



## **Comments on Pulse Australia's Industry Discussion Paper on development and implementation of a pulse classification system by the Department of Primary Industries and Regional Development (DPIRD)**

### **Background and Context**

- Australia is one of the world's leading producers of lupins. At its peak (circa late-1990s and early 2000s) Australia accounted close to 90% of world lupin production.
- In Australia, Western Australia is the largest producer of lupins. Between 2015 and 2021 WA has on average produced close to 550,000 tonnes of lupins annually.
- Three species of lupins are commercially grown in WA, namely Australian sweet lupins (ASL) also known as narrow leaf lupins (*Lupinus angustifolius*), yellow lupins (*Lupinus luteus*) and albus lupins (*Lupinus albus*), with ASL being the major variety grown in WA
- Export and domestic trade in Australian sweet lupin (narrow leaf) are currently principally geared at livestock feed industry.
- DPIRD estimates that about half of production is consumed domestically (WA plus Eastern States), of which approximately 97% (~300,000-550,000 tonnes) goes to the domestic feed milling sector while the remaining 3% is consumed in the domestic food processing sector

### **Australian sweet lupin gaining traction in the human consumption market**

- While the bulk of this production is either consumed domestically within Australia or exported as livestock feed, given their superior nutritional properties, in recent years there has been growing recognition and use of ASL in a range of health foods such as smoothies, porridges, salads, granola, muesli, bliss balls and snack bars.
- More importantly, lupin flour and semolina are making swift in-roads as a key ingredient into a range of processed foods including biscuits/cookies; cakes, pastries and sweet goods; baked product banking ingredients and mixes, meat substitutes, dairy alternatives, snacks and spreads that target the health-conscious consumers.
- WA lupin growers and lupin-based food producers are keen to capitalise on the rapidly growing international trend in lupin-based food to supply lupin based processed foods such as lupin protein cookie mix, lupin crumbing mix, high protein breakfast cereals, protein power bars, to key overseas markets. For example, Northbound Trading Pty Ltd and Lupin Foods Pty Ltd's respective export development efforts in markets such as Southeast Asia and the Gulf.
- WA in recent years has also seen considerable investment into the lupin protein isolate stream addition to other minimally processed food. For example, Wide

Open Agriculture (ASX: WOA), opening of a plant-based protein pilot production plant in WA using regeneratively-farmed ASL in June 2022.

- In the above context, DPIRD is broadly in support of the proposed Pulse Classification System. Given the significant potential for ASL to be directed into the human food supply chain with nuanced end uses, DPIRD is of the view that narrow leafed lupin (aka ASL) should be considered a key priority in the proposed system and the department recommends that lupins be further elevated as a priority for classification development. (Ref Table 2 in the discussion paper).
- DPIRD also expects that an outcome of the classification process would be a required tightening of the delivery standards for lupins entering this new stream. DPIRD welcomes the opportunity to work with Pulse Australia and industry stakeholders to provide guidance on these technical issues.

**Submitted by:** Mark Seymour on behalf of Kerry Regan/DPIRD

**Contact:** Kerry Regan

**Date:** 8 July 2022

#### **Important disclaimer**

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## Nick Goddard (Pulse Australia)

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**From:** Export <export@exportsofaustralia.com.au>  
**Sent:** Wednesday, 29 June 2022 10:22 AM  
**To:** Nick Goddard (Pulse Australia)  
**Subject:** Towards a Pulse Classification System

Hi Nick,

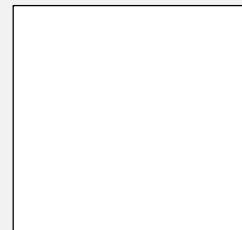
- The need for and value from the establishment of Pulse Classification System;  
There is a need for a pulse classification system and this will benefit from grower through to distributor in Australia and overseas. I do not say to consumer as I think they would use the type of pulses as a classification.
- The issues such a system might create and address;  
I think the main issue is to educate overseas customers of the classification system. From the Australian grower to exporter acceptance will be fine, will take time of course.
- Considerations that should be taken into account is assessing the development of a Pulse Classification System;
  1. The classification. To me the pulses with greatest challenge are lentils and maybe size is used as the classification ??
  2. Education of the system
- The operational framework.  
All stake holders are provided with system

Best regards,  
Jeremy Threadgold

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**From:** Nick Goddard (Pulse Australia) <nick@pulseaus.com.au>  
**Sent:** Friday, 24 June 2022 12:29 PM  
**To:** Export <export@exportsofaustralia.com.au>  
**Subject:** Towards a Pulse Classification System



## Nick Goddard (Pulse Australia)

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**From:** Peter Nash <PNash@giwa.org.au>  
**Sent:** Tuesday, 12 July 2022 1:06 PM  
**To:** Nick Goddard (Pulse Australia)  
**Subject:** RE: Towards a Pulse Classification System

Hello Nick,

Firstly, apologies for not having responded by the closing date.....

I am fully supportive of the need for a Pulse Classification system for the long term benefit of the pulse industry.

One point I wish to raise is the statement in Table 2, point 5 that for lupins the “Main market end-uses well understood and needs met”. While still seen primarily as an animal feed ingredient, sweet lupins (*angustifolious*) have enormous potential for use as human food as splits, flakes and flour, and as a protein extract. It is possible that there are/will be varietal differences that affect the suitability of varieties for each end use so I would like to see this explored and reflected in any classification system developed. .

**Peter Nash**  
**Executive Officer**  
Grain Industry Association of Western Australia (GIWA) Inc



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**From:** Nick Goddard (Pulse Australia) <nick@pulseaus.com.au>  
**Sent:** Wednesday, 22 June 2022 6:29 AM  
**To:** Peter Nash <PNash@giwa.org.au>  
**Subject:** Towards a Pulse Classification System

1 August 2022

Nick Goddard  
Pulse Australia  
PO Box H236  
Australia Square, NSW 1215

### **Re: Development and implementation of an Australian Pulse Classification System**

There is a strong feeling amongst industry leaders that the lack of a pulse classification is impacting the competitiveness of Australian pulses in existing and emerging markets, and as a result the Australian pulse industry is being left behind. GrainGrowers believes that the development and implementation of the pulse classification system must be undertaken as a matter of high priority. Whilst GrainGrowers welcomes the release of the industry discussion paper by Pulse Australia, we note our disappointment with the significant delays that have occurred in getting to this point.

GrainGrowers has voiced industry concerns on the subjectivity of current pulse classification arrangements and sees the development of a pulse classification system as an opportunity to create Australian “branded” pulse classes which will support differentiation in the marketplace. Our current system that classifies new pulse varieties by comparing them to old varieties is simply inadequate. This focus means the industry is currently driven by traditional markets and limited by the reputation of old pulse varieties. GrainGrowers believes the current approach stifles innovation that could help breed unique Australian pulses that expands our markets, drives new end-uses and improves the diversity of pulses available for Australian farming systems which in turn would have benefits for sustainability.

Over recent years there has been a continuing surge in the volume and value of pulse production in Australia, with average annual production rising 20 per cent to 2.7Mt per year in the five years to 2019/20 and the value of production increased by 71 per cent to \$1.5bn per year over the same period. There are clearly market opportunities that need to be explored by the Australian industry, both in traditional markets as well as emerging protein market, and improved marketing and differentiation of Australian pulses is a key element of this equation.

Key attributes of the Australian Pulse Classification System should include:

- the classification system needs to be market/end-user driven;
- it needs a strong focus on objective classification measures;
- the design needs the flexibility to respond to the development of new markets;
- segregations within classifications need to be driven by market demand and determined using objective measures; and
- grower understanding and confidence in the classification system is required to support further growth and development of pulse production in Australia.

Comments on specific issues raised in the discussion paper are included in [Attachment A](#).

GrainGrowers believes that the development of an Australian Pulse Classification System is a necessary step to improve consistency and accuracy in describing pulse varieties for Australian farmers, and to ensure we meet market expectations when marketing Australian pulse varieties. A pulse classification system will help to avoid uncertainty in markets relating to the traits of varieties being purchased, it will build a platform for product differentiation and better targeted marketing of Australian pulses and provide opportunities to secure improved market access and achieve premium prices. If designed and implemented well the Australian Pulse Classification System could provide a significant 'value-add' for the Australian pulse industry and deliver a greater return for Australian farmers.

Grower experience with the release of the lentil varieties Hallmark and Highland highlights the subjectivity that currently exists in the absence of a formal, transparent and accepted system for classifying varieties. The application of the generic terms 'Nipper Type' or 'Nugget Type' to describe these new lentil varieties did not properly reflect the market's expectations of their characteristics and led to discounting. This left growers receiving a discount price unnecessarily and missing out on premium prices for quality Australian grown lentils, impacted farmers confidence in the market and generated uncertainty in the market around the acceptability of the new varieties. The development of a classification system will go some way to ensure these issues are better managed in the future and will reduce subjectivity and confusion in the production and marketing of pulses.

GrainGrowers is seeking a formal, robust classification system that can provide clarity about which varieties fall under specific classes and will support clearer varietal selection for production and differentiation in the marketplace. It is important that the design of the classification system seeks to be 'future proof' and can respond to the emergence of new markets. At present the characteristics used in classification of varieties tend to be narrow and subjective, focussed on characteristics such as colour, shape and size. The potential development and use of a broader set of objective classification characteristics would provide opportunity for greater product differentiation and the development of new markets. It is important that Australia's standards are consistent with international expectations around trade, including alignment with the classification and trading standards of competitors where this information is available<sup>1,2</sup>.

It is important that there is broad consultation on appropriate characteristics for classification that can assist in describing performance for particular end-uses, including input from technical experts such as the Australian Export Grain Innovation Centre (AEGIC). It is also important that there is facility to expand the characteristics used in the classification system over time. Examples of characteristics that could be considered or introduced in the classification system over time may include ease of dehulling, nutritional characteristics, low tannin lines and protein composition. To understand and service new markets, such as the growing demand for pulses for protein fractionation, the classification system must serve as a mechanism to transmit these market signals back to growers.

The ultimate success of the classification system will rely on communication with all stakeholders in the Australian pulse industry (growers, breeders, traders, exporters, buyers, etc), and communication plan will need to be integrated into the project to develop and implement the classification system. We would strongly encourage consultation and formal engagement with growers and industry champions as the pulse classification system is developed to ensure there is buy-in and understanding in industry. GrainGrowers supports the implementation of the Pulse Classification System by Grains Australia Limited (GAL) as part of its core grains classification

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<sup>1</sup> Canada classification rules for their lentil / chickpeas etc <https://www.grainscanada.gc.ca/en/grain-quality/official-grain-grading-guide/>

<sup>2</sup> USA system for grading <https://www.ams.usda.gov/sites/default/files/media/LentilsStandards.pdf>

function. Communication to support the pulse classification system need to be led by Grains Australia, and it is important that there is support in-market by technical experts, exporters and traders to ensure the pulse classification system helps to grow Australia's pulse industry.

I would welcome the opportunity to receive an update on progress and further discuss these issues with you. Alternatively, please contact our Technical Policy Manager Sam Nelson via [sam.nelson@graingrowers.com.au](mailto:sam.nelson@graingrowers.com.au).

Yours sincerely,



David McKeon  
CEO, GrainGrowers

Attachment A: Specific comments on the considerations and principles to underpin the establishment of the Australian classification system

## **Attachment A: Specific comments on the considerations and principles to underpin the establishment of the Australian classification system**

The discussion paper highlights a number of considerations and principles to underpin the establishment of the classification system and GrainGrowers has made some specific comments on these below:

### ***Subjective nature of assessment***

Objective measures of grain assessment are required to ensure that the pulse classification system is both credible, and that it continues to have relevance into the future. As grain handlers and marketers move towards greater automation and the adoption of new technologies for classification and sorting the use of objective, repeatable, measures will be required to replace the current subjective testing and objective measures. The use of image capture software and other sensors, such as the measurement of protein using near infra-red technology, are already being explored for other grains. The adoption of these technologies can also have advantages for growers, such as the potential to speed up processes at receival sites as well as allowing farmers to do on-farm classification to inform their marketing and storage decisions.

The discussion paper notes that many characteristics currently used to classify pulses have a subjective element to the based on the requirements of the market. Meeting market requirements is an important element of a classification system, however markets will change and these requirements may well change. If a classification system is focussed to strongly on a single market then it may serve as a barrier for industries seeking alternative markets to diversify and manage market risk. An example of the changes the market has experienced was the significant contraction of the Indian market for Australian chickpeas, which was valued at over \$1.8 billion in 2017, when Australia was supplying 71% of India's imported chickpea needs. However, as a consequence of changes in the trade environment Australian farmers have been left looking for alternative markets. It is important that classification system design consider a range of market end-uses and there is a strong focus on objective classification measures to describe the qualities of Australian pulses to these markets.

### ***Large number of commodities***

The discussion paper makes the useful observation that there are a large number of pulse commodities that could be subject to classification, and there are sub-groups within these commodities that address specific market segments. As outlined, this would logically serve as a useful basis for starting the development and application of a classification system. GrainGrowers notes the priority given to lentils as this would help to avoid future confusion over variety classification, and that field peas and faba beans are given priority based on the emerging opportunities in the plant protein sector. However, the high value of chickpea exports makes the development of classification standards for this crop a high priority for industry, and it is important that this is recognised in the prioritisation.

### ***Segregations***

Additional segregations within classifications need to be driven by market demand, and any segregation is made using an objective measure. Growers question the usefulness of multiple segregations in other grains (e.g. wheat) unless there is a clear justification and a rationale for the pricing differences between segregations. Having objective measures that can be assessed on farm, prior to delivery at receival, is useful for growers and it can help them make decisions about how to market their grain. Protein extract rates or concentration may be a useful grading or segregation mechanism in the pulse market for protein fractionation end-uses and are a potential characteristic for segregation. Protein composition may also become more important as a classification criteria as



our understanding of protein functionality improves. It would be useful to understand the implications of this for growers, and it is important that growers are actively engaged in this discussion.

### ***Geographic consideration***

A regional basis to wheat classification has developed over time to reflect differences in the performance of varieties under different conditions. GrainGrowers would urge further work and advice from grain marketers as well as technical experts including breeders, agronomists and grain quality experts to determine if this is required and would add value. Breeders have a responsibility to ensure varieties perform consistently across a range of geographic and seasonal conditions to give both growers and the market confidence in the product. Geographic considerations in the pulse classification system should not be considered, unless there are significant regional differences in variety performance that are greater than expected from variable seasonal conditions.

### ***Classification Panel***

The discussion paper indicates pulse-specific Classification Panels be established as part of the framework to support the development and implementation of the Pulse Classification System. Unfortunately, grain farmers are not recognised amongst the interested parties to be included in the classification panels. GrainGrowers has concerns with this approach and is extremely disappointed with this oversight from Pulse Australia.

Whilst GrainGrowers supports the key principle that the classification system is market/end-user driven, it will be growers who choose what crops are included in their production system and growers who will be delivering harvested crops to receival sites. It was growers that have borne the brunt of lentil variety discounting in recent years, and the lack of confidence in Pulse classification will be perpetuated unless growers are engaged in the development of a pulse classification system. We cannot expect growth in the pulse industry unless growers are engaged and included in measures that can encourage growth of the industry. Grower experience would also make a valuable contribution to discussion on geographic considerations, as well as appropriate classification criteria for segregation. Grower representation must be embedded in any future classification panels, whether pulse, wheat, barley or other commodities.

## Nick Goddard (Pulse Australia)

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**Subject:** FW: Pulse Classification

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**From:** Tresslyn Walmsley <TWalmsley@intergrain.com>  
**Sent:** Monday, 4 July 2022 1:52 PM  
**To:** Nick Goddard (Pulse Australia) <nick@pulseaus.com.au>  
**Subject:** RE: Pulse Classification

Hi Nick,  
Sorry for the slow reply. It's a good document.

My only comment is for people to always remember that for every quality trait you add to a breeders list, you decrease their change to make yield gain. So need to make sure that if industry wants to focus on quality, it needs to be certain that it will deliver value. The danger is we create a long 'shopping lists' of traits and seriously compromise genetic gain. As an example, the table below shows the impact on potential line selection in the two different scenarios (assuming a starting population size of 10,000).

Number of quality traits to be selected for	10	6	1
Number of lines with combined traits (Population size 10,000)	10	156	5000

Cheers  
Tress

# **PULSE AUSTRALIA PULSE CLASSIFICATION SYSTEM DISCUSSION PAPER**

## **Feedback from Janine Sounness and Peter Blair, PBSeeds, 2022**

*PBSeeds will address comments on this paper specifically in relation to lentils. We are willing to be involved in the future to be part of a lentil classification panel.*

Australian lentil varieties have been successfully exported for nearly 30 years, initially one main medium red lentil variety, Digger, replaced by a higher yielding and similar size type, Nugget. The subsequent release of a smaller and rounder size variety, Nipper, resulted in two main sizes grown. However, these two varieties weren't broadly adapted and failed in certain environments, and thus the size of the industry began to decline. With the release of vastly better and more reliable varieties for growers since 2009, the lentil industry has been able expand to new regions and increase in growers crop rotations, resulting in a doubling in size of area sown.

Traders have marketed the new varieties as "Nipper type" (Herald, Bounty, Hurricane, Highland) or "Nugget type" (Blitz, Ace, Bolt, Hallmark) as a general classification and despite the seed size of each variety not always being exactly the same as the original "Nipper" or "Nugget" variety (Table 1). This somewhat misdescribes / misrepresents new varieties, as for example Hurricane is on average larger than Nipper. However, Hurricane did find its market fit via this "generalised type classification". Large size grey coat red lentils, "Jumbo types" (Jumbo, Jumbo2, Kelpie) are also currently grown.

Such a system has worked and illustrates the market accepts different lentil varieties under a "general" category, and the market has accepted co-mingled varieties of the same general group.

When new varieties are first introduced with small differences to the established variety, sometimes some, but not all, traders have expressed concerns. In the end such concerns have not resulted in a variety to not be grown or marketed. However, such expression of concerns by some traders has at times had the variety bought at a discount, a disservice to growers. Typically, in the following season, such a discount is not "real", and it has not perpetuated, and at times even premiums have occurred subsequently. To allay such potential problems in the future, a formal classification system that involves all the parties as suggested in this paper would be beneficial. Benefits include clarity and understanding for the broader industry stakeholders at the outset of a variety release of 1. confirmed size class of the variety, and 2. Understanding of the variation within grain samples of the variety to expect over different seasons/regions

As a long-term commercial partner, PBSeeds have had extensive experience engaging with several lentil breeders and reviewing potential variety release data alongside them. The best data on a variety's characteristics is what is measured by the breeding programs and finally in National Variety Trials (NVT). The final data set is from scientifically replicated multi-location, multi-year field trials across farms in Australia with direct comparisons to commercial varieties. PBSeeds have also checked market acceptance with small parcels during the seed bulk-up phase, prior to release.

PBSeeds do not agree that an expert panel should determine if a variety needed to be further trialled on farm(s) as it is unnecessary. Could the panel feasibly fund and co-ordinate scientific comparison trials to obtain meaningful additional data between all the commercial varieties across farms? The question is not that more data is needed, but where the variety fits with consideration of all the data provided, and that an expert panel has a clear understanding of the full variety data.

Important points that should be considered when developing a classification system for a variety are:

1. A lentil variety is “generally true” to its size relative to other varieties grown at the same location. Average grain weight (over multi-sites and years) is a good measure to compare variety size (Table 2 & Graph 2).
2. A range in seed weight will occur for all varieties (Table 1 & Graph 1)
3. Lentil varieties will each have different average grain weights between seasons (Graph 2)
4. The range in seed weights produced from different environments will result in some grain samples of one variety not always falling “in the class” it was categorised in (eg. “Large classed lentils”, Jumbo2 and KelpieXT, will produce some grain samples the same as a “medium class” lentil)
5. A range in seed diameters within a grain sample will occur for all varieties
6. The environment the variety is grown in has a large impact on the seed weight of the grain sample. Key environmental factors that influence grain size on a farm are: soil type, rainfall, timing of rainfall, frost. Growers cannot manage any of these factors to influence the final grain size to market. Crops can be sown at different times, another variable in the mix where environmental factors can influence the grain outcomes differently, even if sown at the same location. As these factors are multi-variables within a region, lentil grain from each region is not exactly uniform and uniquely different compared to another region consistently. Classification of lentils by region could thus be problematic.
7. There will be overlap of size produced by varieties between classes at times
8. Australian breeding programs exclusively breed “grey” colour coat red lentil varieties. The shade of the seed coat colour can vary a little genetically and can also vary due to the environment the variety is grown and time of harvest in the same season.
9. The importance of seed shape for the market (lens, rounded, when does a “lens” become “rounded” and how to measure? Importance of visual assessment by market?)
10. There are numerous Australian marketers of red lentils.
11. Currently red lentils may be received and sold by variety name as only that variety, by “type” name (containing one variety) or by type name with co-mingled varieties. They have also been sold as a different “class” than the variety is defined as (eg. Jumbo2 sold as a medium &/or a large depending on grain loads received and segregated)
12. How the range of Canadian red lentil varieties are classified by the breeders and marketers. (note: Table 2) It is important that Australian lentil varieties have an alignment with this.

A classification system will need to accommodate the variability as described in the above points, thus a system cannot be too stringent, it needs flexibility. It also should be fairly simple and be consistent with current marketing of Australian red lentils. Each variety should be classed in the category where it “generally fits”. For consistency, at grain receival points each variety should be received by name and into the agreed class. “Nipper type” and “Nugget type” could be renamed as “Australian Small Red” and “Australian Medium Red” as the variety type. Traders wishing to continue using the old type names for contracts could continue to do so for a period of time in the transition of understanding what the new class names mean.

Based on currently marketed variety groupings, a system could be as simple as:

NEW VARIETY TYPE CLASS AT GRAIN RECEIVAL	ACCEPTED VARIETIES DECLARED AT GRAIN RECEIVAL	VARIETIES WITH SEED SIZE AVERAGE WT	SEED SIZE WT RANGE*	OLD TRADE "TYPE NAME"
Australian Small Red	Thunder (new 22) Lightning (new 22) HighlandXT Hurricane XT Nipper	3.0 – 3.9	2.5 – 4.0	"Nipper type"
Australian Medium Red	Leader Hallmark XT Ace Bolt	4.0 – 4.6	3.6 – 4.8	"Nugget type"
Australian Large Red	KelpieXT Jumbo2 Jumbo	4.7 – 5.0	4.1 – 5.6	"Jumbo type"
<b>Future potential classes of varieties:</b>	<i>Potential to separate to new class or incorporate in 3 classes above and broaden size categories</i>			
<i>Australian Extra Small Red</i>		2.5 – 2.9		
<i>Australian Extra Large Red</i>		5.1 – 5.5		

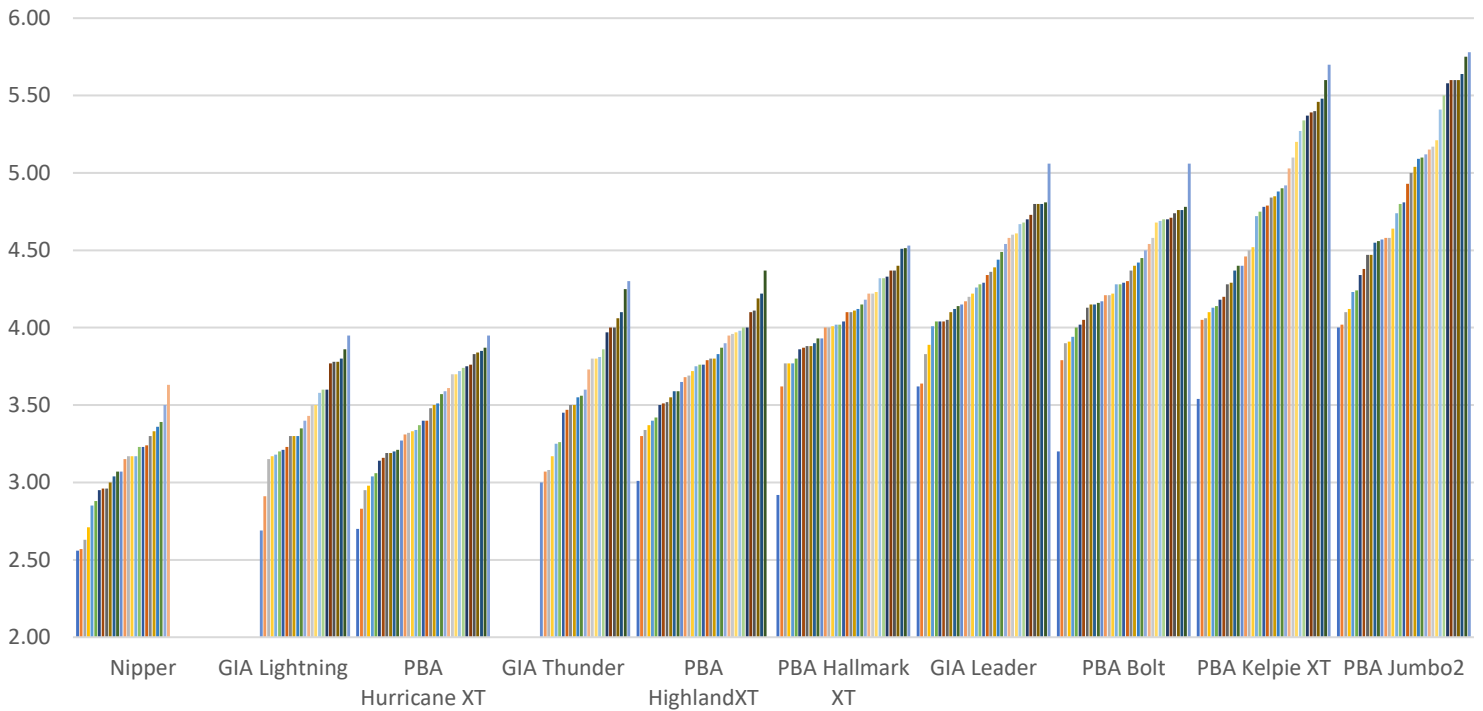
\*very occasionally grain samples may fall outside this range due to seasonal conditions

Table 1: AUSTRALIAN PULSE VARIETY GUIDE 2021: Seed weight range for each lentil variety

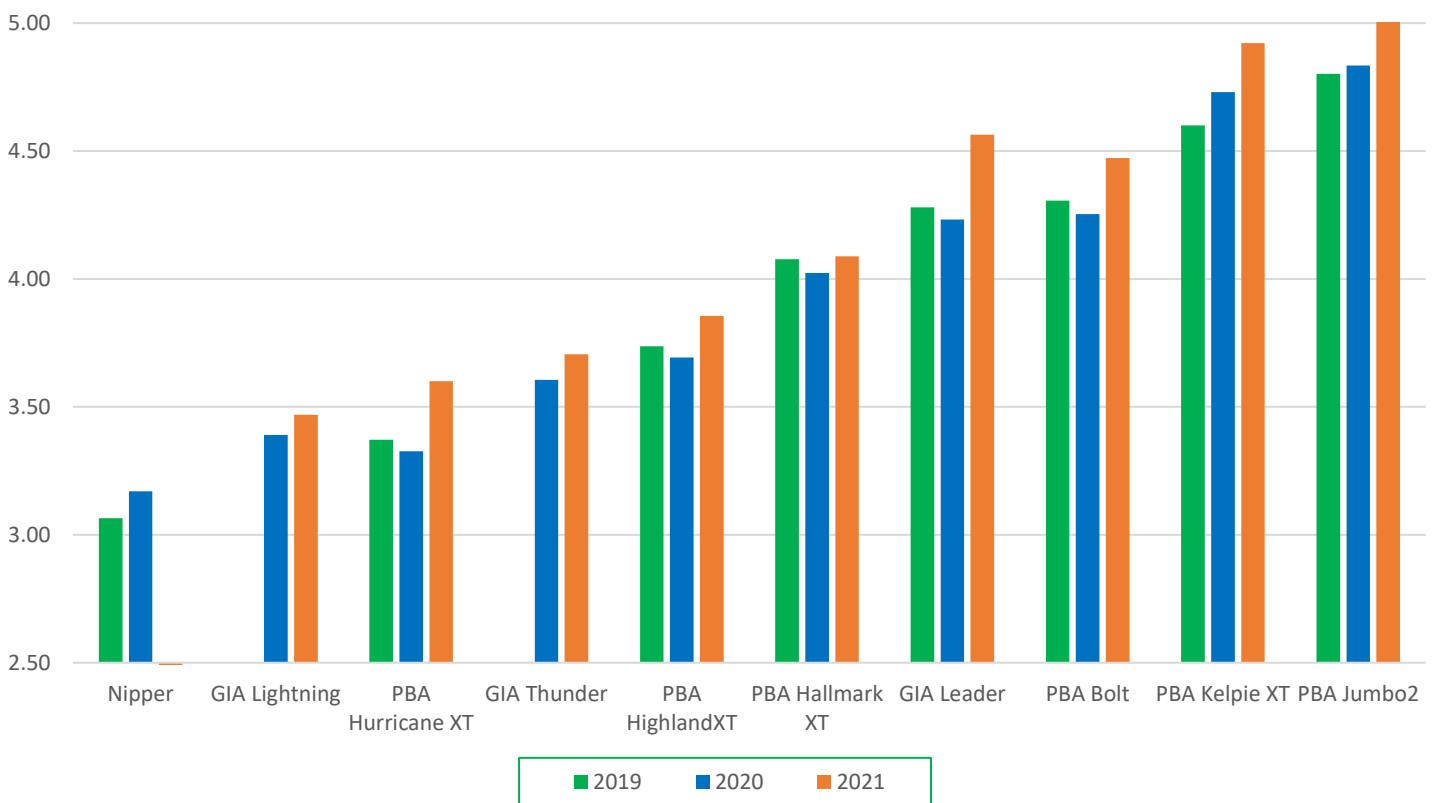
Seed weight (g/100 seeds)	2.5	3.0	3.5	4.0	4.5	5.0	5.5
<b>"Nipper type"</b> small, rounded	Nipper Herald XT (lens)	Nipper Herald XT (lens)	Nipper Herald XT (lens)				
		Bounty Hurricane XT	Bounty Hurricane XT	Bounty Hurricane XT			
			Highland XT	Highland XT	Highland XT		
				3.6 Hallmark XT Digger	4.6 Hallmark XT Digger		
<b>"Nugget type"</b> medium, lens				3.8 Nugget Ace Bolt Leader	Nugget Nugget Ace Bolt Leader	4.8 Nugget Ace Bolt Leader	
					Blitz	Blitz	Blitz
					Jumbo Jumbo2	Jumbo Jumbo2	Jumbo Jumbo2
				4.2 KelpieXT	KelpieXT	5.1 KelpieXT	

Variety currently grown. Variety no longer grown or very minimal.

**Graph 1: Lentil Variety grain wt (g/100 seeds) ordered by size over 3 seasons**  
 NVT data 2019-2021 37 sites (2 sites only: Nipper 19/20; Thunder & Lightning 20/21)  
 (data from NVT website 11/4/2022)



**Graph 2: Average grain wt of varieties (g/100 seeds) in 3 seasons**  
 (NVT data 2019 12 sites, 2020 15 sites, 2021 10 sites; data from NVT website 11/4/2022)



**Table 2: Average seed weight (g/100 seeds) of Australian and Canadian lentil varieties and their size groupings**

<b>AUSTRALIAN RED LENTIL VARIETIES, 2022</b>		<b>CANADIAN RED LENTIL VARIETIES, 2022 (no shape classification)</b>	
<b>“Nipper type” small, rounded</b>	<b>Average seed wt (g/100 seeds)</b>	<b>Extra small red</b>	<b>Average seed wt (g/100 seeds)</b>
Nipper	3.1	Imp CL Impala CL Roxy	3.0 3.1 3.2
Hurricane XT	3.4		
Lightning	3.4	<b>Small red</b>	
Thunder	3.6	Dazil CL Coral	3.5 3.7
HighlandXT	3.8	Nimble CL	3.8
<b>“Nugget type” medium, lens</b>		Redcoat Simmie CL Karim CL Maxim CL Carmine Proclaim CL	3.9 3.9 3.9 4.0 4.0 4.0
Hallmark XT	4.1	Redmoon	4.1
Bolt	4.3		
Leader	4.4	Impulse CL	4.4
<b>“Jumbo type” large, lens</b>			
Jumbo2	4.9		
KelpieXT	4.8		
		<b>Large red</b>	
		Sublime CL	5.3
		KR-2 CL	5.5