of registration: 1987

Late maturing pith peas.

The breeding season from sowing to harvesting is 86-90 days. The plant is of medium height, compact with good stability. The stem is 60-70 cm long, relatively thick and strong. It has strong tendrils growing ability. The foliage is medium green, the leaves are big. The flowers are white.

The pods are long and situated mostly in pairs on the upper part of the stem. Green ripened pods are 9-11 cm long, weakly curved, with picked ending. Green ripening is somewhat longer than the average. The number of pods maturing at the same time is 7-9. The pods are quite attractive, marketable and easy to shell. There are 9-11 dark green, round grains in one pod. 70% of the round grains have a diameter of 9.5-11 mm. The thousand green seed weight is 410 gram. The grown grain is asymmetric and green. The thousand seed weight is 205-235 gram.

Main economic values are in conservation processing and it is suitable for gardening too. It produces extremely high yield with a potential productivity of 10-12 t/ha. The crop safety is good. It is resistant to the first race of *Fusarium oxysporum* f. sp. pisi. Drought resistance is good. It does not require special production technology.

Recommended root number at production for trading is 0.8-0.9 million sprout/ha.



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Green pea

IRINA



Year of registration: 1990

Mid-maturing green-grain pea used for human consumption.

It has got medium height, it is suitable standing ability and it is steady. The stipule is medium-sized and moderately marbled. The flowers are white. The pods are in pairs or triples and they are obtuse. The grain is smooth, round and light green. The grains are one pod is medium. The scoured grain colour is light green and it is disposed to fade.

This variety is suitable for mechanical harvesting, it requires intensive growing circumstances. It is practically resistant to *Fusarium oxysporum*. It can be infected by Downy mildew, Mildew and *Ascochyta* to a lesser extent. Its potential productivity is 5-6 t/ha. The thousand seed weight is 200-240 gram. The recommended root number is 1-1.1 million sprout/ha.



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Dry pea

HANKA



Year of registration: 1990

Mid-ripening yellow-grain dry pea variety, used for human consumption. It has got medium height and good standing ability. The stipule is mid-sized and it is not marbled. The flowers are white. The pods are in pairs, medium sized, straight and they are obtuse. The grain is slightly elliptical round and smooth. The scoured grain colour is bright yellow or if shelled, they are bright yellow.

This variety demands intensive growing conditions. It is absolutely suitable for mechanical harvesting, because the pods are in the first quarter of the stem. It is practically resistant to *Fusarium oxysporum*. It can be infected by Downy mildew and *Ascochyta* to a lesser, by powdery mildew to a larger extent. The thousand seed weight is 240-260 gram. Its potential productivity is 5.5-6.0 t/ha.



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LUTRA



Year of registration: 2014

Mid-ripening yellow-grained, tendril (afila-type) dry pea variety, used for human consumption.

It has got medium height with good standing ability. The stipule is mid-sized and it is not marbled. The flowers are white. The pods are in pairs, situated in the first quarter of the stem making it absolutely suitable for mechanical harvesting.

The scoured grain colour is bright yellow or if shelled, they are bright yellow. It is resistant to *Fusarium oxysporum*. The thousand seed weight is 180-230 gram. Potential yield ability is 4-5 t/ha.



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NELLY**Year of registration: 1985**

White sweet lupine variety.

It can be successfully grown even in northern territories because of its shorter growing period. It is grown on poor acid soils, requires an average amount of minerals. It can be grown on a wide range of different soil types, including sandy, loamy and clay soils.

It has good drought resistance. It is sensitive to the date of sowing, it requires early sowing. It is resistant to lodging, the grains do not shed. It is suitable for mechanical harvesting. The growing season is 140-150 days. It is sensitive to *Pleiocheta setosa* and susceptible to *Colletotrichum gleosporioides*, *C. acutatum*. Primarily it is used as fodder and the grains can be used for feeding without any treatment. It is used as green fodder, that can be made into high quality silage. Its seed is increasingly important as primary food material in substituting soya.

Its potential productivity is 4-5 t/ha of grain or 30-35 t/ha of green matter. The thousand seed weight is 320-370 gram. The raw protein content of the grain is 36-38%.



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White lupine

BUVET**Year of registration: 1989**

French bean variety with green pods and bush.

The length of the growing season is 58 to 65 days until harvest at the green ripening stage. The dark-green pods are 9-10 cm long and have a round cross-section. The pods are thin (pencil bean), free from strings and tasty. The grain is small and white coloured. The thousand seed weight is 170-230 gram.

It is tolerant of bacterial blight (*Pseudomonas* spp.). It is suitable for processing by the freezing and canning industries. It can be harvested mechanically, as it is resistant to lodging. The yield potential is 16-18 t/ha.



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Green bean

JANKA



Year of registration: 1987

French bean variety with bush and yellow pods.

The length of the growing season is 60-65 days until harvest at the green ripening stage. The pods are light-yellow, straight, have an oval cross-section, 10-12 cm long and free from strings. The seed is white, cylindrical, kidney-shaped. The thousand seed weight is 240-260 gram. This variety has high level of resistance to bacterial blight (*Pseudomonas* spp.) and to anthracnose (*Colletotrichum lindemuthianum*). It is also resistant to drought. It is highly suitable for mechanical harvesting. As a green bean variety, it is suitable for processing by the canning and freezing industry, or for home gardening. It can also be utilised as dry bean. The yield potential is 17-19 tons of green pods per hectare.



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Green bean

PERLE



Year of registration: 1997

Perle is a dry, pearl bean variety for human consumption. Suitable both for cooking and for use by the canning industry.

It develops a bush of medium height with light green foliage. Its flowers are white and most of them are located above the leaves. The pods are short, green, straight with elliptic cross-section. The seed is a distinct pearl, white and round-shaped.

Its vegetation period is 96 days long. Thousand seed weight is 210 gram. The raw protein content is 28.35%. The seed has very good taste. The hull is thin and takes up water easily when being cooked. It is sensitive to *Colletotrichum lindemuthianum* (anthracnose).

Its productivity is 1.4-1.8 t/ha. It has solid stems. It does not need special growing technology. This variety responds well to irrigation. It is suitable for mechanical harvesting.



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Dry bean

START**Year of registration: 1985**

Pearl bean variety for human consumption with short growing period. The bush is of medium height with determined growing. The oval-to-round shaped seeds are white coloured. The thousand seed weight is 160-190 gram. It produces good tasting seeds that can be easily cooked. It is also an excellent raw material for the canning industry.

It has high level of resistance to bacterial and fungus diseases and also to drought. It can be grown in each part of Hungary, except for soils of light sand and soils rich in soda. This variety is suitable for mechanical harvesting, the seeds do not shed. Its yield potential is 1.8-2.0 t/ha.



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Dry bean

HÓPEHELY**Year of registration: 1994**

Dry bean variety with white seed for making salad.

It has a 40-45 cm tall bush with dark leaf edges. The pods are medium-long, wide, green, slightly curved with oval cross-section. The seed is oval, big, one-coloured. It's back is straight or slightly curved. The grains are highly pronounced. The grain is one coloured, white with oval cross-section.

The growing period is 110 days. The grains are big. The thousand seed weight is 417 gram. The raw protein content is 26.9%. The hull is thin, the seed takes up water easily when being cooked, and has good taste. It is sensitive to *Pseudomonas phaseolicola*, but resistant to *Colletotrichum lindemuthianum*.

Its productivity is good: 1.5-2.0 t/ha. The ripening period is concentrated, the stems are solid. It does not need special growing technology. The recommended number of plants is 500-600 thousand per hectare. This variety responds well to irrigation. As the seeds crack easily it can be harvested only with special machinery in one operation.



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Dry bean

DIANA



Year of registration: 1993

Dry bean variety with pinto type seed.

The growing period is 100 days. The bush is 30-40 cm tall, semi-determined growing and prone to grow tendrils. The seeds are small. The basic color of the seed is drab, with brownish mottles on it, and an orange-coloration around the hilum. The hull is thin, the seed has very good taste.

The thousand seed weight is 270-280 gram. Diana is a high yielding variety, its yield potential is 1.4-1.8 t/ha. Its drought resistance is high. Two steps are recommended for harvesting, because of its ability to grow tendrils.



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Dry bean

KISVÁRDAI-22



Year of registration: 1984

The plant is 90-140 cm in height. The stem is thick and strong with good standing ability. The thousand seed weight is 500-640 gram. The growing season is 120-130 days. It is vegetative type and is suitable for green forage and silage production alike.

The protein content of the seed is 27-31%, it is excellent grain fodder. The variety is moderately tolerant to Fusarium and to drought. It is suitable for slightly alkaline or neutral soil types rich in mould. Its potential productivity is 3-4 t/ha of seed or 60-80 t/ha green of matter.



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Faba bean

KISVÁRDAI-29**Year of registration: 1984**

The plant's height is 100-140 cm. The variety has a moderately thick stem. The thousand seed weight is 380-460 gram. It is small grain type. The growing season is 110-125 days. Its initial development is excellent. It is excellent grain and green fodder.

The protein content is 26-30%.

The variety is tolerant to Fusarium and its drought resistance is medium.

The potential productivity is 3-4 t/ha.



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Faba bean

ANKA**Year of registration: 1986**

Faba bean variety for human consumption.

The plant is 80-120 cm in height. It has good stability. The thousand seed weight is 700-900 gram. The growing season is 100-115 days. The variety is suitable for both human consumption and feeding. The young seeds can be consumed fresh or used by the canning and freezing industries. The ripened seeds are used for enriching cereal products.

The protein content is 26-30%.

The variety is suitable for green harvest 60-70 days after emergence.

This variety is mainly recommended for growing in gardens.

Its potential productivity is 6-9 t/ha of green seed or 3-4 t/ha of raw material and 2-3 of dry seed.



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Faba bean

MIRNA



Year of registration: 1992

The plant's height is 90-140 cm. The thousand seed weight is 450-550 gram. The grains are medium sized. The growing season is 115-125 days. The variety belongs to the generative types, the duration of blooming and ability of seeding is shorter than that of Kisvárdai 22 and Kisvárdai 29 varieties. It has good resistance to plant diseases. It does not require special agronomic growing conditions.

It is suitable both as grain fodder and green fodder. Its protein-content is 27-30%. The yield potential is 5 t/ha grains and 2-3,5 t/ha seed on the field.



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KINGA



Year of registration: 2008

Faba bean variety used for human consumption.

The plant's height is 60-120 cm. The thousand seed weight is 800-950 gram.

It is a special vegetable plant recommended for production in gardens. The young seeds are suitable for fresh consumption or used by the canning and freezing industry. The ripened seeds are used in tinned food, as a garnish, and in sauces. Its flour are used as additive of breads, cereal products, sweet stuffs, and meat products. The growing period is 80-100 days.

The raw protein content of the grain is 25-28%. Its potential productivity is 2-4 t/ha seed.



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GABI**Year of registration: 2000**

It grows fast and develops rich foliage. It belongs to the medium maturity group, it is used as grain fodder and green fodder.

It can be grown on acid clay soils, and its fertilization is good in dry years too. The thousand seed weight is 54-64 gram.

The raw protein content of the grain is 27-30%.

The yield potential is 3-3.5 t/ha grain, the productivity is 1-1.5 t/ha seed on the field and 35-45 t/ha green material with oat.

Common vetch



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EMMA**Year of registration: 2005**

It belongs to the medium maturity group (90-105 day), it has safely produced grain yield, it can be used as grain fodder and green fodder. The thousand seed weight is 45-55 gram.

The raw protein content of the grain is 29-32%.

The yield potential is 3-3.5 t/ha grain, or 2 t/ha when it is seeding with oat. The green yield is around 40 t/ha. The raw protein of hay is 17% and at 85% of dry matter.

Common vetch



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ESZTER



Year of registration: 2000

They are recommended mainly for seed production on warmer calciferous soil.

The humid climate is also suitable for growing it as fodder product. It belongs to the short maturity group, the growing season is 88-96 days. It is good for green fodder from the 60th to 68th days after planting.

The thousand seed weight is 40-46 gram. Its potential productivity is 25-40 t/ha for green mass, 6-9 t/ha for hay and around 3 t/ha grain. Potential productivity is around 3 t/ha. The seed is susceptible to shed in case of over-ripeness.



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Common vetch

HUNGVILLOSA



Year of registration: 1951

Its sprouts are long (150-180 cm), thin and moderately hairy. It is quite divergent at the root (7-10 pieces) which thrives best at 6-8 cm seeding depth. Its leaves are long and hairy. The banner of the raceme inflorescence is of dark violet colour. The pods have a flat, wide and longish shape. When grown the pods yellowish-brown. The grains are round shaped, with a greyish-black colour. The thousand-seed weight is 30-35 gram. Its climate requirements have broad limits. Its adaptation ability is excellent, the drought and winter resistance is good. The breed has the valuable trait of being suitable for harvesting in early and mid May and it produces a high amount of green material even on soils with weak fertility. It makes an excellent green fodder when mixed with rye, triticale and wheat and it is suited for storage as well. The green yield varies depending on the support crops, soil and precipitation conditions. The raw protein content for about 90% raw material is 16-18%. The raw protein content of the grain is 25-29%. The protein production is 0.6-1.0 t/ha. The ability to develop bush is excellent. The yield potential is the same as that of foreign breeds or above that. The average grain yield is 25-60 t/ha. The yield potential is 1-1,5 t grain/ha.



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Hairy vetch

PERLA



Year of registration: 2010

Perla stems form cross breeding of Hungvillosa (H) × Efes (Tr).

Cultivar Perla is a richly branched (150-180 cm), thin-stemmed hairy vetch variety, moderately to slightly covered with hair. The antocianid coloration of the stem weaker than that of the Hungvillosa. It has outstanding hardiness and shooting ability with 7 to 10 branches developing at the ground level if sown at a depth of 6 to 8 cm.

The leaves are long-shaped, hairy and light green in colour. The inflorescence, banner raceme, is of medium size and light violet to cyclamen-coloured. The pods are flat, broad and long-shaped, yellowish-brown in colour when ripe.

The grains are round with greyish-black colour. Thousand-seed-weight is above 35 gram.



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KISVÁRDA-1



Year of registration: 1978

Mid-fine stock type alfalfa.

The leaves are roundish, half-green and medium-sized. Its stem is slightly rough, long and susceptible to lodging. The leaf/stem ratio is satisfactory. The flowers are mostly purple or lilac but mixed-colours and even white flowers can also be found. The thousand seed weight is 2.0-2.2 gram.

It is a long life variety that creates a covered stand even in the fourth year. Regarding early development, it provides moderate yields in the first two years and high ones in the third and fourth years. It adapts well to intense conditions. Its grain production ability is average.

Compared to other varieties it has an advantage in terms of life span on acid sand soils. Owing to its excellent adaptability, it can successfully be grown on every cultivated land suitable for growing alfalfa throughout the country. The dry matter yield potential is 12-14 t/ha.



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HUNOR-40**Year of registration: 1989**

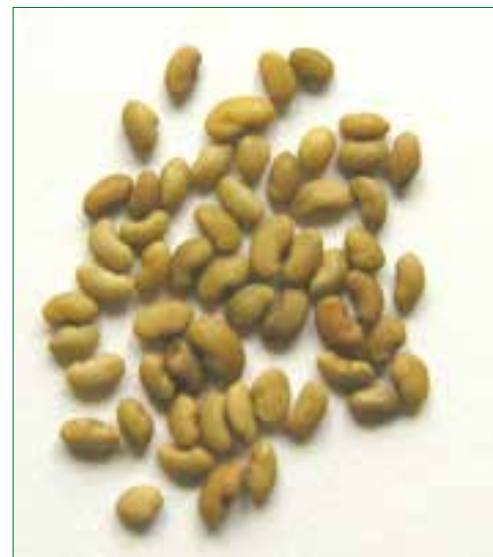
Stable variety with favourable stem-leaf ratio.

Even under extensive conditions, it has good green matter yield and outstanding grain productivity. The leaves are elliptical, half-green. The stem is light green, antocyanide. The grow-shape of the plant is upstanding, its height is average. The flowers are generally lilac or dark blue, however, white-coloured ones can also be found. The thousand seed weight is 2.0-2.4 gram.

The variety is tolerant to drought and highly resistant to frost. It can be produced in the whole country. Its tolerance to withering diseases is is better that that of the Kisvárda-1 variety. The response to irrigation is excellent. The dry matter yield potential is 13-14 t/ha.



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JOZSÓ**Year of registration: 1996**

Variety with fine stock character, balanced leafy type.

The leaves are mid-green, the growth-shape of the plant is half-upstanding, it is of average height. The flower colour is mixed. The stem is thin and fine, moderately hairy. The thousand seed weight is 1.9-2.0 gram. Economic value: the budding in spring is quick and medium after cutting.

It has favourable composition. It can produce more protein than the standard varieties. It is tolerant to drought and persistent in winter. Its yield balance is good.

Using a proper growing technology, it can successfully be grown on acid sandy soils, too. Due to its excellent persistence, the variety can profitably be utilised as a fodder crop even after four-year growing period. Its dry matter yield potential is 13-14 t/ha.



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KLAUDIA**Year of registration: 1996**

The plant is upstanding. The leaf is mid-green with short to medium length and medium width.

The violet colour makes up 34-39% of its population while mixed colour occurs between 7-10%. The height ranges from medium to high. Its thousand-seed weight is 2.1-2.2 gram. It has got good resistance and constant yields. The variety is tolerant to drought, frost and winter; it has got good plant homogeneity and shooting ability. Klaudia has good ecological adaptability so the variety can be grown efficiently on slightly acid sandy soils as well.

It can profitably be utilised as a fodder crop even after a four-year growing period. Its dry matter yield potential is 11-13 t/ha.



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SZABOLCSI 1**Year of registration: 1983**

It is a fine-consistency, slightly procumbent, branching bird's-foot trefoil variety.

It has quick initial development and good shooting ability. The colour of the flowers varies from lemon to orange-red. It has the best grain yield potential among the domestic varieties. Its solidity is good and it is moderately resistant to powdery mildew. It is winter tolerant. It is a valuable protein source of grass-mixtures due to its rapid initial development and good shooting ability.

It tolerates the disadvantageous ecological effects very well. Its dry matter yield potential is 2-3.5 t/ha and 100-150 kg/ha for grain.



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NS-PIONÍR**Year of registration: 1992**

The frost resistant field pea varieties with high yield originate from Western-Europe. Winter field peas must be fast growing, frost and dry tolerant beyond having high yield capacity.

NS Pionir has very long stems (150-160 cm) with plenty of nodes. It has compound, tender, green leaves with marble pattern. Large, lilac-pink flowers characterise this variety, its blooming is in early-mid May. It has short pods (4-6 cm) with 4-5 seeds with round shape, smooth surface and greenish colour. The thousand kernel weight is 90-100 gram.

It is a fast growing variety with high yield and good frost- and drought tolerance. 2.0-2.5 t/ha grain yield, or 35-40 t/ha green mass (6.5-7.0 t/ha dry matter) can be expected. It blooms some days earlier than summer peas. It has high tolerance against diseases.

Its optimal sowing time is September, but can be sown in spring even in soils warming up late. The stems are solid, so it can be grown alone without any supporting crop too.

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BÉTA**Year of registration: 1967**

Hungarian vetch is an annual crop originally native in the Carpathian basin.

Hungarian vetch is mainly utilised as an ingredient of fodder mixtures. It is a valuable fodder crop with good flavour and good dietetic effects. It can be used in green and dry (hay) as well. Its protein and starch content is higher than of hairy vetch.

Hungarian vetch can be sown from mid September to mid October, it covers, protects the soil surface very well all winter around. In case of seeding it with a supporting plant, the required seed ratio is 2/3-1/3 in favor of the Hungarian vetch. The optimal sprout number of the Hungarian vetch for a square meter is 200 pieces while that of the supporting plant (wheat) is 100 pieces. The required seed number for an acre is 160-200 kg.

The cross section of the slightly hairy, relatively solid stems of Béta is square-like and 80-120 cm long. Its flower is greyish white with brownish nervation. The seeds are dark grey with black spots, its shape is slightly flat. Its thousand kernel weight is around 40 gram. If utilised as a green fodder, must be cut in early-mid May.

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KARCAGI FEHÉRVIRÁGÚ



Year of registration: 1990

Chickling vetch is a demandless crop with high drought tolerance that can be grown in poor, even in salt affected soils where other legumes are not suitable.

Fodder: It can be used as a green fodder, straw or for pellet making. The straw value depends on the harvest, but it can be digested easier than the straw of other legumes. The seeds contain 23-26% protein, recommended for feeding pigs and sheep (15-20% in fodder mixes).

Human consumption: the pods in green, the seeds in green or dry are suitable for making soup or puree. It is less inflating than other legumes. Green manure: it can be sown as a catch-crop too, it enriches the soil with 50-60 kg/ha nitrogen. It is often used in vineyards abroad. It is a good bee pasture, blooms after black locust (Robinia).

It must be sown at cereals' row spacing to the depth of 5-6 cm with 1.0-1.2 million seeds/ha in March. The stem is flat, 80-120 cm long. The stem and the leaves are waxy. The flowers are white, the seeds are bone coloured. The thousand kernel weight is 180-220 gram. Its average yield is 1.0-1.5 t/ha according to the soil and weather conditions.



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KARCAGI KISMAGVÚ



Year of registration: 2000

Chickling vetch is a demandless crop with high drought tolerance that can be grown in poor, even in salt affected soils where other legumes are not suitable. It is mainly recommended to be utilised as green fodder, green manure or hay making.

Fodder: It can be used as a green fodder, straw or for pellet making. The straw value depends on the harvest, but it can be digested easier than the straw of other legumes. The seeds contain 23-26% protein, recommended for feeding pigs and sheep (15-20% in fodder mixes).

Green manure: it can be sown as a catch-crop too, it enriches the soil with 50-60 kg/ha nitrogen. It is often used in vineyards abroad. It is a good bee pasture, blooms after black locust (Robinia).

The leaves are medium-large. It must be sown at cereals' row spacing to the depth of 5-6 cm with 1.0-1.2 million seeds/ha in March. The flowers are white, the seeds are bone coloured. The thousand kernel weight is 160-180 gram.



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Szellemi Tulajdon
Nemzeti Hivatala

*Amplum commenda opus.
At aliam aliam dicit.*
(Horatius, Levelek)

A Szellemi Tulajdon Nemzeti Hivatala
a szellemi tulajdon
gyarapításáért és hatékony védelméért

a Debreceni Egyetem Agrártudományi Központot

a szellemi tulajdon világnapja
alkalmából
Millenniumi Díjjal részesíti.

Budapest, 2015. április 22.


Dr. Beatrix Máté
Elnök

