







# INIA 415 - PASANKALLA

## 1. GENERAL INFORMATION

Name of the variety	Adaptation
INIA 415 - Pasankalla	Agroecological Suni zone of the highlands between 3800 and 3900 masl, with semi dry cold climate, rainfall of 400-550 mm, with temperatures of 4° to 15°C, in soils of sandy loam and loam with a pH of 5.5 to 8.0. It also adapts to interandean valleys between 2750-3750 masl and to the coast between 640 and 1314 masl, maximum temperature of 24-25 °C in soils of sandy loam.
Location and year of liberation	
Puno region, 2006	
Breeder and maintainer	
National Institute of Agricultural Innovation, AES Illpa Puno (INIA)	
Improvement method	Main uses
Panicle groove selection, from the collection entered at the germplasm bank with PIQ031069 code from the town of Caritamaya, Acora District, province of Puno in 1978.	<ul style="list-style-type: none"> <li>• Traditional consumption: Soups, salads (leaves), stew, desserts, bread rolls (K'ispiño) and drinks.</li> <li>• Agribusiness : Expanded, pearled, laminated, ground, extruded.</li> </ul>

## 2. MORPHOLOGICAL DESCRIPTION









General Description	
Type of Growth	: Herbaceous
Growth Habit	: Simple
Vegetative cycle	: 144 days in the highlands : 120 days in the interandean valleys : 105 days (on the coast)
Plant height	: 1.30 to 1.40 m
Average grain yield	: 3.54 t/ha
	
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Characteristics of the stem	
Main stem shape	: Angular
Main stem diameter	: 1.30 to 1.70 cm
Presence of pigmented axils	: Present
Presence of striae	: Present
Colour of the striae	: Purple
Main stem colour	: Green
Presence of ramification	: Absent
	
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Characteristics of the leaf	
Edge of the lower leaves	: Dentate
Teeth of the leaves	: 12 to 30 teeth
Maximum length of the petiole	: 5.10 to 6.00 cm
Maximum length of the leaves	: 8.70 to 9.00 cm
Maximum width of the leaves	: 7.10 to 8.20 cm
Colour of the leaves	: Green
	
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Characteristics of the panicle	
Panicle colour at flowering	: Green
Panicle colour intensity at flowering	: Tenuous
Panicle colour at physiological maturity	: Grey
Panicle colour intensity at physiological maturity	: Tenuous
Panicle shape	: Glomerulate
Panicle length	: 30.00 to 35.00 cm
Panicle density	: Intermediate
Panicle diameter	: 5.00 to 7.00 cm
Glomerules length	: 4.80 to 5.40 cm
Number of panicles per plant	: 1
	
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Grain characteristics		
Grain aspect	: Opaque	
Perigonium colour	: Purple	
Pericarp colour	: Light grey	
Episperm colour	: Dark wine	
Perisperm colour	: White	
Border grain shape	: Sharp	
Grain shape	: Cylindrical	
Grain colour uniformity	: Fairly uniform	
Seed latency	: Absent	
Grain diameter	: 2.10 mm	
Seed yield per plant	: 32.00 to 34.00 g	
1000-grain weight (g)	: 3.51 to 3.72 g	

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### 3. PHENOLOGICAL VARIETY

VEGETATIVE PHASE						REPRODUCTIVE PHASE	
							
Germination	Seedling emergence	Two true leaves	Four true leaves	Six true leaves	Ramification	Beginning of panicle and flowering	Physiological maturity
Days to the emergence of seedlings above ground surface					: 9 days		
Days to the beginning of panicle					: 85 days		
Days to flowering					: 116 days		
Days to physiological maturity					: 144 days		

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## 4. REACTION TO BIOTIC AND ABIOTIC FACTORS

Reaction to biotic factors	
<b>PLAGUES</b>	
Ticona o Ticuchis ( <i>Feltia experta</i> ); ( <i>Spodoptera sp.</i> )	: Intermediate
Kcona kcona ( <i>Eurysacca quinoae</i> Povolny); ( <i>Eurysacca melanocampta</i> Meyrick)	: Low
<b>DISEASES</b>	
Mildew ( <i>Peronospora farinosa f.sp. chenopodii</i> )	: Tolerant



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Reaction to abiotic factors	
Low temperature	: Moderately tolerant
Drought	: Moderately tolerant
Humidity	: Moderately tolerant

## 5. BROMATOLOGICAL CHARACTERISTICS

Nutritional value		
Physical/chemical analysis (g/100g, of sample)		
Humidity	(%)	: 9.62
Proteins	(%)	: 17.83
Fibre	(%)	: 3.00
Ash	(%)	: 2.83
Fat	(%)	: 6.29
NFE	(%)	: 60.43
Energy	(Kcal/100 g)	: 364.68

Saponin	
Content of saponin	: 0.00 %
Eflusion of saponin	: None



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